

AN EXAMINATION OF IMPRESSION MANAGEMENT THROUGH AVATARS AND
USERNAMES IN ONLINE VIDEO GAMES

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By

Elizabeth M. Bendix Harper

Thesis Committee:

Amy S. Ebesu Hubbard, Chairperson

R. Kelly Aune

Robert S. Tokunaga

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Abstract

The purpose of this investigation was to examine players' use of impression management strategies in different online video games. Specifically, players' goals to create avatars and usernames that demonstrated physical attractiveness, likeability, and skill were measured for social and competitive games. Similarity with their avatar and avatar creation time were also measured for players who were and were not anticipating future interactions. Impression management provided the primary theoretical framework for this study. Participants reported to the lab to create avatars and usernames for an online video game, and then completed a questionnaire. Results indicated that social game players created avatars and usernames that were designed to appear more likeable than competitive game players. Competitive game players created avatars that were designed to appear more skillful than avatars created for social games, but usernames did not demonstrate the same difference for game type. No significant differences for avatars and usernames were found for game type on the design goal of physical attractiveness. Additionally, the data showed no significant differences for future type on similarity with avatar or avatar creation time. Results indicate support for impression management theory in the applied context of online video games.

Keywords: impression management, avatars, usernames, online video games

Table of Contents

CHAPTER I: INTRODUCTION & REVIEW OF LITERATURE.....	1
Introduction.....	1
Avatars and Usernames.....	3
Avatars.....	3
Usernames.....	5
Theoretical Framework.....	6
Offline Impression Management.....	9
Online Impression Management.....	11
Online Video Games.....	14
Online Social Games.....	14
Online Competitive Games.....	15
Impression Management in Online Video Games.....	16
Anticipated Future Interactions.....	19
CHAPTER II: METHODS.....	23
Design.....	23
Conditions.....	24
Avatar Creation Software.....	25
Measures.....	26
Design Goals.....	26
Physical Attractiveness.....	27
Likeability.....	28
Skill.....	29
Similarity with Avatar.....	30

Avatar Creation Time.....	32
Supplemental Measures	32
CHAPTER III: RESULTS	33
Hypothesis 1	34
Hypothesis 2	35
Hypothesis 3	36
Hypothesis 4	37
Hypothesis 5	38
CHAPTER IV: DISCUSSION.....	39
Game Type	39
Design Goals in Social Games	39
Design Goals in Competitive Games.....	41
Future Type.....	44
Similarity with Avatar	44
Avatar Creation Time.....	46
Implications.....	47
Limitations and Future Directions.....	50
Conclusion.....	53
REFERENCES	54
APPENDIX.....	61
Appendix A: Consent Form.....	61
Appendix B: Instructions for Each Condition.....	62
Appendix C: Photograph Consent Form.....	63

Appendix D: Final Oral Instructions.....	64
Appendix E: Measures of Design Goals.....	65
Appendix F: Measures of Design Goals.....	67
Appendix G: Similarity with Avatar Measures.....	68
Appendix H: Supplemental Measures.....	70
Table 1: Means, Standard Deviations, Reliabilities, & Correlation Matrix.....	72

CHAPTER I: INTRODUCTION AND REVIEW OF LITERATURE

Online video games are an immensely popular pastime, with over 700 million people worldwide playing through personal computers, consoles, tablets, and mobile devices in 2013 alone (Spil Games, 2013). In the United States, there are approximately 183 million active gamers, and 5 million Americans play an average of 45 hours per week (McGonigal, 2011). Yet playing video games is not the solitary experience many believe it to be. Industry reports state 77% of video game users play with other people at least one hour per week (Entertainment Software Association, 2014). Advances in technology have made it possible for people not only to play video games with others online, but also to communicate with them during the game via text and/or audio channels. Considering the large percentage of people who play and communicate with others every day, playing online video games is undoubtedly a profoundly social experience and worthy of attention from communication researchers.

Playing online video games can be likened to playing board games at a friend's house—various people come together to play a game and socialize. However, unlike an in-person interaction at board game night, people communicating via online media have access to different types of nonverbal cues and must adapt to the cues that are available in the online medium. For example, in lieu of being able to physically see a communication partner, individuals can look at the avatars and usernames of their communication partners for clues. Avatars and usernames, or types of digital representations of an individual, are created by online video game players and are used to navigate the virtual in-game worlds and communicate with others. Much like a person may choose an outfit depending on where they will be that day and what their communicative intentions are,

players may customize their avatars and usernames differently depending on what type of video game they will be playing and what their specific goals are for that game.

Additionally, although the anonymous nature of online interactions allows users freedom in crafting their online identity, there are some instances where repeated exposure to the same communication partner may constrain an individual's behaviors. Thus, when customizing an avatar, players might consider what type of game they will be playing, as well as potential interactions they will have with other players.

This paper will use impression management to investigate the characteristics players emphasize when creating avatars and usernames for different types of online video games (i.e., social and competitive games). Many communication scholars have studied impression management in a variety of in-person (e.g., Baron, 1986; Bolino & Turnley, 1999; Carlson, Carlson, & Ferguson, 2010; Harris, Kacmar, Zivnuska, & Shaw, 2007) and computer-mediated contexts (e.g., Ellison, Heino, & Gibbs, 2006; Holoien & Fiske, 2013; Shafie, Nayan, & Osman, 2012; Siibak, 2009; Talamo & Ligorio, 2001; VanBogart, 2013; Walther, 2007). However, impression management has not been studied in the applied context of online video games. In this investigation, the communicative intentions conveyed by players through avatars and usernames will be examined to gain an understanding of how impression management strategies are utilized in different types of video games. The subsequent sections provide an explanation of key concepts and an overview of the theoretical framework used in this paper. Then, a discussion will be presented on how two types of online video games may lead to different impression

management strategies. Finally, the potential effect of future interactions on avatar creation will be considered.

Avatars and Usernames

According to social information processing theory, people communicating in computer-mediated and online contexts adapt to the different cues offered in the medium (Walther, 1992, 2008) by utilizing and lending more weight to the available cues (Tidwell & Walther, 2002; Walther & Burgoon, 1992). For example, in an e-mail context, where message exchanges are primarily asynchronous, individuals attribute meaning based on the e-mail's time stamps (Walther & Tidwell, 1995). Alternatively, individuals communicating via e-mail or instant messaging cannot see each other's facial expressions, but they can utilize emoticons or emojis (e.g., :), :(, ☺, ☹) as tools to express emotions and help their communication partner interpret the message (Dresner & Herring, 2010). In a video game context, individuals can use the available cues and gather information about their communication partner through avatars and usernames.

Avatars

The word "avatar" originally came from Hinduism and was used to describe the human incarnation a deity would take while visiting Earth (Wolf, 2008). Online users have adopted this term to describe the digital forms that represent the user while interacting in online contexts. Simply put, avatars are a type of graphic or digital representation of a computer or video game user (Walther, 2006; Wolf, 2008). Avatars are typically used online in two ways. First, avatars are commonly used on websites or chat forums (Schroeder, 2002; Trepte & Reinecke, 2010). Avatars in this context are often small static images that appear whenever a user types a message, similar to profile pictures used on

social media websites such as Facebook, or the picture in an author's byline on a news article. Users of online forums may elect to upload and use an actual picture of themselves (as is typically the case on social media websites), but more often, users elect to maintain privacy and anonymity by choosing from a number of pre-set images provided by the website. Second, avatars are commonly used in online virtual gaming worlds. In this second context, an avatar is a digital humanoid character that players use to navigate the virtual world and interact with the environment and with other users (Trepte & Reinecke, 2010; Walther, 2006). One simplistic example of avatars in virtual gaming worlds is Mario, the famous mustached Italian plumber who wears a red hat and blue overalls in the classic *Super Mario* games. A player controls an avatar to explore and complete various in-game tasks; similarly, a player controls Mario to make him walk, jump, collect coins, and fight enemies in the game. However, unlike Mario, avatars in online video games can be used to interact with others and can be customized by the player.

Customization differs from game to game, and each game offers varying degrees of customization options for a user. One extreme on the customization spectrum are games that have limited pre-set avatars for the player to choose from; further customization is not possible for these game types. The other extreme on the customization spectrum are games that allow players to fully customize their avatars. For games on this end of the spectrum, players can control any number of traits and features (e.g., gender, race, height, weight, facial features, hair style and color, and clothing type and color). There are also games at the midpoints between these two extremes. For example, a game might offer pre-set avatars, but allow players to change minor features such as the color of the avatar's hair. Alternatively, a game may allow players to control a number of traits (e.g., race), but only

offer pre-set skin colors for players to choose from. Every video game falls at different points on the customization spectrum, offering players varying degrees of control over specific traits. Unfortunately, there is no customization standard that encompasses all game types. Rather, most video game developers are confined by budget and bandwidth when deciding what level of avatar customization will be available in the game (Schroeder, 2002).

Username

A “username” is a general term to describe the identifiers people use in a variety of online contexts (e.g., e-mail, shopping websites, online forums, and video games).

Individuals utilize a combination of letters and/or numbers to create a unique username.

Username not only serve as a way for people to log in to their unique account, but they also become the name people use online. Due to privacy and security concerns, many websites and video games advise individuals not to use their real name online. Heeding such advice, individuals typically employ all or part of their username as the name they use online.

Similar to many online contexts, video games typically constrain the number of characters in a username, so usernames are not fully customizable. Furthermore, games do not allow usernames to be repeated. This may limit a player’s customizability by forcing the player to create a new username if his or her first choice is already in use. Username are designed to be a unique identifier for the player; therefore, there are no pre-set usernames for players to choose from in online video games. Occasionally, a game will offer users the option to play from a guest account, but guests are either limited in what areas of the game

they can access or they are tied to a parent account (i.e., the guest is associated with another player who has a unique username and must accompany that player in the game).

Theoretical Framework

Originally described by Goffman (1959) and later developed by others (e.g., Leary & Kowalski, 1990; Schlenker, 1980), impression management (also referred to as self-presentation) is a process describing a person's attempts to control the perceptions formed about them by others (Leary & Kowalski, 1990). Goffman (1959) used an extended metaphor involving actors on a stage to describe how individuals are motivated to manage their behavior (to act) and influence how other people (the audience) perceive them. In their comprehensive literature review, Leary and Kowalski (1990) asserted that impression management is comprised of two distinct sub-processes: impression motivation and impression construction.

The impression motivation process is described as a desire to create certain impressions in other people's minds (Leary & Kowalski, 1990). In particular situations, people become motivated to control the impressions other people form of them. Situational and dispositional factors can affect how much attention individuals pay to the impressions they are projecting to others, which can in turn impact individuals' motivation to control the perceptions others are forming about them. Applicants at job interviews provide one example of a situational factor affecting individuals' motivation to control impressions. During the interview, applicants have specific instrumental goals in mind: they likely want to appear competent, and ultimately, they want to get the job. Applicants in interview settings will be motivated to manage their impressions in order to get the job and will engage in strategies to achieve those goals. Players on sports teams are another situation in

which the motivations to control impressions may become salient. Players likely have instrumental goals in mind (e.g., winning the game), so they create certain impressions to achieve that goal, such as appearing like a skilled and intimidating player. Other situations may have non-instrumental goals, for example, a dormitory party for first-year college students. In this situation, people likely want to appear attractive and likeable in order to create favorable first impressions and interact with others. One reason individuals may be motivated to create strategic impressions is because they realize initial interactions can be uncertainty-producing situations. During initial interactions, uncertainty reduction theorists contend that people experience high uncertainty and seek to reduce that uncertainty by attempting to gather information and learn more about their communication partner (Berger & Calabrese, 1975). Individuals inherently understand that others are uncertain and will form impressions of them; they become motivated to manage their impressions to project a certain image and reduce their communication partner's uncertainty about them.

Another situational factor that may affect individuals' motivations to impression manage is the possibility for future interactions. In this situation, the motivation to engage in impression management stems from the same motivation for other behaviors: to maximize expected rewards and minimize expected punishments (Leary & Kowalski, 1990; Schlenker, 1980). The predicted outcome value (POV; Sunnafrank, 1986, 1990) may also help us understand when individuals will be motivated to manage their impressions. POV theorists state that in interactions, individuals seek positive relational outcomes. Individuals attempt to predict the value of outcomes associated with potential future interactions with a communication partner. When positive outcomes are predicted,

individuals will be motivated to manage their impressions and pursue further communication. However, when individuals predict a negative outcome, they will be less motivated to manage their impressions and will try to avoid future interactions. When future interactions are possible, then, individuals will be more motivated to manage their impressions and present themselves in a way that will maximize their potential future rewards.

When people engage in the impression construction process, they alter their behaviors to influence others' perceptions of them (Leary & Kowalski, 1990). During the impression construction process, individuals must decide what impressions they want to construct as well as how they will achieve that particular impression. Individuals employ various impression management strategies to attain the desired impression.

Jones and Pittman (1982) developed a taxonomy of impression management strategies that is often used in organizational settings. The Jones and Pittman taxonomy identified five theoretical groupings of strategies people commonly use to achieve desired impressions: ingratiation, self-promotion, exemplification, supplication, and intimidation (Jones & Pittman, 1982). Ingratiation is the strategy people use to appear likeable and attractive. Ingratiation may be relevant in a variety of situations where individuals do favors or use flattery to appear more likeable, such as bringing a friend to the airport even when it is inconvenient. Another example of ingratiation could be smiling often or using nonverbal immediacy cues, such as body position, to appear interested in one's communication partner. A self-promotion strategy emphasizes a person's accomplishments or skills and is used to create the impression of competence. Self-promotion is commonly used in job interviews when candidates highlight their accomplishments and qualifications

with the hopes of being hired. Another example of self-promotion could be wearing clothing the employer would like to see, such as a suit and tie, to send the message that the individual is accomplished. When individuals want to appear dedicated, they engage in exemplification. Employees may demonstrate the exemplification strategy when they put in overtime to show their superiors they are dedicated and committed to the company. Alternatively, a mesomorphic body type could be a visual indicator that an individual is dedicated to an exercise routine. The supplication strategy involves emphasizing one's weaknesses and is used to appear vulnerable. Children may use a supplication strategy when doing chores, emphasizing their small size as a weakness inhibiting them from completing the task. Intimidation is the strategy used by those who want to be perceived by others as intimidating. A football team, for example, may use intimidation strategies such as yelling, scowling, and flexing their muscles to intimidate the rival team.

Offline Impression Management

In traditional in-person (i.e., offline) contexts, impression management has been applied to many research areas, which are reviewed in greater detail elsewhere (e.g., Leary & Kowalski, 1990). For example, scholars have commonly examined impression management strategies applied to job interviews (Baron, 1986) and workplace or organizational settings (e.g., Bolino, 1999; Bolino & Turnley, 1999; Carlson, Carlson, & Ferguson, 2010; Harris et al., 2007). Results from Harris et al.'s (2007) study showed that individuals who use impression management strategies and scored high on political skill (i.e., the ability to influence situations) were viewed more positively in the workplace than people low in political skill. These findings suggest that people are engaging in impression management, but other factors may determine whether or not the strategy is successful.

However, if impression management is to be successful, it must not be detected (Goffman, 1959; Keating, 2006); it must be done in a way that looks authentic and does not create uncertainty. Carlson et al. (2010) found that the use of deceptive impression management (i.e., favorably biased image of oneself) was detrimental to a supervisor's rating of an individual as promotable. That is, supervisors who recognized a subordinate's deceptive impression management tactics were more likely to negatively impact promotability ratings of the subordinate.

Impression management has further been studied in relation to personality (Sadler, Hunger, & Miller, 2010) and classroom work groups (Turnley & Bolino, 2001). Turnley and Bolino (2001) found that students who were high self-monitors (i.e., highly aware of the image they are projecting and able to change their behaviors to fit the situation) were more effective than low self-monitors at using the impression management strategies of ingratiation, self-promotion, and exemplification.

Impression management can also function in other situations, even if scholars do not necessarily characterize the situation as impression management. For example, scholars do not typically characterize conscious name choice decisions as impression management. However, impression management is also functioning in name choice decisions, such as name selection after marriage (i.e., when deciding whether to take a spouse's last name, keep one's original name, or hyphenate). Researchers have examined descriptive characteristics of women's name choices and how their decision relates to a woman's identity and self-concept, as well as their relationships and cultural expectations (Foss & Edson, 1989; Twenge, 1997); these ideas are closely tied to impression management. Foss and Edson (1989) found that women who took their husbands' names

felt their identities stemmed from relationships with their husbands and children, while women who kept birth names felt their name was part of their personal identity and reminded them of where they came from. Women who chose to hyphenate became an amalgamation of the previous two, and women who made this choice valued their relationship and self as equal contributors to their identity. These findings indicate that women based their decisions not only on internal self-concepts, but they also considered external factors such as relationships with others and cultural expectations in their decision.

Online Impression Management

Scholars have also looked at impression management in online contexts, both explicitly and implicitly. Several researchers found empirical evidence that suggests people engage in impression management on social networking sites when selecting profile pictures (Shafie et al., 2012; Siibak, 2009), when posting status updates and photographs (Hogan, 2010), and even when creating screen names (Becker & Stamp, 2005). For example, researchers found that students constructed their social network profiles (usernames and profile pictures) based on how they thought they should appear in order to be perceived as popular on social networking sites (Siibak, 2009). Similarly, Becker and Stamp (2005) interviewed chat room users, who reported they strategically created positively valenced screen names when they had goals of being socially accepted and developing relationships.

Impression management is also studied in online dating websites (Ellison et al., 2006; Toma & Hancock, 2010; Vasalou & Joinson, 2009). Researchers consistently find individuals create dating profiles and/or avatars that emphasize their ideal traits in order

to be perceived as attractive, which is in line with the ingratiation strategy and the desire to be perceived as likeable. Additionally, scholars have researched specific goals attained through impression management in online contexts. Holoien and Fiske (2013) demonstrated a compensation effect in impression management: people with the goal of appearing competent downplayed their warmth in an e-mail to their book club, and people with the goal of appearing warm downplayed their competence.

Aside from such direct applications, scholars have examined online impression management indirectly as well. For example, impression management ideas are applicable in studies that look at usernames, even though impression management was not the explicit focus of these studies. Heisler and Crabill (2006) found that e-mail usernames shape an individual's perceptions about the sex, ethnicity, age, and even the work productivity of the fictional e-mail owner. Additionally, Graham and Gosling (2012) asked participants to rate *World of Warcraft* usernames to determine the personalities of the players. Results of both studies indicated that participants' perceptions were influenced solely by the usernames. The manner in which users form impressions may have implications for impression management because it demonstrates that people form impressions from basic usernames; if individuals want to be perceived in a particular way online, they could strategically create usernames. Impression formation and impression management are closely related, so situations in which people are forming impressions can increase individuals' motivation to control the impressions.

Clearly, there are similarities between online and offline impression management. First, regardless of whether individuals are online or offline, they are using impression management strategies and making choices about how they want to be perceived. For

example, choices are made about individuals' names (Foss & Edson, 1989; Twenge, 1997) or usernames (Becker & Stamp, 2005; Siibak, 2009), as well as choices about their specific goals (Holoien & Fiske, 2013; Siibak, 2009). Second, online or offline, individuals have at least some level of control over their appearance and try to control it during situations such as job interviews (Baron, 1986), or on dating and social media websites (Siibak, 2009; Vasalou & Joinson, 2009).

There are also differences between online and offline impression management. In offline contexts, individuals may encounter difficulties in trying to control or change some aspects of their appearance. For example, individuals can wear heels to increase their height temporarily, but if they want to permanently alter their height, they must undergo expensive, potentially time-consuming, and painful surgery. Additionally, offline physical appearances may be constrained by societal norms. For example, people can change their hair color, but there are normative hair colors for people to use (e.g., blonde, brown, black, and red). If individuals dye their hair to a non-normative hair color (e.g., blue), it may be perceived as odd or insincere. In contrast, online contexts allow individuals to quickly and easily control or change aspects of their avatar's appearance. The relative height of an avatar can easily and painlessly be customized to the desired specifications of the player. Additionally, online appearances may not be as constrained by societal norms. Research has shown that people interacting via avatars in virtual environments adhere to many social norms found offline, such as interpersonal distance and eye gaze (Yee, Bailenson, Urbanek, Chang, & Merget, 2007), yet there is perhaps a wider range of acceptable norms in virtual situations. For example, in an online context, blue hair on an avatar may not be

perceived as odd, but rather as a sincere representation of the individual's desires, or a way to communicate information (such as favorite color) to other people.

Online Video Games

Video games come in an array of genres, formats, platforms, and with varying objectives. Many single-player games (e.g., *Super Mario Brothers*, *Mass Effect*) are played without an online connection and without interacting with other people through the use of an avatar. There are also games for multiple players, but many of these games are typically played with friends and family who are physically in the same room (e.g., *Mario Party*). These types of multi-player games often do not have the capability to connect with friends and strangers online. Games on mobile platforms, such as smartphones and tablets, are exceedingly popular (Entertainment Software Association, 2014; Spil Games, 2013), but these game types often do not involve the use of avatars. Given the purposes of this paper, a useful place to start an examination of impression management in online video games is to concentrate on games where people can communicate with others online. Specifically, the focus will be limited to online video games that allow interactions with strangers (i.e., unknown others), rather than online interactions with friends or family (i.e., known others). The reason for this focus is because impression management is particularly crucial during initial interactions between unknown others, as initial encounters can result in long lasting impressions (Keating, 2006). Two types of video games that fit these criteria are online social games and online competitive games.

Online Social Games

Online social games are defined as online games where the primary purpose of the game is to socialize with other people. People who play social games (e.g., *Second Life*)

spend a majority of their in-game time forming relationships and communicating with other people while they explore the virtual world (Kalning, 2007). Social games or online virtual worlds such as *Second Life* often have other aspects to the game—for example, the ability to create things within the virtual world. However, what sets social games apart from other game types is that there are no established objectives for players to complete. Social games have intrinsic value; instead of trying to win the game, or complete a series of objectives, the primary goal is simply to interact with others.

Online Competitive Games

Online competitive games are defined here as games where the focus is instrumental: the primary purpose of competitive games is to win the game (e.g., defeat the enemies and complete the objectives). Researchers and video game experts categorize competitive games differently and with a variety of designations, but the fundamental trend across definitions appears to be shared similar goals in competitive-type games. Online competitive games encompass a number of video game genres—from first-person shooters (e.g., *Call of Duty*) to massively multiplayer online games (e.g., *World of Warcraft*). Competitive games often include other aspects, such as the ability to socialize with teammates (Walther, 2006; Wolf, 2008), but the primary purpose of these games is still instrumental in nature: to win the game by working together with one's team. In this investigation, the term “competitive game” will be used to refer to cooperative-competitive games that require players to work with a team, as opposed to competitive games that require players to work alone.

Due to the online connectivity of both social and competitive games, individuals are able to communicate with each other while playing the game together via text and/or audio

channels. Players are able to type messages to each other in the game whenever text channels are available; messages are immediately sent and received, much like communication via instant messaging. When audio channels are available, players are able to use microphones and headsets to orally communicate with others during gameplay, similar to a phone call. As discussed previously, customization options vary greatly from game to game, but all online social and online competitive games utilize avatars and usernames to navigate the virtual world and identify individuals within the world.

Impression Management in Online Video Games

Impression management theorists state that, depending on situational and dispositional factors, people will be motivated to control the impressions people form about them and will construct their identity using certain strategies to achieve the desired impression (Leary & Kowalski, 1990). In the impression motivation process, individuals may be motivated to control impressions in order to reduce uncertainty and create favorable lasting impressions, or when they want to maximize expected rewards and minimize expected punishments (Leary & Kowalski, 1990; Schlenker, 1980; Sunnafrank, 1986, 1990). Managing one's impressions increases the chances that the player will achieve their goals in the game; that is, players are likely to maximize their expected rewards and accomplish their in-game goals if they are sufficiently motivated to engage in impression management. Furthermore, although online others may not know an individual's actual name, behaviors enacted online are seen by others; thus, online environments can be perceived as a highly public forum and provide motivation for players to manage their impressions. Publicity can be motivating to individuals for two primary reasons. First, because there are many people simultaneously forming impressions of individuals in

public arenas, individuals may be more motivated to choose the impression management strategies that are required to convey the desired impression. Second, in a public space, individuals have fewer opportunities to fix impressions that are not consistent with their goals, so individuals can be motivated to carefully manage their impressions to reduce undesired impressions. Due to the connectivity of online video games, both novice and veteran players are likely to recognize that their behaviors are being broadcast on a public forum. The publicity associated with individuals' behavior, then, can make them more motivated to manage their impressions (Arkin, Appelman, & Burger, 1980; Leary & Kowalski, 1990).

Once individuals are motivated to manage their impressions, they engage in the impression construction process and decide what their goals are (i.e., what impressions they want to construct) and how they will achieve those goals (i.e., what strategies they will use) (Leary & Kowalski, 1990). In online video games, impression construction can take the form of strategic avatar and username creation based on game-specific goals, because those are some of the cues available in this online medium.

For social games, the goal is likely to attract a communication partner and interact with them. From an impression management standpoint, players of social games want others to perceive them as someone they would like to get to know. Individuals attract others to interact with them by appearing likeable and friendly. This is consistent with relationship development theories, such as the model of interaction stages (Knapp, Vangelisti, & Caughlin, 2013). During the first stage of relationship development, initiating, individuals try to project the image that they are "pleasant, likeable, understanding, and socially adept" (Knapp et al., 2013, p. 38). Players want to be liked and interact with others

who express common interests in order to attain a positive outcome value for present and future interactions. To realize the goals of social games, players can strategically customize avatars and usernames to communicate likeability. For example, players who want to be perceived as likeable or attractive may design their avatars with physically attractive features, or create a username such as “HawaiianCutie” in an attempt to accomplish their goals for this specific context. Researchers have found evidence that individuals using dating websites create avatars and profiles that highlight attractive and ideal features (Ellison et al., 2006; Toma & Hancock, 2010; Vasalou & Joinson, 2009). Because the goal of dating websites is similar to that of social games (i.e., to attract and interact with a communication partner), we might expect that social game players will also highlight physically attractive characteristics and ideal features in their avatars and usernames.

For online competitive games, the purpose is to coordinate with one’s teammates, strengthen the avatar and the avatar’s skills (i.e., “level up”), and ultimately, win the game. From an impression management standpoint, the goal is likely to be included and appear competent so teammates perceive individuals as good players. In turn, individuals want to attract other good players to make their team stronger and increase their chances of winning, resulting in a positive relational outcome for the individual. In order to achieve these competitive game goals, players can strategically create avatars and usernames that communicate strength and competence. For example, players of a competitive shooter game may customize avatars to appear physically strong, and create a username such as “KillinMachine” to emphasize their ability to win. This is consistent with Vasalou and Joinson’s (2009) findings. In their study, Vasalou and Joinson asked individuals to create avatars for a detective/puzzle type game. Participants in this condition crafted avatars that

emphasized intellectual ability—which would serve as a significant tool for solving the mystery and winning the game. Due to the instrumental goals associated with competitive games, we might expect that people playing competitive games will create avatars that emphasize impressions of skill (e.g., strength and intellect). Thus, the following hypotheses are proposed:

- H1a: Avatars created for social games will be designed to appear more physically attractive than avatars created for competitive games.
- H1b: Usernames created for social games will be designed to appear more physically attractive than usernames created for competitive games.

- H2a: Avatars created for social games will be designed to appear more likeable than avatars created for competitive games.
- H2b: Usernames created for social games will be designed to appear more likeable than usernames created for competitive games.

- H3a: Avatars created for competitive games will be designed to appear more skillful than avatars created for social games.
- H3b: Usernames created for competitive games will be designed to appear more skillful than usernames created for social games.

Anticipated Future Interactions

Another situational factor affecting impression management might be whether or not the player will be interacting with their communication partner in the future.

Anticipated rewards from future interactions with a communication partner may affect players' motivations to control their impressions. In initial interactions, people experience high uncertainty because they do not know their communication partner. In order for users to reduce uncertainty online, individuals observe and gather information from avatars and usernames of others. Berger and Bradac (1982) stated that rewards and costs from the interaction might increase individuals' desire to gather information and reduce uncertainty. POV theorists extended this idea and asserted that people will evaluate

potential outcomes (either positively or negatively) they might receive if they engage in future interactions with individuals. When individuals have successfully used impression management strategies relevant to the situation, the communication partner will likely predict a positive outcome value and desire future interactions. When individuals are unsuccessful in their impression management, the communication partner will likely predict a negative outcome value and desire no further communication.

Because individuals are attempting to reduce uncertainty and evaluate the outcome value for future interactions, avatars (i.e., online representations) may be perceived as consistent with offline representations of the self, and therefore good sources of information. Vasalou, Joinson, and Pitt (2007) found most users adapt their avatar to reflect their own appearance. Furthermore, evidence shows that users prefer avatars that resemble themselves (Bailenson & Beall, 2006; Vasalou et al., 2007). Since players tend to create and prefer avatars that reflect themselves, they likely believe others will demonstrate the same preferences. Avatars used in online video games allow users the freedom to choose the degree to which an avatar sincerely represents them, meaning that players are not constrained to create online representations that are consistent with offline representations of one's self. However, lying (or being inconsistent) may be cognitively demanding (Vrij, 2006) and maintaining an inconsistent image for a long time can be difficult when one must remember everything that was previously communicated. Therefore, when users anticipate repeated interactions with a communication partner, the user may be more likely to craft online representations (i.e., avatars) that are more consistent with their offline representations, regardless of the type of video game. The advantages to this are two-fold. First, people want to create a favorable impression

(Schlenker, 1980). By creating a physically accurate depiction of themselves, individuals can be perceived as more sincere. Second, creating an avatar that is more consistent with individuals' true identities will make it easier for them to find common interests with communication partners. Depending on whether or not there are future interactions, the similarity between the avatar and the individual might vary. That is, if future interactions are expected, then the online avatar will likely be more consistent with the offline self; if no future interactions are expected, the online avatar will likely be less consistent with the offline self. Thus, the following hypothesis:

H4: Players anticipating future interactions with their gaming partner will create avatars that are intended to look more consistent with their offline self, compared to players not anticipating future interactions.

When players anticipate future interactions, the publicity of their behaviors likely results in high awareness that they will be monitored. Aware of this publicity of behaviors in future interactions and motivated to manage their impressions, people may spend more time carefully constructing their impressions than people who do not anticipate future interactions. Individuals may also consider potential rewards from future encounters and try to ensure they are projecting the desired image in order to showcase a good first impression. For example, the morning of an important board meeting, the new CEO of a company may spend more time than usual deciding what to wear. In this situation, projecting the appropriate image is vital for forming a lasting impression with the board members, so the CEO will take extra care in constructing the desired impression. The CEO will likely also consider future interactions with the board members and recognize the importance of maintaining the impression that is established. In a video game context, players may take longer to create their avatar when they believe there will be future

interactions than players who do not expect future interactions. Thus, the following is posited:

- H5: Players anticipating future interactions with their gaming partner will take a longer amount of time to create avatars than players not anticipating future interactions.

CHAPTER II: METHODS

Design

This investigation employed a 2 (game type: social game or competitive game) x 2 (future type: future interactions or no future interactions) factorial design. Dependent variables for this study included physical attractiveness, likeability, skill, similarity with avatar, and time to create avatar. Ninety-nine students enrolled in undergraduate Communicology courses at the University of Hawai'i at Mānoa participated in this study. Students were recruited through a departmental Web-based management site and received course credit or extra credit in exchange for their participation. The sample was comprised of 49% male participants ($n = 48$), and 52% female participants ($n = 51$). The self-reported average age of the participants was 21.44 ($SD = 3.78$, range = 18-38). Participants selected which ethnicity they most identified with, resulting in a sample that included: Asian (41%, $n = 41$), mixed ethnicities (23%, $n = 23$), Caucasian (21%, $n = 21$), Hispanic/Latino (9%, $n = 9$), and Native Hawaiian/Pacific Islander (5%, $n = 5$). Participants reported spending an average of 4.05 hours per week playing video games ($SD = 6.81$, range = 0-40) and have been playing games for an average of 9.03 years ($SD = 6.28$, range = 0-23). Participants indicated they were somewhat familiar with the Xbox avatar editor used in the study ($M = 4.94$, $SD = 1.77$), and they found the software very easy to use ($M = 6.46$, $SD = 0.90$).

Students interested in participating reported to the departmental laboratory for the study. When participants arrived at the lab, the researcher asked them to sign a consent form (see Appendix A). Participants were randomly pre-assigned to one of four conditions to ensure the cell sizes would be relatively balanced: social game with future interactions ($n = 20$), social game with no future interactions ($n = 25$), competitive game with future

interactions ($n = 24$), and competitive game with no future interactions ($n = 30$).

Participants were given instructions specific to their condition (see Appendix B) and then allowed time to create an avatar and username. The researcher remained on a couch in the corner of the room, in case participants had questions during the course of the study.

Participants started a timer when they began creating their avatars and stopped the timer when they were satisfied with their creations.

Once participants finished customizing their avatars and usernames, they completed a questionnaire about their goals in creating their avatars and usernames. Upon completion of the questionnaire, participants were presented with a second consent form (see Appendix C) and asked if they would be willing to allow the researcher to take a picture of them for future studies. While not directly relevant for the current study, the photographs will be used in a future study exploring receiver evaluations of players' similarity with their avatars. If consent for the photograph was obtained, the researcher took a photograph of the participant. They were then thanked and given final oral instructions before being dismissed (see Appendix D).

Conditions

Participants received condition-specific instructions detailing what type of game they may be playing and what they would be doing in the game (see Appendix B for complete instructions). For social games, participants were told they might play a game that allows them to interact with other people and explore a virtual world. For competitive games, participants were told they might play a game that allows them to work together with a team to accomplish a task and win the game. Both social and competitive game

scenarios included a fictional game title, XYZ, so as to eliminate previous experience with or biases about the game.

The instructions also included information about how many times participants may play the game with other people. For the no future interactions condition, participants were told they may only play the game once with a group of people and then never again. For the future interactions condition, participants were informed that they may play up to five times in the future with the same group of people. Before being dismissed, participants were given final oral instructions indicating they may be randomly selected and contacted via e-mail to continue the study and play the game with other people at a later time. These final instructions were not relevant to the current study, but were included for possible use in a future study.

Avatar Creation Software

The Microsoft Xbox 360 avatar editor was the software used to customize avatars. This editor was chosen for three primary reasons. First, the controls are simple enough that even participants with no experience playing video games would be able to quickly learn the controls. Second, the avatar editor on the Xbox 360 console allows a number of customizable features with preset options, including but not limited to: gender, skin color, body shape, facial features, and clothing. The variety of customizable features allowed participants to create their avatar as they wished, and the preset options made the customization process simple for them. Third, the avatar's appearance and the clothing options available in the editor are appropriate for either social or competitive game scenarios. Additional clothing options were purchased from the Xbox avatar store to supplement the default options and ensure a wide range of choices for either game type.

Measures

The means, standard deviations, reliabilities, and a complete zero-order correlation matrix for all variables used in the study are available in Table 1.

Design Goals

Two instruments were adapted and used to measure design goals for the dependent variables of physical attractiveness, likeability, and skill. Both instruments were altered for use in the present study in order to measure why participants customized their avatars the way they did, and how they hoped other players would perceive their avatars. Design goals for each dependent variable were measured and analyzed separately for the avatar and the username.

The first instrument used to measure participants' goals was a modified version of the impression management scale developed by Bolino and Turnley (1999). Bolino and Turnley's impression management instrument (see Appendix E) consisted of 25 items divided into five subscales (i.e., self-promotion, ingratiation, exemplification, intimidation, and supplication) that measured the use of Jones and Pittman's five impression management strategies. Because the original impression management instrument was designed for a workplace setting, some items were irrelevant for the current study and could not be adjusted; all relevant items were adapted for use in this project (see Appendix E). The revised instrument consisted of 16 items that measured individuals' goals for creating their avatar. While items from all five original subscales were used, only two subscales (self-promotion and ingratiation) were included in the analysis. The original instrument used a 5-point scale from 1 (*never behave this way*), 2 (*very rarely behave this*

way), 3 (*occasionally behave this way*), 4 (*sometimes behave this way*), and 5 (*often behave this way*).

The second instrument used to measure design goals was an adapted version of the interpersonal attraction scale (Rubin, Palmgreen, & Sypher, 1994; see Appendix F). The original measure consisted of 15 items divided into three subscales (i.e., social attraction, physical attraction, and task attraction). All 15 items from the original instrument were relevant in the current study and were modified to reflect the video game context. The original measure used a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

For consistency, all measures of design goals used in the study were converted to a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores indicated the participant had a particular goal that they intended to be demonstrated in the avatar, and lower scores indicated the participant did not have a particular goal demonstrated in their avatar.

Physical Attractiveness. In this study, the impression management goal of physical attractiveness was operationalized as avatars and usernames that were designed to have beauty and physical appeal. The participants' goal of trying to make avatars and usernames physically attractive was measured using five items from an adapted version of the physical attraction subscale of the interpersonal attraction instrument (see Appendix F, items 6-10). For example, the original item "*I think he/she is quite handsome/pretty*" was converted to "*I want other people to think my avatar appears to be quite handsome/pretty.*" The subscale was reliable for both avatar physical attractiveness ($\alpha = .87$) and username physical attractiveness ($\alpha = .88$).

Likeability. The impression management goal of likeability was conceptualized as avatars and usernames that were created to have friendliness and kindness. The participants' goal of trying to make their avatars and usernames likeable was assessed in two ways, using the ingratiation subscale of the impression management instrument and the social attraction subscale of the interpersonal attraction instrument. The ingratiation subscale measured individuals' attempts to be perceived as kind and likeable by others. The social attraction subscale measured individuals' attraction to another person as a friend or a potential part of their social circle. Therefore, these subscales were chosen in the current study to evaluate likeability because they measured perceptions of friendliness of an individual.

First, three items were used from the ingratiation subscale (hereafter "ingratiation") (see Appendix E, ingratiation items 1-3). The original instrument contained five items pertaining to a workplace environment, but two items were removed because they were irrelevant and could not be modified to reflect visual cues. The remaining three items were revised to be applicable in the current study. For example, the original item "*Compliment your colleagues so they will see you as likeable*" was converted to "*I want other people to think my avatar appears likeable.*"

Second, five items were used from the social attraction subscale (hereafter "social attractiveness") (see Appendix F, items 1-5). All five items from the original instrument were relevant in the current study and adapted accordingly. For example, the original item "*I think he/she could be a friend of mine*" was converted to "*I want other people to think my avatar could be a friend of theirs in the game.*"

Subscales were reliable for both avatars (ingratiation, $\alpha = .91$; social attractiveness, $\alpha = .86$) and for usernames (ingratiation, $\alpha = .94$; social attractiveness, $\alpha = .86$).

Skill. The impression management goal of skill was operationalized as avatars and usernames that were designed to demonstrate ability and expertise in a particular context (in this case, video games). The participants' goal of trying to create skillful avatars and usernames was assessed in two ways, using the self-promotion subscale of the impression management instrument and the task attraction subscale of the interpersonal attraction instrument. Self-promotion measures individuals' communication strategies used to appear more competent. The task attraction subscale measures individuals' attraction to another person based on their abilities to accomplish certain tasks. Therefore, these subscales were chosen to evaluate avatar and username skill because they measure perceptions of ability and competence.

First, four items from the self-promotion subscale were used (hereafter "self-promotion") (see Appendix E, self-promotion items 1-4). The original instrument contained five items, but one item was irrelevant and could not be adapted to measure visual design goals. The remaining four items were altered for a video game context. For example, the original item "*Talk proudly about your experience or education*" was converted to "*I want other people to think my avatar looks like it has a lot of video game experience.*"

Second, five items were utilized from the task attraction subscale (hereafter "task attractiveness") (see Appendix F, items 11-15). All five items were relevant and were modified for a video game context: for example, the original item "*I have confidence in his/her ability to get the job done*" was converted to "*I want other people to think my avatar looks confident in its capabilities.*"

Avatar skill was reliable for both self-promotion ($\alpha = .89$) and task attractiveness ($\alpha = .78$). Username skill was also reliable for both self-promotion ($\alpha = .94$) and task attractiveness ($\alpha = .74$).

Similarity with Avatar

An adapted version of the perceived homophily scale (Rubin et al., 1994) was used to measure participants' feelings of similarity with their avatar. The original 8-item instrument (see Appendix G) was developed to measure how similar interactants felt to each other. Each item measured different types of homophily; for example, "*Similar to me/Different from me*" (attitude homophily) and "*Status like mine/Status different from mine*" (background homophily). In the current study, a total of 12 items were used to assess similarity with the avatar: six items were modified from the original measure, and six items were newly developed.

Six items from the original measure (see Appendix G) that were related to visual impressions of a communication partner were selected for modification in the current study. That is, once the six items were adapted for a video game context, they could be evaluated based on the avatar's appearance alone, rather than on the assumed behaviors or thoughts of the avatar. Of the six modified items, two considered similarity overall and four considered similarity to specific features on the avatar. The two revised items measured how similar overall participants felt to their avatars; for example, "*Overall, my avatar is unlike me/Overall, my avatar is like me.*" Four revised items measured how similar participants felt to their avatars on specific qualities, such as: "*My avatar is from a status that is worse than mine/better than mine.*"

Based on the customization offered by the avatar editor, six additional items were created for this study to measure how similar participants felt they were to their avatar on each customizable feature (e.g., body type, hair, and clothing) (see Appendix G). Using these six newly developed items, participants were able to rate their similarity with their avatars on specific features of the avatars' appearance. Samples from the newly developed items were, "*My avatar's hair is worse than mine/better than mine,*" and "*My avatar's body type is worse than mine/better than mine.*" Including items for each customizable feature was advantageous because it allowed participants to rate features separately. For example, participants were able to report the avatar's body type was different from their own, and that the hair was the same.

In the original instrument, items were rated on a scale from 1 to 7 in order to measure degrees of similarity with one's communication partner. The two overall items that were altered from the original instrument remained on a 7-point scale to measure overall degrees of similarity with one's avatar. However, participants were able to create avatars that were different than them in either positive or negative ways. Therefore, the remaining four adapted items from the original instrument, along with the six newly created items, were rated on a scale from -3 to 3, where: -3 (*worse than me*), -2 (*moderately worse than me*), -1 (*a little worse than me*), 0 (*just like me*), 1 (*a little better than man*), 2 (*moderately better than me*), and 3 (*better than me*). Negative scores indicated the participant felt their avatar was different from them in a way that represented a worse version of them, while positive scores indicated the participant felt their avatar was different in a way that represented a better version of them. The absolute value of the similarity scores were used for analysis so that scores closer to 0 would indicate a high

degree of similarity between the participant and their avatar, and scores closer to 3 would indicate a low degree of similarity between the participant and avatar.

The 12 similarity items were divided into two measures to evaluate similarity with avatar: the two overall items were labeled “general similarity” and the 10 specific items were labeled “specific similarity.” The measures were reliable for both general similarity ($\alpha = .94$) and specific similarity ($\alpha = .85$).

Avatar Creation Time

To measure how long it took participants to design their avatars, participants were instructed to time themselves during avatar creation. A basic timer was provided and participants were shown how to start and stop the timer. Following the completion of the avatar creation, the researcher recorded the time. Each participant’s time was later converted into seconds for analysis.

Supplemental Measures

The questionnaire included manipulation checks and asked about participants’ demographic information as well as their experience with video games outside of the study (see Appendix H). Manipulation checks asking participants to recall instructions given to them were employed to determine whether the participants had kept the instructions in mind during the study. Participants who could not recall the instructions were excluded from analysis. Demographic information such as age, sex, race/ethnicity, and class standing were self-reported by participants. For video game experience, participants were asked to approximate how much time they spend playing video games every week (if any) and how long (in years) they have been playing video games. They were also asked whether they have experience customizing avatars in the games they play outside of the study (if any).

CHAPTER III: RESULTS

Manipulation checks were analyzed after the first 64 participants had completed the study. The results of the manipulation checks indicated that 25 participants could not recall the instructions: social game with future interactions ($n = 3$), social game with no future interactions ($n = 7$), competitive game with future interactions ($n = 7$), and competitive game with no future interactions ($n = 8$). Specifically, participants did not seem to understand the game types, and did not seem to understand (in the no future condition) that they may only play the game once. To ensure participants would clearly understand, the procedures were adjusted for the remaining 35 participants. For all conditions, the researcher gave a quick oral description of the relevant game type. In the no future condition, the researcher explained that the participant may only play the game once with a group of people, and then never again.

In total, 32 participants were removed from the sample for failing to recall the instructions. Additionally, one participant was removed from the sample for attempting to guess the purpose of the study throughout the lab session. Overall, 66 participants were included in the statistical analyses, with relatively equal cell sizes: social game with future interactions ($n = 17$), social game with no future interactions ($n = 17$), competitive game with future interactions ($n = 16$), and competitive game with no future interactions ($n = 16$). Because the conditions were fully crossed, two-way ANOVAs were used to assess the between-subjects differences on each of the dependent variables as well as any potential interaction effects.

Hypothesis 1

H1 predicted players in the social game condition would create avatars (H1a) and usernames (H1b) that were designed to appear more physically attractive than players in the competitive game condition. Two-way ANOVAs were used to assess the differences between social and competitive games on avatar physical attractiveness and on username physical attractiveness.

H1a. There was no significant difference for game type on avatar physical attractiveness, $F(1, 62) = 0.54, p = .47, \eta^2 = .01$. There was also no significant difference for future type on avatar physical attractiveness, $F(1, 62) = 0.01, p = .94, \eta^2 = .00$. However, there was an unexpected interaction between game type and future type on avatar physical attractiveness, $F(1, 62) = 4.55, p = .04, \eta^2 = .07$. Results from the post hoc analysis of the interaction effect revealed that when there was a potential for future interactions, there were significant differences between social games ($M = 5.35, SD = 1.07$) and competitive games ($M = 4.53, SD = 1.39$) on avatar physical attractiveness; when there were no future interactions, there was no difference between social games ($M = 4.76, SD = 0.98$) and competitive games ($M = 5.16, SD = 1.22$) on avatar physical attractiveness. Therefore, H1a was partially supported in that avatars for social games were designed to appear more physically attractive than avatars for competitive games, but only when there were future interactions.

H1b. Results of the ANOVA revealed no significant difference for game type, $F(1, 62) = 1.42, p = .24, \eta^2 = .02$, and future type, $F(1, 62) = 0.39, p = .53, \eta^2 = .01$, on username physical attractiveness. Additionally, there was no interaction between game type and future type on username physical attractiveness, $F(1, 62) = 2.51, p = .12, \eta^2 = .04$. Thus, H1b

was not supported in that there was no difference between social games ($M = 4.93, SD = 1.07$) and competitive games ($M = 4.59, SD = 1.27$) on username physical attractiveness.

Hypothesis 2

H2 posited players of social games would create avatars (H2a) and usernames (H2b) that were designed to appear more likeable than players of competitive games. Two-way ANOVAs were used to analyze the differences for game type on avatar ingratiation and avatar social attractiveness, as well as on username ingratiation and username social attractiveness.

H2a. Significant differences were found for game type on avatar ingratiation, $F(1, 62) = 4.24, p = .04, \eta^2 = .06$, as well as on avatar social attractiveness, $F(1, 62) = 8.66, p = .01, \eta^2 = .12$. There were no significant differences for future type on avatar ingratiation, $F(1, 62) = 0.09, p = .76, \eta^2 = .00$, and avatar social attractiveness, $F(1, 62) = 0.05, p = .83, \eta^2 = .00$. There were also no significant interactions between game type and future type on avatar ingratiation, $F(1, 62) = 0.41, p = .52, \eta^2 = .01$, or avatar social attractiveness, $F(1, 62) = 1.75, p = .19, \eta^2 = .03$. Thus, H2a was supported by both measures of likeability in that players of social games ($M_{Ingratiation} = 6.18, SD_{Ingratiation} = 0.75; M_{SocialAttractiveness} = 6.04, SD_{SocialAttractiveness} = 0.85$) created avatars that were designed to appear more likeable than avatars created for competitive games ($M_{Ingratiation} = 5.67, SD_{Ingratiation} = 1.20; M_{SocialAttractiveness} = 5.34, SD_{SocialAttractiveness} = 1.07$).

H2b. There were also significant differences for game type on username ingratiation, $F(1, 62) = 7.65, p = .01, \eta^2 = .11$, and username social attractiveness, $F(1, 62) = 4.03, p = .05, \eta^2 = .06$; but no differences were found for future type on username ingratiation, $F(1, 62) = 0.00, p = .95, \eta^2 = .00$, and username social attractiveness, $F(1, 62) =$

0.00, $p = .99$, $\eta^2 = .00$. There were also no significant interactions between game type and future type on username ingratiation, $F(1, 62) = 2.17$, $p = .15$, $\eta^2 = .03$, and username social attractiveness, $F(1, 62) = 2.23$, $p = .14$, $\eta^2 = .04$. Therefore, the data offered support for H2b because results showed that usernames created for social games ($M_{Ingratiation} = 5.85$, $SD_{Ingratiation} = 0.81$; $M_{SocialAttractiveness} = 5.80$, $SD_{SocialAttractiveness} = 0.80$) were designed to appear more likeable than those created for competitive games ($M_{Ingratiation} = 5.14$, $SD_{Ingratiation} = 1.25$; $M_{SocialAttractiveness} = 5.29$, $SD_{SocialAttractiveness} = 1.23$).

Hypothesis 3

H3 proposed players creating avatars (H3a) and usernames (H3b) for competitive games would design their avatars and usernames to appear more skillful than players of social games. Two-way ANOVAs were used to assess the differences between social and competitive games on avatar self-promotion and avatar task attractiveness, as well as on username self-promotion and username task attractiveness.

H3a. Results of the ANOVA revealed a significant difference for game type on avatar self-promotion, $F(1, 62) = 6.53$, $p = .01$, $\eta^2 = .10$. However, no difference was found for game type on avatar task attractiveness, $F(1, 62) = 0.07$, $p = .80$, $\eta^2 = .001$. Additionally, no significant differences were found for future type on avatar self-promotion, $F(1, 62) = 1.26$, $p = .27$, $\eta^2 = .02$, and avatar task attractiveness, $F(1, 62) = 0.07$, $p = .79$, $\eta^2 = .001$. There were also no significant interactions between game type and future type on avatar self-promotion, $F(1, 62) = 2.20$, $p = .14$, $\eta^2 = .03$, and avatar task attractiveness, $F(1, 62) = 0.02$, $p = .90$, $\eta^2 = .00$. Therefore, there was partial support for H3a; results from one the two measures used to assess the design goal of skill reached significance, showing that avatars created for competitive games ($M_{Self-Promotion} = 4.87$, $SD_{Self-Promotion} = 1.27$) were intended to

be somewhat higher on skill than avatars created for social games ($M_{Self-Promotion} = 4.09$, $SD_{Self-Promotion} = 1.24$). However, results from the second measure were not significantly different between competitive games ($M_{TaskAttractiveness} = 5.48$, $SD_{TaskAttractiveness} = 1.10$) and social games ($M_{TaskAttractiveness} = 5.40$, $SD_{TaskAttractiveness} = 1.29$) on avatar task attractiveness.

H3b. No significant differences were found for game type on username self-promotion, $F(1, 62) = 1.74$, $p = .19$, $\eta^2 = .03$, and username task attractiveness, $F(1, 62) = 0.46$, $p = .50$, $\eta^2 = .01$. There were also no significant differences for future type on username self-promotion, $F(1, 62) = 1.11$, $p = .30$, $\eta^2 = .02$, and username task attractiveness, $F(1, 62) = 0.26$, $p = .61$, $\eta^2 = .004$. Additionally, there were no significant interactions between game type and future type on username self-promotion, $F(1, 62) = 0.21$, $p = .65$, $\eta^2 = .003$, and on username task attractiveness, $F(1, 62) = 0.26$, $p = .61$, $\eta^2 = .004$. Overall, H3b was not supported by the data because participants did not design usernames for competitive ($M_{Self-Promotion} = 4.45$, $SD_{Self-Promotion} = 1.44$; $M_{TaskAttractiveness} = 5.53$, $SD_{TaskAttractiveness} = 1.03$) and social games ($M_{Self-Promotion} = 3.96$, $SD_{Self-Promotion} = 1.55$; $M_{TaskAttractiveness} = 5.35$, $SD_{TaskAttractiveness} = 1.00$) to be significantly different on skill.

Hypothesis 4

H4 predicted that players anticipating multiple future in-game interactions with a group of people would create online avatars that were more similar to their offline selves than players not anticipating future interactions. Two-way ANOVAs were used to assess the differences for future type on the dependent variables of general similarity and specific similarity. Results from the ANOVA indicate no significant differences for future type on general similarity, $F(1, 62) = 1.50$, $p = .23$, $\eta^2 = .02$, and specific similarity, $F(1, 62) = 1.86$, $p = .18$, $\eta^2 = .03$. Additionally, no significant results were found for game type on general

similarity, $F(1, 62) = 1.56, p = .22, \eta^2 = .03$, and specific similarity, $F(1, 62) = 0.31, p = .58, \eta^2 = .01$. There were also no significant interactions between future type and game type on general similarity, $F(1, 62) = 0.76, p = .39, \eta^2 = .01$, and specific similarity, $F(1, 62) = 1.46, p = .23, \eta^2 = .02$. Thus, H4 was not supported by the data in that players anticipating future interactions ($M_{GeneralSimilarity} = 4.89, SD_{GeneralSimilarity} = 1.94; M_{SpecificSimilarity} = 0.91, SD_{SpecificSimilarity} = 0.75$) did not differ significantly from players not anticipating future interactions ($M_{GeneralSimilarity} = 5.39, SD_{GeneralSimilarity} = 1.42; M_{SpecificSimilarity} = 0.70, SD_{SpecificSimilarity} = 0.50$) on their similarity with their avatar.

Hypothesis 5

H5 proposed players anticipating multiple future online interactions would spend more time creating their avatars than players not anticipating future interactions. A two-way ANOVA was used to analyze the difference for future type on time. Results from the ANOVA indicate there were no significant differences for future type, $F(1, 62) = 1.28, p = .26, \eta^2 = .02$, and game type, $F(1, 62) = 0.51, p = .48, \eta^2 = .01$, on time spent creating the avatar. There were also no significant interactions between future type and game type on time, $F(1, 62) = 0.06, p = .80, \eta^2 = .001$. Therefore, H5 was not supported in that there were no differences between players anticipating future interactions ($M = 594.21, SD = 228.56$) and players not anticipating future interactions ($M = 676.33, SD = 339.89$) on amount of time (in seconds) to create avatars.

CHAPTER IV: DISCUSSION

The purpose of this project was to understand how players use impression management strategies when designing avatars and usernames for different types of online video games and with different expectations for future interactions. Results indicated some support for the use of specific impression management strategies in different types of video games. Specifically, players had a goal of creating avatars and usernames to be more likeable in social games than competitive games. Data showed partial support for players' goal to create avatars that were more physically attractive in social games than in competitive games. Partial support was also found for players' goal to create avatars that were more skillful in competitive games than social games. No significant differences were found for game type on username self-promotion and username physical attractiveness. Additionally, data showed that the potential for future interactions did not significantly affect self-reported player similarity with avatar or avatar creation time.

Game Type

Design Goals in Social Games

The data indicated that video game players in general seem to be attentive to design goals of likeability, demonstrated in avatars and usernames. Although social game players designed their digital representations to be higher in likeability, the means for both types of game were above the mid-point of the scale, indicating that even competitive game players recognized a social component (i.e., cooperative team-play) of online video games. Specifically, social game players agreed that they created digital representations designed to be likeable, while competitive game players moderately agreed that they had these goals. Due to the primary goal of social games (i.e., to interact with other players) versus

competitive games (i.e., to complete an objective with other players), it is not surprising that social game players intentionally designed digital representations of themselves to appear more friendly and likeable than competitive game players. These results offer some support for impression management strategies in online video games, and are consistent with previous research on impression management in other online environments (e.g., Becker & Stamp, 2005; Siibak, 2009).

Results from other impression management strategies do not offer such clear support. Players' goal to create digital representations that were physically attractive was only partially supported by the data. That is, avatars were designed to appear more physically attractive in social games than they were in competitive games, but only when there were anticipated future interactions. Usernames were not designed to appear any more physically attractive in social games than they were in competitive games. The means for both social and competitive games were slightly above the mid-point of the scale, indicating that players were either undecided or somewhat agreed that the avatars and usernames were designed to appear physically attractive. These results seem surprising, given that past research in a comparable online context (i.e., online dating websites) have shown users create profiles and avatars emphasizing ideal and physically attractive qualities (e.g., Ellison et al., 2006; Toma & Hancock, 2010; Vasalou & Joinson, 2009). Considering past research in conjunction with the results from the present study, a possible explanation is that the functions of these two online contexts are not as comparable as originally thought. Although online dating websites and online social games do both have a similar goal of meeting and interacting with other users, online dating websites are unique in that the interactants are actively seeking a romantic relationship that may transition to

offline contexts (Ellison et al., 2006). Online social games, on the other hand, do not have the same implicit end goal of a romantic (and possibly offline) relationship. Therefore, the design goal of physical attractiveness does not seem to be as relevant in online video games as they are in other online environments. However, the interaction effect found partial support, indicating that avatars were designed to appear more physically attractive in social games than in competitive games under specific circumstances: when future interactions were anticipated. These results seem to indicate that when social game players expect to interact with the same people in the future, it may be appropriate to liken the function of online social games to the function of online dating websites. The nonsignificant differences in the no future condition may be explained by the incompatibility of the functions of social games and dating sites; because players do not expect to see their partners again, creating physically attractive avatars may not be a priority.

Design Goals in Competitive Games

Only one of the two skill measures for avatars (i.e., avatar self-promotion), and neither measure for username skill, supported the prediction that competitive game players would design their digital representations to appear more skillful than social game players. The means for one measure of skill (i.e., avatar self-promotion) indicated that social game players rated their digital representations at the mid-point on the scale, while competitive game players indicated they somewhat agree they designed their avatars and usernames to portray that goal. For the other measure of skill (i.e., avatar task attractiveness), players in both conditions noted they somewhat agree they designed their digital representations to appear skillful.

There are three possible explanations for these results. First, the two instruments used to measure skill may have differed significantly from each other, resulting in support for one measure (avatar self-promotion) but not for the other (avatar task attractiveness). Specifically, the instrument for self-promotion may have given participants more contextual information with which to rate their avatars and usernames than the task attraction instrument. For example, all four items in the self-promotion instrument explicitly mentioned video games (e.g., *"I want people to think my avatar looks talented at playing video games"*). However, in the task attraction instrument, only one of the five items explicitly mentioned video games (i.e., *"I want people to think my avatar looks like it couldn't accomplish anything in the game"*), and one item indirectly mentioned a video game context by referencing a "player." Because the task attraction instrument did not consistently mention the specific context of video games, participants may have rated their avatars and usernames on skills in general, rather than on skills in the video game.

Second, the nonsignificant results may indicate that the descriptor of "competitive game" was too complex or too general. Although the author opted to use the term "competitive game," the game type described to participants was actually that of a cooperative-competitive game, because players were told they would be working with a team against an enemy. This may have produced complexity because players likely recognized and attempted to manage dual goals of creating impressions for teammates (cooperative aspect) while simultaneously creating impressions for opponents (competitive aspect). For example, one participant dressed her avatar in a military uniform, but also designed her avatar with a friendly smile and butterfly face paint. Additionally, the term "competitive game" may have been too general. Vasalou and Joinson (2009) found

that avatars created for a very specific type of game genre (i.e., detective/mystery) were created to appear more skillful (i.e., intelligent), this research hoped to broaden the scope for the more general category of competitive games. However, because this term encompasses a plethora of different competitive game genres (e.g., first-person shooters, massively multiplayer online games, puzzle games, racing games), participants may have been uncertain about the game-specific objectives and ultimately uncertain about what skills may have been beneficial to portray in their avatars and usernames. In fact, a number of participants during the study asked the researcher for more information about what kind of competitive game they would be playing. Thus, it seems that participants may have needed more information about the competitive game to develop their design goal of skill.

Third, the partial support for avatar skill may be explained by relative strength of available cues between avatars and usernames. That is, avatars are perhaps stronger indicators of impression management strategies than usernames because they include more visual information than text-only usernames. For example, one participant in a competitive game condition asked, "Does the weight of my avatar affect his speed in the game?" This question may be a verbalization of the participant's thought process: if a heavier avatar affects the speed at which the avatar can move, then competitively it may be advantageous to create a skinnier avatar. In this case, weight would be a strong visual indicator of a useful skill that players may want to portray to others, but may not be as easy to portray through a textual username.

Future Type

Similarity with Avatar

Contrary to predictions, players who anticipated multiple future interactions did not design avatars that were significantly more consistent with their offline self than players who did not anticipate future interactions. It was originally argued that players anticipating future interactions would create avatars similar to their offline selves because it is difficult to maintain deception over time. However, a closer examination of the means revealed players across both conditions rated their avatars somewhat similar to them overall, and only a little different from them on specific features. Regardless of condition, then, participants created avatars that looked relatively similar to them. Because the differences were negligible, it is possible that another variable may impact a player's choice to create similar avatars. One possible explanation is that future type was irrelevant, because all future interactions would be virtual (i.e., there would be no face-to-face meeting). That is, creating an avatar to be consistent with one's offline self may not have been a concern for players because other players would never see them in an offline context. Future research should include one offline meeting after a number of online meetings to explore whether the potential for offline encounters impacts similarity with avatar.

As an supplemental explanation, perhaps the online social norm is to create digital representations that are mostly similar to one's offline self, or perhaps there are certain personality traits such as self-consciousness that make an individual more or less likely to create similar avatars. For example, if an individual is self-conscious about their weight, they may decide to create an avatar that has a different weight than them, whereas if an individual is low on self-consciousness, they may not be concerned with their weight and

create an avatar that has a similar weight to them. Alternatively, individuals may make communicative choices about their digital representations that are not related to impression management strategies. For example, players may have tactical concerns such as wanting their avatar to be instantly recognizable to teammates; this tactical concern may drive players' design choices, but it is not necessarily tied to impression management. Anecdotally, the researcher noted that many players and their avatars shared a number of similar physical features, clothing styles, and even clothing color palettes. For example, one participant was observed feeling various parts of her face to determine which option in the avatar editor was closest to her own features, and the result was an avatar that looked strikingly similar to her. This is consistent with past research that showed individuals generally create avatars that look like themselves (Vasalou et al., 2007). Yet participants did not consistently create avatars that were generally similar to them; for example, one short female participant created a tall male avatar that physically looked extremely different from her. Future research must explore possible explanations for individuals who choose to create avatars that are dissimilar from them.

Interestingly, a significant negative correlation was found between general similarity and specific similarity (see Table 1). General similarity was measured on a 7-point scale, where 1 indicated the least amount of similarity and 7 indicated the most amount of similarity. Conversely, specific similarity was measured on a scale from -3 to 3; the absolute values of specific similarity scores were used, such that 3 indicated the least amount of similarity and 0 indicated the most amount of similarity. Therefore, this negative correlation is expected since higher scores for general similarity and lower scores for

specific similarity were both representative of more similarity between the participant and their avatar.

Additionally, the general similarity instrument only assessed degrees of similarity on a 1-7 scale, whereas the specific similarity instrument allowed players to assess similarity as well as positive or negative differences on specific features by using a scale from -3 ("*Worse than me*") to 3 ("*Better than me*"), where 0 meant "*Just like me.*" This difference in scaling may have allowed players more freedom to accurately capture the similarities and the type of differences. For example, competitive game players may have dressed their avatar differently than their own clothing style because they were considering the competitive goals of the game, whereas players of social games may have dressed their avatar in clothing that was similar to their own style because they were considering the social goals of the game. In this example, both competitive and social game players may have felt similar overall to their avatar, but different on this specific feature.

Avatar Creation Time

Data also showed that players anticipating future interactions did not take more time to create their avatars than those not anticipating future interactions. Players in both groups greatly varied in how much time it took them to create their avatars. Anecdotally, many participants mentioned that the task of creating an avatar and username was "really hard" and oscillated between choices on a number of avatar features before making their final decisions. Video game experience and gender are two possible explanations for these results. For example, if a player was highly familiar with the avatar creation software, it may have taken them less time to create their avatar. It is also possible that the amount of time to create an avatar varied not as a result of potential future interactions, but as a

result of personality traits or individual idiosyncrasies. For example, if an individual is high on public self-consciousness, he or she may take more time to create an avatar, regardless of what type of game they will be playing, because they are more aware of how others perceive them. Future research should measure public self-consciousness and other personality traits to explore possible explanations for differences in avatar creation time.

Another explanation for the nonsignificant time results is that particular impressions may simply take longer for an individual to construct. For example, it may take a longer time to create digital representations that appear skillful because skill could be shown in a variety of ways and may require more thought. On the other hand, it may take less time to create representations that appear likeable because it is easy to show friendliness with a smile. Interestingly, significant positive correlations were found between avatar task attraction and time as well as username task attraction and time (see Table 1). These results revealed that participants who rated their avatar and username high on task attraction took more time to create their avatar. Since the task attraction instrument did not indicate a specific context (e.g., online video games), participants may have spent more time determining whether their avatars and usernames were proficient in many situations, rather than solely in one particular environment. Future research should continue to measure time to determine which impressions consistently take more time for individuals to construct.

Implications

Theoretical and practical implications can be drawn from these findings. Theoretically, results indicate support for the use of particular impression management strategies in the applied context of online video games. Leary and Kowalski (1990) stated

that during the impression construction process, individuals must decide what particular goals they have and what strategies they will use to achieve those goals. Depending on the goal, then, certain strategies may be more advantageous than others. Results from the current study support this proposition of the impression management theory in the applied context of online video games: players employed particular strategies based on their design goal. Specifically, the design goal of appearing likeable was used consistently across both game types used in the study, which may have indicated that players recognized the inherently social nature of both games and utilized strategies to achieve the goal of appearing likeable. Design goals of appearing physically attractive and skillful were used for specific games, which may have indicated that players evaluated the strategies that would be most useful to achieve the game-specific goal. Future research could evaluate preferences for particular impression management strategies by asking participants how important each design goal was to them.

Results also indicate that the potential for future interactions may not be enough of a motivator to manage one's impressions. Leary and Kowalski (1990) claimed that individuals must be sufficiently motivated to engage in impression management. It was argued that the possibility for future interactions would lead to players creating avatars that were more similar to them. Instead, players across all conditions created avatars that were somewhat similar to their offline self, indicating that the motivating factor may simply be the possibility for any interactions in online video games. In general, it appears that the online publicity of one's digital representations motivates all types of video game players to engage in impression management strategies. Alternatively, because the sample was comprised of students enrolled in Communicology courses, it is also possible that the

participants were already motivated to engage in impression management regardless of the condition since they were more aware of it. Future research can test the motivating factor of online publicity by creating conditions for both online and offline video games, and should recruit participants from non-communication classes as well.

Findings from this specific application of impression management may also be extended to other online environments with similar functions. Cirucci (2012) argued that the functions of online social games could be likened to social networking sites, because they demonstrate similar goals and similar impression management strategies. Therefore, results from one context may be generalizable to the other, since the functions of each environment are similar. Little research to date has examined the use of impression management strategies in online video games. This study provides a starting point for further explorations into which strategies are actively used in different types of online video games, and will provide more insight into which functions of online video games may be likened to the functions in other online or offline contexts.

Additionally, results from the likeability measures demonstrate that regardless of available cues (e.g., text-based usernames or visually-based avatars), the channel is irrelevant when individuals are motivated to manage their impressions. That is, avatars demonstrating visual impressions and usernames demonstrating text-only impressions were both designed with strategic goals in mind, when individuals were sufficiently motivated to impression manage. Seminal computer-mediated communication theorists asserted that the lack of visual information in many text-based online contexts hindered communication (e.g., Culnan & Markus, 1987). Conversely, Walther (1992, 2008) argued that users are able to adapt to the available cues online. These findings offer support for

Walther's claim, as the text-based usernames did not hinder players from utilizing impression management strategies.

Practical implications may also be found for video game developers. Video game developers must recognize that players rely on avatars and usernames as a tool to develop strategic impressions for other players to see, which may in turn lead to relational development. When players devote time to creating their digital representations and developing relationships in the game, they are more likely to spend time playing the game and invite others to play the game as well. Knowing this, game developers might strive to offer more customization options to allow players to express themselves as individuals in these virtual gaming environments. Offering a wider variety of customization options has the potential to generate interest in the game, which may increase overall enjoyment of the game as players begin to socialize and develop relationships with others through the game.

Limitations and Future Directions

The researcher acknowledges five limitations and suggests directions for future research in this area. First, the description used for game type (specifically competitive games) may have been too general, which potentially resulted in confused participants. The benefit in using a broad description during the study was that it encompassed a wider range of possible games, allowing the participant to imagine a competitive game with which they were familiar. Participants would then be able to decide for themselves what skills they may wish to display in their avatars and usernames. Future research should strive to be more specific in describing the type of game so as to avoid unnecessarily confusing the participants. For example, studies may need to specify if the competitive game is an action-based game (e.g., a first-person shooter), a racing game, or a puzzle-

based game, so that participants have a better idea of what skills may be particularly useful to portray. Further distinctions may also be employed to differentiate between cooperative-competitive games (i.e., those involving cooperative team play in a competitive environment) and individual competitive games (i.e., free-for-all competitive games with no teammates), because the salience of multiple audiences (i.e., teammates and opponents) may be an important consideration in developing the impression management strategies. However, future research must also recognize the wide variety of competitive games available and explore potential differences between various types of competitive games, rather than solely focusing on one game type and inaccurately generalizing to other game types.

A second possible limitation was the measures used in the study. The instruments used were originally developed for behavioral actions in specific contexts (e.g., an organizational setting), meaning that almost all items had to be adapted to focus on visual cues in an online video game context. Although every effort was made to ensure logical and appropriate translations, some items may have been overly simplified. For example, in the task attraction subscale of the interpersonal attraction instrument, an original item describing how task-oriented a person is in a particular context (*“He/she is a typical goof-off when assigned a job to do”*) was modified to describe how task-oriented an avatar appears in general (*“I want other people to think my avatar is a typical goof-off”*). Additionally, some items may not have achieved good parallelism between the original and modified versions of the instrument. For example, in the ingratiation subscale of the impression management instrument, an original item describing actions a person might take in the office (*“Use flattery and favors to make your colleagues like you more”*) was

modified to focus solely on an inherent trait in the avatar (*"I want other people to think my avatar looks like a nice person"*). Future scholars may consider developing instruments that measure visual impression management strategies to avoid limitations in modifying items and to extend the scope of the theory.

The wording in the future condition instructions may have served as a third potential limitation. To avoid unintentionally misleading participants, the researcher told participants they *may* play the game at a later time. The choice to use "may" language could have diluted the effect size of the results, if some participants did not expect they might return to play the game. However, at the end of the laboratory session, many participants asked the researcher for more information regarding the possibility of returning to play, which indicates that it is possible the "may" language did not affect the results. Future research could avoid this possible limitation by designing a study in which participants are required to return to the lab.

A fourth possible limitation involved the avatar editor used in the study. The Xbox 360 avatar editor was primarily chosen for ease of use and a wide array of customization options that would be fitting for either social or competitive games. However, the overall appearance of the editor and avatars may have biased participants towards a more social game context. Future research should consider implications of the avatar editing software and run pilot studies to ensure the software does not project a bias towards one game type or another.

A fifth limitation may have been the use of a convenience sampling of college-aged students. The Entertainment Software Association (2014) reports the average age of video game players is 31, with only about 32% of all gamers falling into the 18-35 year old

demographic. The sample of the current study had a self-reported average age of 21.44, meaning that results may not be generalizable to the wider population of gamers. Future research may consider alternative recruitment methods to obtain a larger sample that is more representative of actual gaming demographics.

Conclusion

This project sought to understand players' use of impression management strategies in online video games. The current investigation found some support for specific impression management strategies being used by players in different game types. Other impression management strategies showed no differences between game types. Results have theoretical implications for impression management theory as well as practical implications for game developers. Future research should continue to explore differences between types of games and when specific impression management strategies are used.

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Appendix A Consent Form

University of Hawai'i at Mānoa
Consent to Participate in Research
Investigation of Online Video Games

My name is Elizabeth Bendix Harper, and I am a graduate student at the University of Hawai'i at Mānoa. I am conducting research as part of my thesis project for my Master's degree.

Project Description – Activities and Time Commitment: This study is comprised of two parts. For now, I am asking for your participation in Part 1. I will again ask for your participation if you are selected to be involved in Part 2. If you decide to take part in Part 1 of this project, you will be asked to create a video game avatar/username and then complete a questionnaire. The questionnaire will ask your opinions about your avatar, your video game experience, and demographic information. At the end of Part 1, you will be asked if you are willing to have your picture taken for later use in this study; a separate consent form for the photograph will be given at that time. The time commitment will be approximately 30 minutes and 120 people will take part in this study. Randomly selected participants will be invited to continue with a second part of the study (Part 2) where they will use their avatar to play a game. If selected, participants will report to the Communicology lab and play the game for 30 minutes. The avatar and username participants create is strictly for the purposes of this study, and will not be available for participants for use outside of the study.

Eligibility Requirements: Participants must be 18 years or older.

Benefits and Risks: There will be no direct benefit to you for participating in this study. There is minimal risk associated with your participation in this project, as any information you provide will remain protected and confidential at all times.

Confidentiality and Privacy: All personal information will remain strictly confidential. Your name will be collected in order to give you credit for participation, but your name will be removed and replaced with a number for your avatar, picture, and responses on the questionnaire. All collected information will be stored on a password-protected computer that is only accessible by the researcher and research assistants.

Voluntary Participation: Participation in this project is voluntary. You may freely choose to participate in this research project and there will be no penalty or loss of benefits for either decision. If you agree to participate, you can stop at any time without any penalty.

Questions: If you have any questions about this study, you can contact me at: bendix@hawaii.edu or 808-956-3317. You can also contact my faculty advisor for this project, Dr. Amy Hubbard at aebesu@hawaii.edu or 808-956-3321. If you have any questions about your rights as a research participant, you can contact the UH Human Studies Program at 808-956-5007 or uhirb@hawaii.edu.

Statement of Consent: I have read the above information and I consent to take part in this study.

Your Signature: _____ **Date:** _____

Your Name (print): _____

You will be given a copy of this consent form for your records.

Appendix B Instructions for Each Condition

Condition: Social game, no future interactions

You will be designing an avatar and a username for a game called *XYZ*. This game allows you to interact with other players online and explore a virtual world. When you play the game, you will use your avatar to meet other players and explore the world while you socialize with them. You will design the avatar and username now, and you may play the game at a later time. You will only be playing this game once with a group of players, and then never again. When you are ready to begin designing your avatar and username, please push the start button on the timer. When you are satisfied with the avatar and username you have created, please push the stop button and the researcher will give you further instructions.

Condition: Social game, future interactions

You will be designing an avatar and a username for a game called *XYZ*. This game allows you to interact with other players online and explore a virtual world. When you play the game, you will use your avatar to meet other players and explore the world while you socialize with them. You will design the avatar and username now, and you may play the game at a later time. You will be playing this game up to five times with the same group of players. When you are ready to begin designing your avatar and username, please push the start button on the timer. When you are satisfied with the avatar and username you have created, please push the stop button and the researcher will give you further instructions.

Condition: Competitive game, no future interactions

You will be designing an avatar and a username for a game called *XYZ*. This game allows you to work together with other players to defeat your opponents and win the game. When you play the game, you will use your avatar to coordinate with your team to complete the quests. You will design the avatar and username now, and you may play the game at a later time. You will only be playing this game once with a group of players, and then never again. When you are ready to begin designing your avatar and username, please push the start button on the timer. When you are satisfied with the avatar and username you have created, please push the stop button and the researcher will give you further instructions.

Condition: Competitive game, future interactions.

You will be designing an avatar and a username for a game called *XYZ*. This game allows you to work together with other players to defeat your opponents and win the game. When you play the game, you will use your avatar to coordinate with your team to complete the quests. You will design the avatar and username now, and you may play the game at a later time. You will be playing this game up to five times with the same group of players. When you are ready to begin designing your avatar and username, please push the start button on the timer. When you are satisfied with the avatar and username you have created, please push the stop button and the researcher will give you further instructions.

Appendix C
Photograph Consent Form

University of Hawai'i at Mānoa
Photograph Consent Form
Investigation of Online Video Games

Purpose of Photograph: If you agree to have your picture taken, the digital photograph will be used as part of this study. The photograph will only be viewed by the researcher and research assistants, who will assess your photograph on various qualities, similar to those asked in the study.

Confidentiality and Privacy: The photograph will remain strictly confidential and your name will never be associated with the photograph. The digital photograph will be stored on a password-protected computer that is only accessible by the researcher and research assistants. The digital photograph will be deleted once the study is completed.

Voluntary Participation: Consenting to have your photograph taken is voluntary. You may freely choose to have your photograph taken and there will be no penalty or loss of benefits for either decision.

Statement of Consent: I consent for my photograph to be taken for the purposes of this study.

Yes
 No

Your Signature: _____ **Date:** _____

Your Name (print): _____

You will be given a copy of this consent form for your records.

Appendix D Final Oral Instructions

Thank you for your participation today. You may be randomly selected to continue to participate in a second part of this study, in which you will use the avatar and username you created today to play the game *XYZ* with other people. If you are selected, you will receive an e-mail with further instructions. The e-mail will include a new consent form and you can freely choose whether or not you would like to continue to participate with no penalties. If you are not selected, you will not receive an e-mail and your participation is complete. Once the study is closed, you will receive credit for participation. Do you have any questions for me?

Appendix E
Measures of Design Goals

Original Items

Self-promotion

1. Talk proudly about your experience or education.
2. Make people aware of your talents or qualifications.
3. Let others know that you are valuable to the organization.
4. Let others know that you have a reputation for being competent in a particular area.
5. Make people aware of your accomplishments.

Ingratiation

1. Compliment your colleagues so they will see you as likeable.
2. Use flattery and favors to make your colleagues like you more.
3. Do personal favors for your colleagues to show them that you are friendly.
4. Take an interest in your colleagues' personal lives to show them that you are friendly.
5. Praise your colleagues for their accomplishments so they will consider you a nice person.

Exemplification

1. Try to appear like a hard-working, dedicated employee.

Revised Items

I want other people to think my avatar...

Self-promotion

1. Looks like it has a lot of video game experience.
2. Looks talented at playing video games.
3. Appears to be a valuable asset in the game.
4. Has a reputation for being a competent player in the game.
5. N/A

Ingratiation

1. Appears likeable.
2. Looks like a nice person.
3. Looks friendly.
4. N/A
5. N/A

Exemplification

1. Appears to be a dedicated player.

- | | |
|---|--------|
| 2. Stay at work late so people will know you are hard working. | 2. N/A |
| 3. Try to appear busy, even at times when things are slower. | 3. N/A |
| 4. Arrive at work early in order to look dedicated. | 4. N/A |
| 5. Come to the office at night or on weekends to show that you are dedicated. | 5. N/A |

Intimidation

1. Be intimidating with coworkers when it will help you get your job done.
2. Deal forcefully with colleagues when they hamper your ability to get your job done.
3. Deal strongly or aggressively with coworkers who interfere in your business.
4. Use intimidation to get colleagues to behave appropriately.
5. Let others know that you can make things difficult for them if they push you too far.

Intimidation

1. Looks intimidating.
2. Appears forceful.
3. Appears strong.
3. Appears aggressive.
4. N/A
5. N/A

Supplication

1. Act like you know less than you do so people will help you out.
2. Try to gain assistance or sympathy from people by appearing needy in some area.
3. Pretend not to understand something to gain someone's help.
4. Act like you need assistance so people will help you out.
5. Pretend to know less than you do so you can avoid an unpleasant assignment.

Supplication

1. Appears knowledgeable.*°
2. Appears needy.
3. Looks confused.
4. Looks like it needs assistance in the game.
5. N/A

**Indicates reverse-coded items*

°Indicates item was removed to improve reliability

Appendix F
Measures of Design Goals

Original Items

Revised Items

I want other people to think my avatar...

Social Attraction

1. I think he/she could be a friend of mine
2. It would be difficult to meet and talk with him/her*
3. He/she just wouldn't fit into my circle of friends*
4. We could never establish a personal friendship with each other*
5. I would like to have a friendly chat with him/her

Social Attraction

1. Could be a friend of theirs in the game
2. Would be difficult to meet and talk to online*
3. Wouldn't fit in their circle of friends*
4. Could never be their friend*
5. Would be easy to have a friendly chat with

Physical Attraction

6. I think he/she is quite handsome/pretty
7. He/she is very sexy looking
8. I find him/her very attractive physically
9. I don't like the way he/she looks*
10. He/she is somewhat ugly*

Physical Attraction

6. Appears to be quite handsome/pretty
7. Is very sexy looking
8. Is very attractive physically
9. Doesn't look good*
10. Is somewhat ugly*

Task Attraction

11. He/she is a typical goof-off when assigned a job to do*
12. I have confidence in his/her ability to get the job done
13. If I wanted to get things done, I could probably depend on him/her
14. I couldn't get anything accomplished with him/her*
15. He/she would be a poor problem solver*

Task Attraction

11. Is a typical goof-off*
12. Looks confident in its capabilities
13. Looks dependable
14. Couldn't accomplish anything in the game*
15. Doesn't look like a good player*

**Indicates a reverse-coded item*

**Indicates reverse-coded items*

Appendix G
Similarity with Avatar Measures

Original Perceived Homophily Scale

1.	Doesn't think like me	1	2	3	4	5	6	7	Thinks like me
2.	From social class similar to me*^	1	2	3	4	5	6	7	From social class different from me
3.	Behaves like me*	1	2	3	4	5	6	7	Doesn't behave like me
4.	Economic situation different from mine^	1	2	3	4	5	6	7	Economic situation like mine
5.	Similar to me*^	1	2	3	4	5	6	7	Different from me
6.	Status like mine*^	1	2	3	4	5	6	7	Status different from mine
7.	Unlike me^	1	2	3	4	5	6	7	Like me
8.	Background different from mine^	1	2	3	4	5	6	7	Background similar to mine

**Indicates reverse-coded item*

^Indicates item used in the current study

Modified Perceived Homophily Scale

1.	From social class worse than mine	-3	-2	-1	0	1	2	3	From social class better than mine
2.	Economic situation worse than mine	-3	-2	-1	0	1	2	3	Economic situation better than mine
3.	Status worse than mine	-3	-2	-1	0	1	2	3	Status better than mine
4.	Background worse than mine	-3	-2	-1	0	1	2	3	Background better than mine
5.	Hair is worse than mine	-3	-2	-1	0	1	2	3	Hair is better than mine
6.	Face (e.g., eyes, nose, lips) is worse than mine	-3	-2	-1	0	1	2	3	Face (e.g., eyes, nose, lips) is better than mine
7.	Body type (e.g., height, weight, body shape) is worse than mine	-3	-2	-1	0	1	2	3	Body type (e.g., height, weight, body shape) is better than mine
8.	Clothing style is worse than mine	-3	-2	-1	0	1	2	3	Clothing style is better than mine
9.	Gender depiction is worse than mine	-3	-2	-1	0	1	2	3	Gender depiction is better than mine
10.	Skin color is worse than mine	-3	-2	-1	0	1	2	3	Skin color is better than mine

Similarity Items

- | | | | |
|----|--|---------------|-------------------------------------|
| 1. | Overall, my avatar is unlike me | 1 2 3 4 5 6 7 | Overall, my avatar is like me |
| 2. | Overall, my avatar is dissimilar to me | 1 2 3 4 5 6 7 | Overall, my avatar is similar to me |

Appendix H
Supplemental Measures

Manipulation Check

1. How many times were you told you may play the game in the future?
 - Once
 - Twice
 - More than twice
 - I don't know
2. What type of game were you told you may be playing in the future?
 - Social game
 - Competitive game
 - Other game
 - I don't know
3. Did you create an avatar/username for a social game in this study?
 - Yes
 - No
 - I don't know
4. Did you create an avatar/username for a competitive game in this study?
 - Yes
 - No
 - I don't know

Video Game Experience

1. Do you play any video games (outside of this study) that require you to create an avatar?
 - Yes
 - No
 - I don't play video games
2. Have you created an avatar that looks like the avatar you created today for any games outside of this study?
 - Yes
 - No
3. If you answered "yes" to the previous question, what were the name(s) of the video game(s)? _____
4. Have you created a username that looks like the username you created today for any games outside of this study?
 - Yes
 - No
5. If you answered "yes" to the previous question, what were the name(s) of the video game(s)? _____

6. If you answered “yes” to the previous question, what were the username(s)?

7. How many hours per week do you spend playing video games? _____
8. How long (in years) have you been playing video games? _____
9. On a scale from 1 (*very unfamiliar*) to 7 (*very familiar*), how familiar were you with the avatar creation software you used in this study?
10. On a scale from 1 (*very difficult*) to 7 (*very easy*), how difficult was it to use the avatar creation software used in this study?

Demographic Information

1. What is your age (in years)? _____
2. What is your sex?
 - Male
 - Female
3. What is your race/ethnicity?
 - Caucasian
 - Asian
 - Native Hawaiian/Pacific Islander
 - African American
 - Hispanic/Latino
 - Mixed
 - Other: _____
4. What is your current class standing?
 - Freshman
 - Sophomore
 - Junior
 - Senior
 - Other: _____

Table 1

Means, Standard Deviations, Reliabilities, and Zero-Order Correlation Matrix for Dependent Variables.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Av. Physical Attractiveness	--	--	--	--	--	--	--	--	--	--	--	--	--
2. Us. Physical Attractiveness	.79***	--	--	--	--	--	--	--	--	--	--	--	--
3. Av. Ingratiation	.47***	.41**	--	--	--	--	--	--	--	--	--	--	--
4. Av. Social Attractiveness	.54***	.46***	.78***	--	--	--	--	--	--	--	--	--	--
5. Us. Ingratiation	.49***	.56***	.62***	.60***	--	--	--	--	--	--	--	--	--
6. Us. Social Attractiveness	.53***	.64***	.54***	.68***	.77***	--	--	--	--	--	--	--	--
7. Av. Self-Promotion	.16	.13	-.15	-.17	-.03	-.15	--	--	--	--	--	--	--
8. Av. Task Attractiveness	.37**	.28*	-.01	.18	.09	.13***	.40**	--	--	--	--	--	--
9. Us. Self-Promotion	-.10	.12	-.20	-.17	-.13	-.20	.64***	.23	--	--	--	--	--
10. Us. Task Attractiveness	.05	.18	-.02	.13	-.03	.06	.33**	.66***	.44***	--	--	--	--
11. General Similarity	.32*	.18	.35**	.43***	.17	.30*	-.10	.36**	-.10	.30*	--	--	--
12. Specific Similarity	-.14	.05	-.12	-.28*	-.08	-.28*	.21	-.23	.27*	-.04	-.55***	--	--
13. Time	.22	.09	.08	.23	-.01	.13	.09	.38**	-.04	.26*	.14	-.13	--
<i>M</i>	4.95	4.76	5.93	5.70	5.50	5.55	4.47	5.44	4.20	5.44	5.14	0.81	635.27
<i>SD</i>	1.19	1.18	1.02	1.02	1.10	1.06	1.30	1.19	1.51	1.01	1.70	0.64	290.35
α	.87	.88	.91	.86	.94	.86	.89	.78	.94	.74	.94	.85	--
<i>Range</i>	1 - 7	1 - 7	1 - 7	1 - 7	1 - 7	1 - 7	1 - 7	1 - 7	1 - 7	1 - 7	1 - 7	0 - 3	171-1,473

* $p < .05$, ** $p < .01$, *** $p < .001$