

**The Real-Self and the Gaming-Self:
A Comparison of Real Life and Online Self-Perceptions**

by

Jonathan Taylor

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Approved by:

Mary Ballard, PhD, Thesis Director

Joshua Bromman-Fulks, PhD, Second Reader

Andrew Smith, PhD, Departmental Honors Director

Abstract

This paper investigated the relationship between an individual's perception of their real-self and their social online video game-self in terms of their Big Five personality, body image, and self-esteem. Previous research is inconsistent regarding the relationship between the real-self and game-self across contexts. This study aimed to build on that literature using an online survey. The hypotheses were that individuals would report higher perceived levels of extraversion, body-esteem, and self-esteem, and other differences in their perceptions of big-five personality traits, in the context of social online video game play as compared to their real lives. We found small, but significant differences between real-self and game-self perceptions in measures of extraversion, emotional stability, conscientiousness, and agreeableness questionnaires, which supports the hypotheses. Specifically, participants reported higher levels of extraversion, emotional stability, and body-esteem online than in real life. However, the results did not indicate significant increases in self-esteem. Future research could use active game-play to further flesh out differences in social behavior. The findings contribute to a deeper understanding of individuals self-perceptions across real-life and video game contexts.

The Real-Self and the Gaming-Self:

A Comparison of Real Life and Online Self-Perceptions

This study examined the relationship between an individual's perception of their real-self and their online video game-self. Previous research has observed the self across multiple contexts, including online video games. The study measured several variables - including personality, body image, and social behaviors - to investigate the relationship between how participants evaluated their online gaming-self and their real-self. The hypotheses for this study were that participants would report higher levels of extraversion, body-esteem, and self-esteem in online video games play than they report in-person. We also expected differences in other Big Five personality traits, but did not predict the direction of the effects.

Previous Research

Research on whether individuals perceive similarities or differences between the character traits that they have (actual-self) and the characteristics that they want to have (the ideal-self) has been conducted for more than a century. Carl Rogers conducted research on self-actualization in the 1950's. He found that when the real-self and ideal-self converge, individuals perceive an increase in their well-being (Rogers & Dymond, 1954). Ryan & Deci (2000) developed *self-determination theory*; they suggest that if people have a discrepancy between their ideal-self and real-self, this is lessened by positive social relationships, making them happier. This is partially due to the fact that being in social relationships allows individuals to experience characteristics they desire in themselves. Virtual environments, such as video games, could play a similar role for an individual in that they may serve as a place for them to experiment with identities that they do not normally have access to (Olson, 2010). Similarly,

Kowert & Oldmeadow (2015) suggested that social relationships in online games can buffer a lack of social relationships in real life, providing gamers a place to socialize.

Only a few studies have examined how online gamers perceive themselves in real life and in their online world. However, several studies have examined how people reflect their personality and self-concept through their behavior in online contexts such as social media and blogs. For example, Back and colleagues (2009) recruited Facebook users to analyze how their behavior on online social networks reflected their personality. They found that, at least in this online context, the participants' social media personas were an extension of their actual personalities. Yarkoni (2010) examined how the personality traits of bloggers related to word use in their blog. Participants completed a personality test and their blog content was analyzed for word use. The results indicated that bloggers high in neuroticism were more likely to use words related to negative emotions (e.g., anxiety/fear, sadness, anger) and that extraversion was correlated with using words indicating positive emotions and interpersonal interactions.

Other research more directly examined the relationship between behavior and personality in social online video games. Yee and colleagues (2011) used Big Five personality measures to examine the correlation between those traits and behavior in the online video game *World of Warcraft*. They found that players tend to engage in tasks in an online video game that reflect aspects of their personality. Players low in extraversion enjoyed participating in solo tasks more than multiplayer tasks, while those high in extraversion were found to enjoy teaming up with other players. Personality also impacted the way players communicated with other players (Yee et al., 2011). Extraverted individuals had higher levels of communication with other players than introverted individuals. The limitation in this study is that the researchers recruited participants from only one virtual world (VW), so the generalizability could be limited. In the current study,

the population is not limited to a single video game community. Further, Yee's studies examined how real-life personality impacted game play, but did not compare the real-self to the gaming-self like the current study.

While other studies have explored the relationship between personality and behavior among a variety of contexts, this study aims to examine the way individuals perceive themselves in real life versus in online video games. In particular, this study will ask the question "Do video game players perceive themselves similarly or differently in real life versus online?" While other studies have not asked this specific question, related research is discussed below.

Several studies have examined aspects of self-perception online and motivations for game play. One theory that is common in the body of literature is that the internet provides the ability to facilitate self-expression. Bargh and colleagues (2002) suggest that since the internet can provide individuals an opportunity to remain anonymous, that they are able to express parts of themselves without the social expectations they would face offline. In an experiment where participants were randomly assigned to interacting with a partner in a social chat room versus a face-to-face conversation, the participants disclosed more information in the online chat room relative to the in-person conversation (Bargh, McKenna, & Fitzsimons, 2002).

Expanding on the idea that people can express themselves more comfortably online, recent research explores the idea that individuals are able to use the online environments, including video games, to experiment with their identity. In addition, individuals can "try on" different identities through changing their social role, gender, etc. in the virtual world (Olson, 2010). Online experimentation is reflected in players creating avatars that look similar or different to them, such as a male creating a character that reflects masculinity or femininity to experiment with gender identification. Players are also often able identify with a game

protagonist who appeals to them and such identification allows them to find more enjoyment in video games (Hefner et al., 2007). Furthermore, players can identify with characters that are skilled or have special traits, providing them experiences beyond their own capabilities (Gee, 2005).

Motivations for game play can also impact self-perceptions and game enjoyment. Olson (2007) surveyed a large sample of students and they indicated that one of the strongest motivators to play video games was the drive to compete with others. Others have found similar results. Andrew Przybylski and his colleagues (2012) completed a two-part study focusing on motivations for video game play. In the first study, they recruited video game players and asked them to play games such as *Peggle*, *Bejeweled*, or *Bookworm*. These games were chosen because they required the participants to “explore their talents and personal choices” (Przybylski, et al., 2012). The players completed the Ten Item Personality Inventory (TIPI), Intrinsic Motivation Inventory, and Positive and Negative Affect Schedule- Expanded (PANAS-X) before and after playing the games. Before playing the games, participants were instructed to answer the TIPI according to the traits that they desired in themselves. After playing each game, the participants answered the TIPI with the perspective of how they saw themselves when they played the game. The authors used a hierarchical linear model to determine the covariation between ideal-self and game-self characteristics. The authors also ran multi-level analyses to determine if individuals were intrinsically motivated to play games that enabled their experience of ideal-self and game-self convergence, such as having lower levels of neuroticism, which they considered a socially undesirable trait. The other traits measured were extraversion, agreeableness, openness, and conscientiousness. Last, the authors tested for a direct relationship between positive affect and convergence. The authors found a significant relationship between games that allowed

participants to experience characteristics of their ideal-self and intrinsic motivation. The findings were based on the overall relationship between the characteristics participants indicated they desired in themselves and characteristics they depicted while gaming. In addition, they observed a significant relationship between positive affect and convergence. The results suggest that individuals are intrinsically motivated to play video games that allow them to experience their ideal characteristics, and that experiencing ideal-self-game-self convergence was associated with higher positive affect post-play. The limitations of the study are that not all individuals can experience their ideal-self by playing games such as *Peggle*, *Bejeweled*, or *Bookworm*. The ideal characteristics of some individuals can differ in ways that do not align with the tasks the games offer, such as a player's ideal characteristic of being more generous, which would not be affected by the specific choice of games.

In the second study, Przybylski and colleagues (2012) recruited participants from an online gaming community. Participants completed the same measures as they completed in the first study, as well as a self-report questionnaire about their gaming experience and the Player Experience of Need Satisfaction Scale (to measure immersion). Some participants played social games and others played alone. In addition, the genres varied from online first-person shooters, such as *Team Fortress 2*, to offline role-playing games such as *Final Fantasy*. The researchers examined if a discrepancy between ideal-self and actual-self, based on TIPI scores completed based on their gaming and real-selves, predicted motivation to play video games. Przybylski and colleagues' (2012) results confirmed their hypothesis that the greater the discrepancy between an individual's ideal-self and real-self, the more they are intrinsically motivated to play video games that create an ideal-self-game-self convergence. Furthermore, immersion in video games positively influenced the connection between game-self-ideal-self convergence and intrinsic

motivation. A player who was more immersed was more likely to have a convergence between their ideal-self and game-self and that caused them to be more intrinsically motivated to play. In sum, the research cited above indicates various ways in which video game players experience new identities and characteristics that they would not experience in real life and that individuals perceive themselves differently while playing video games. (Bargh, et al., 2002; Gee, 2005; Hefner et al., 2007; Olson, 2010).

In addition to comparing self-perception in real life and the video game world, researchers have compared how people socialize in real life and in video games. Kowert & Oldmeadow (2015) recruited 514 participants from Amazon's Mechanical Turk. Participants completed questionnaires asking about their social behavior, emotions, and attachment style. The authors found that individuals who have difficulty socializing in real life due to attachment issues are associated with higher comfortability in their interactions within online gaming. The results also indicated that many participants played video games when they were sad; the authors termed that "playing for social comfort" (Kowert & Oldmeadow, 2015). Players were asked whether they played online or offline as the researchers were interested to see if that was correlated with the participants emotionally sensitivity (measured by the Experiences in Close Relationships scale) and social expressivity (measured using an abridged version of the Social Skills Inventory). The results indicated that higher emotional sensitivity and lower social expressivity predicted more online video game involvement, which indicates that social online video games serve as social comfort for players.

Another aspect of video games that has been studied is the use of avatar, which is a customizable character. Prior research has suggested that the avatar can become an individual's self-representation when participating in an online game. In a two separate studies, Yee and

colleagues (2009) examined this phenomenon. In their first study, they gathered census data from in-game *World of Warcraft* servers to determine what kinds of avatars players chose. Players could select from a variety of avatars with different levels of attractiveness (rated by undergraduate students) and heights. They also collected data on in-game success, based on players' in-game levels. The findings suggested that higher leveled players were more likely to have tall and attractive avatars than lower leveled players. The relationship of height and attractiveness to player level suggested that player success is associated with the appearance of the players' avatar (Yee, et al., 2009). The authors suggest that using an attractive avatar is a factor in social online video game success, but physical characteristics of avatars could interact in unexpected ways. Further, the direction of the effect is unclear. Regardless, the authors conclusion was that the appearance of an avatar can affect player behavior (Yee, et al., 2009).

In another study, Yee and Bailenson (2007) randomly divided participants into groups where half were assigned an avatar with an attractive face and others were given an avatar with an unattractive face. Participants then completed a task involving communication with other players. Interpersonal distance and self-disclosure between avatars were measured. They hypothesized that participants with attractive avatars who got closer to other players would have a social advantage and that attractive avatars would be more likely to socialize and disclose information. The researchers found that players in the attractive avatar condition walked significantly closer to others avatars in social online video games. They also found that participants who had more attractive avatars disclosed more information to the other players (Yee & Bailenson, 2007). They suggest that their results are due to a phenomenon known as "The Proteus Effect" where players adapt their behavior to characteristics of their avatar (Yee & Bailenson, 2007). Furthermore, other research has suggested that in online environments,

deindividuation can occur due to anonymity, so individuals may conform to their avatars' identity for their self-representation and behavior (McKenna & Bargh, 2000; Yee & Bailenson, 2007).

Statement of Problem and Hypotheses

Past studies have examined video game players' personality and self-perceptions in real life and compared this to their characteristics of their online-self in terms of their avatars, behaviors, and sense of self (Bargh, et al., 2002; Gee, 2005; Hefner, et al., 2007; Kowert & Oldmeadow, 2015; McKenna & Bargh, 2000; Olson, 2010; Przybylski, et al., 2012; Yee, 2011; Yee & Bailenson, 2007). Furthermore, past studies have differing explanations as to why people may act differently online than they do in person. One explanation suggests that an individual's online-self is an extension of their real-life personality (Back, et al., 2009; Yarkoni, 2010; Yee, 2011), whereas another explanation is that an individual's gaming-self is a different version of themselves, allowing them to experiment with new personalities or characteristics (Bargh, McKenna, & Fitzsimons, 2002; Gee, 2005; Hefner, et al., 2007; Kowert & Oldmeadow, 2015; Olson, 2010; Przybylski, et al., 2012). Additional research has indicated that players' avatars affect their behavior in online video games, including game success and disclosing information (Yee & Bailenson, 2007; Yee, et al., 2009). The present study aimed to expand on these findings by comparing an individual's perception of their body-esteem in real life as compared to in social online video game contexts. If the results indicate that body-esteem is heightened in online video game contexts this might be a possible explanation for designing future research to examine how avatars affect in-game behavior and perceptions.

Drawing from prior research on self-perception in video games, the present study compared participants' self-perception of personality characteristics, social behaviors, and body-

esteem in real-life and when they are playing online games. The current study aimed to provide more data to clarify the relationship between an individual's actual-self and gaming-self. Specifically, we expected that participants would report higher perceptions of extraversion, body-esteem, and self-esteem in online video game play than in real life. We also expect that they would report different perceptions of other Big Five personality in the context of online video games than in real life, but did not predict the direction of effects on these factors.

We base our hypotheses on the theory that video game players display behavior that diverts from the way they act in real life, consistent with the idea that they experiment with different identities and are more comfortable online than in real life (e.g., Kowert & Oldmeadow (2015). Consistent with this theory, Przybylski and colleagues (2012) found that the gaming self-differed from the real-self. Furthermore, the expectation of that players would report higher levels of body-esteem in virtual worlds is consistent with Yee and Bailenson (2007), in that indicates players are more confident in themselves as a reflection of their avatar's appearance and attractiveness. The results of this study is expected to further the understanding of the relationship between self-perception of personality, self-esteem, and body-esteem in real life relative to online gaming contexts.

METHOD

Participants

Participants included 190 undergraduate students (M age= 18.74, SD = 1.35) from a southeastern university. In terms of gender, participants identified as female (57.9%), male (38.4%), and nonbinary (2.6%). In terms of ethnicity, most participants identified as white (85.3%), African American (1.6%), Asian (1.6%), two or more races (8.4%), and other (3.2%).

Measures

The Body-Esteem Scale for Adolescents and Adults

The Body-Esteem Scale for Adolescents and Adults (BESAA; Mendelson et al., 1997) was used to measure body esteem in participants. The BESAA is a valid measure of body-esteem. The BE-appearance subscale of the BESAA correlates with other measures of body esteem, such as the Rosenberg Self-Esteem Scale and the Global Self-Worth Subscale (Mendelson, 2001). Furthermore, when the BESAA was given to the same sample 3 months later, the results correlated significantly with the scores from the first test, (BE-Appearance: $r(95) = .89$; BE-Weight: $r(95) = .92$; and BE-Attribution: $r(95) = .83$; Mendelson, 2001). Out of the three subscales, BE-Appearance correlated with the RSE scale the best, ranging from 0.28-0.63 in 13–17-year-olds. BE-Weight and BE-Attribution are not as strongly correlated with other measures. So, there was a focus on BE-Appearance in this study. The questions in the BESAA require individuals to rate on a scale from 0, “never,” to 4, “always,” and the scores for each subscale were averaged to create a total subscale score.

The Ten-Item Personality Inventory

The Ten-Item Personality Inventory (TIPI; Gosling, et al., 2003) was used to measure the personality traits (extroversion, agreeableness, emotional stability, openness, and conscientiousness) of the participants. There are two questions for each subscale. The questions are answered on a scale of 1, “disagree strongly,” to 7, “agree strongly.” The scores for each subscale are averaged to calculate a total subscale score. The TIPI is a valid measure of personality. It has high convergence and is significantly correlated, with the Big Five Inventory (BFI; Gosling, et al., 2003). When the same sample took the TIPI 6 weeks later and the results were significantly correlated with the results of their first test, suggesting that the test-retest reliability for the TIPI is adequate (Gosling, et al., 2003). The measure is divided into five sub

scales, including extraversion, openness, emotional stability, conscientiousness, and agreeableness. A high score on a subscale is linked to high levels of that trait, so a high score on extraversion would indicate that an individual is highly extraverted. All five personality traits were used in the analysis for this study.

The Texas Social Behavior Inventory

The Texas Social Behavior Inventory (TSBI; Helmreich & Stapp, 1974) was used to measure the social behavior and self-esteem of participants. It is a short version of a social competence and self-esteem scale. Form A was selected for use in this study because we believed it would be a better measure of social behavior. Each question in the TSBI requires the participant to answer with a 1, “not at all characteristic of me,” to a 5, “very much characteristic of me.” The answers to all of the questions are averaged to create a total TSBI score. The TSBI is correlated with attraction and social desirability in laboratory settings (Helmreich & Stapp, 1974). The scale was used to indicate how individuals’ self-esteem differs between their actual-self and gaming-self. The average score was used for analysis.

Demographics

At the end of the questionnaire, participants were asked a set of demographics questions including questions about age, race, and gender.

Procedure

Participants for this study were recruited using a participant recruitment system. All participants were rewarded with course credit for completing this study. The participants were first asked if they played online video games. If they said yes, they were shown the consent and then completed the rest of the survey. If they indicated that they do not play online video games, the survey ended for them. Participants who indicated that they did play online video games

completed a survey with a total of 103 questions. The measures used were the Ten-Item Personality Inventory, the Texas Social Behavior Inventory, and the BESAA. The three measures were each administered twice. All measures and the consent form are included in the Appendix. The participants were instructed to answer the first set of questions based on their actual-self in the real world. They were instructed to answer the second set based on their gaming-self. The definition of avatar was not restricted to any game that has particular avatars but was kept open to interpretation. The definitions of avatar and social online video games were provided to participants before the completion of the gaming-self questionnaire. The questionnaire took about 30 minutes to complete.

RESULTS

The means and standard deviations for the TSBI scores, the big-5 personality traits, and body esteem sub scores for the in-person questionnaire and video game questionnaire are presented in *Table 1*. Significant mean differences between the real life and online measures are indicated.

Repeated measures ANOVAS were used to test the hypotheses that participants would report higher levels of social behavior, have better body-esteem, be more extraverted, and display changes in personality online compared to in-person. The results of these analyses, including effect sizes, are displayed in *Table 2*. The results of these analyses indicated that individuals perceive themselves as more extraverted ($p < 0.001$) and emotionally stable online ($p=.004$). The results also indicated that individuals perceived themselves as being more agreeable ($p= 0.01$) and conscientious in-person ($p=0.001$). The results for openness were not significant. For the measures of body esteem, participants had significantly higher scores, indicating greater satisfaction, on the weight ($p=0.015$) and attribution ($p=0.026$) subscales for

their online perceptions of self as compared to their real-self. The results for appearance were not significant. The social behavior scores were not significant.

DISCUSSION

We hypothesized that participants would report higher levels of social behavior, self-esteem, and extroversion in the context of an online gaming questionnaire relative to a real-life questionnaire. Furthermore, we predicted that other big-5 personality ratings for participants would differ online and in real life, but did not predict the direction of the effects. Finally, we expected that participants would display better body-esteem online than in real life.

The hypothesis that individuals would report higher self-esteem was not supported by the TSBI measure, however, participants did report higher levels of extroversion during online gaming than in real life on the Big Five rating of extraversion. All other Big Five personality scores, except openness, were significantly different across contexts. Higher ratings of extraversion in the video game context are consistent with the Kowert & Oldmeadow (2015) study, which suggests that video games provide players with a place to socialize. This suggests that people tend to be more interactive and outgoing during social online video game play than in real life contexts. Furthermore, the finding that players perceived themselves as being significantly more emotionally stable on online video games is consistent with Kowert and Oldmeadow's (2015) contention that players receive social comfort from online video games.

Overall, the findings of differing personality scores are consistent with the idea that individuals experiment with new identities online, as found by prior studies (Bargh, McKenna, & Fitzsimons, 2002; Gee, 2005; Hefner, et al., 2007; Kowert & Oldmeadow, 2015; Olson, 2010; Przybylski, et al., 2012). Rather than being an extension of their in-person perception, players display slightly different self-perceptions. Prior research has examined how individuals behave

when they interact in virtual environments and has linked those behaviors to personality traits, but has not compared it to an in-person context. To examine if there are other relationships or differences between in-person and online self-perceptions, behaviors, and personality traits, further research can utilize both contexts in one study.

For the BESAA, there was no significance in the BE-Appearance subscale, which we hypothesized would be significantly higher in the online context compared to real life. However, there were significantly higher scores on the BE-Attribution and BE-Weight subscales online relative to real life. While the hypothesis was that individuals would perceive themselves to be more attractive online, the actual findings did not reflect this concept. Rather, the results reflect that individuals feel that others see them as more attractive and that they are more confident in their weight. Contrary to our hypothesis, individuals using avatars to be more attractive may not find satisfaction in their own view of themselves, but others' views of them. Prior research has explored this idea, and has found that individuals in-game behavior is reflected by the attractiveness of their avatar, known as the Proteus Effect (Yee, et al., 2009). The cause of this behavior could be further explored in measuring individuals' appearance and attribution ratings before and after interacting in a video game as well as randomizing the attractiveness of avatars available. Furthermore, examining the motivations behind avatar choice could further elucidate whether individuals choose avatars for their own self-perceptions or others' perceptions.

Limitations

All participants in this study completed the questionnaires in the same order, which makes this study susceptible to order effects. Participants may have changed their opinions themselves across the two contexts, possibly confounding the results of our study. Further

research on this topic should attempt to control for order effects through counterbalancing the order of the questionnaires.

Another limitation of this study is that measures of Big Five may be vulnerable to demand characteristics. That is, some individuals may want to be extraverted, but really do not display these characteristics in real-life/video game contexts. This study relies on the framing of context rather than the observation of actual in game behavior. The results can indicate relationships that may exist in real online contexts, but further studies should examine these relationships within the true context of video games such as Yee and colleagues (2011) looked at in game behaviors linked to personality traits.

Conclusion

Results indicated that participants endorsed modest, but statistically significant, differences in several personality traits when comparing their gaming and day-to-day life characteristics. The results indicated that individuals perceived themselves as being more extraverted and emotionally stable, yet less conscientious and agreeable in social online video games. In addition, individuals displayed higher ratings of body-esteem, based on others' views of them, as well as their weight. The idea that individuals display different personality characteristics can further our understanding of why individuals play video games, as well as why different behaviors occur in virtual worlds. These findings could be applicable to topics such as the motivation to play online video games, online communication, cyber bullying, self-esteem, body-esteem, video game addiction, and the development of video games as it can create an idea of how gamers' personalities, self-esteem, and body-image change in the context of video games and how they could play a role in motivations for various behaviors.

The slight, yet significant, findings in this study suggest that there are differences between game players perceptions of the real-self and game-self. Further research utilizing experiments where participants engage in active video game play could determine if there are larger differences in personality, body-esteem, and self-esteem in active video game play than in retrospective self-report data. The findings of the present study, as well as prior studies, provide a sufficient background to perform further studies on self-perception in video games. For example, a follow-up study could directly examine self-perceptions before and following video game play to more directly examine this phenomenon.

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Table 1

Means and SDs for Self-perception in Real Life and During Online Gaming

Scale	Real <i>M (SD)</i>	Online <i>M (SD)</i>
TSBI	3.26 (0.29)	3.29 (0.34)
Extraversion	4.18 (1.36)	4.68 (1.34)***
Openness	5.26 (1.01)	5.29 (1.11)
Emotional Stability	4.12 (1.40)	4.44 (1.37)**
Agreeableness	4.7 (0.94)	4.50 (1.15)*
Conscientiousness	5.31 (1.15)	5.03 (1.15)***
BE-Appearance	2.36 (0.63)	2.43 (0.67)
BE-Attribution	3.21 (0.71)	3.29 (0.74)*
BE- Weight	2.7 (0.74)	2.82 (0.75)*

* $p < .05$, **, $p < .01$, *** $p < .001$ for mean differences between real-life and during online gaming.

Table 2

Repeated Measures ANOVAs for Self-Perception in Real-Life and During Online Gaming

Scale	Wilks' Lambda, <i>F</i> value, <i>p</i> value, partial η^2 , and power
TBSI	Wilks' Lambda 0.99; [$F = 1.70$ (1, 178), $p = 0.19$, partial $\eta^2 = 0.009$; power = 0.25]
Extraversion	Wilks' Lambda 0.90; [$F = 20.25$ (1, 184), $p < 0.001$, partial $\eta^2 = 0.09$; power = 0.99]
Openness	Wilks' Lambda 0.99; [$F = 0.14$ (1, 187), $p = 0.70$, partial $\eta^2 = 0.001$; power = 0.06]
Emotional Stability	Wilks' Lambda 0.95; [$F = 8.62$ (1, 187), $p = 0.004$, partial $\eta^2 = 0.04$; power = 0.83]
Agreeableness	Wilks' Lambda 0.96; [$F = 6.65$ (1, 186), $p = 0.01$, partial $\eta^2 = 0.03$; power = 0.72]
Conscientiousness	Wilks' Lambda 0.94; [$F = 10.64$ (1, 185), $p = 0.001$, partial $\eta^2 = 0.05$; power = 0.90]
BE-Appearance	Wilks' Lambda 0.98; [$F = 2.52$ (1, 182), $p = 0.11$, partial $\eta^2 = 0.01$; power = 0.35]
BE-Attribution	Wilks' Lambda 0.97; [$F = 5.00$ (1, 183), $p = 0.02$, partial $\eta^2 = 0.02$; power = 0.60]
BE- Weight	Wilks' Lambda 0.96; [$F = 6.01$ (1, 184), $p = 0.01$, partial $\eta^2 = 0.03$; power = 0.68]

Appendix

Body Esteem Scale for Adolescents and Adults Measure

Appendix 1
Body-Esteem Scale for Adolescents and Adults
Beverley K. Mendelson, Donna R. White, and Morton J. Mendelson

Indicate how often you agree with the following statements ranging from "never" (0) to "always" (4). Circle the appropriate number beside each statement.

		Never	Seldom	Some-times	Often	Always
1.	I like what I look like in pictures.	0	1	2	3	4
2.	Other people consider me good looking.	0	1	2	3	4
3.	I'm proud of my body.	0	1	2	3	4
4.	I am preoccupied with trying to change my body weight.	0	1	2	3	4
5.	I think my appearance would help me get a job.	0	1	2	3	4
6.	I like what I see when I look in the mirror.	0	1	2	3	4
7.	There are lots of things I'd change about my looks if I could.	0	1	2	3	4
8.	I am satisfied with my weight.	0	1	2	3	4
9.	I wish I looked better.	0	1	2	3	4
10.	I really like what I weigh.	0	1	2	3	4
11.	I wish I looked like someone else.	0	1	2	3	4
12.	People my own age like my looks.	0	1	2	3	4
13.	My looks upset me.	0	1	2	3	4
14.	I'm as nice looking as most people.	0	1	2	3	4
15.	I'm pretty happy about the way I look.	0	1	2	3	4
16.	I feel I weigh the right amount for my height.	0	1	2	3	4
17.	I feel ashamed of how I look.	0	1	2	3	4
18.	Weighing myself depresses me.	0	1	2	3	4
19.	My weight makes me unhappy	0	1	2	3	4
20.	My looks help me to get dates.	0	1	2	3	4
21.	I worry about the way I look.	0	1	2	3	4
22.	I think I have a good body.	0	1	2	3	4
23.	I'm looking as nice as I'd like to.	0	1	2	3	4

Three subscales: BE-Appearance (1, 6, 7*, 9*, 11*, 13*, 15, 17*, 21*, 23); BE-Weight (3, 4*, 8, 10, 16, 18*, 19*, 22); and BE-Attribution (2, 5, 12, 14, 20). [* negative items, which must be recoded for scoring by reversing the scale (i.e., 0 = 4, 1 = 3, 2 = 2, 3 = 1, 4 = 0).]

Texas Social Behavior Inventory**FORM A**

1. I am not likely to speak to people until they speak to me.

a	b	c	d	e
Not at all	Not	Slightly	Fairly	Very much
character- istic of me	very			character- istic of me

2. I would describe myself as self-confident.

a	b	c	d	e
Not at all	Not	Slightly	Fairly	Very much
character- istic of me	very			character- istic of me

Table 1 Continued

3. I feel confident of my appearance.	a Not at all character- istic of me	b Not very	c Slightly	d Fairly	e Very much character- istic of me
4. I am a good mixer.	a Not at all character- istic of me	b Not very	c Slightly	d Fairly	e Very much character- istic of me
5. When in a group of people, I have trouble thinking of the right things to say.	a Not at all character- istic of me	b Not very	c Slightly	d Fairly	e Very much character- istic of me
6. When in a group of people, I usually do what the others want rather than make suggestions.	a Not at all character- istic of me	b Not very	c Slightly	d Fairly	e Very much character- istic of me
7. When I am in disagreement with other people, my opinion usually prevails.	a Not at all character- istic of me	b Not very	c Slightly	d Fairly	e Very much character- istic of me
8. I would describe myself as one who attempts to master situations.	a Not at all character- istic of me	b Not very	c Slightly	d Fairly	e Very much character- istic of me
9. Other people look up to me.	a Not at all character- istic of me	b Not very	c Slightly	d Fairly	e Very much character- istic of me
10. I enjoy social gatherings just to be with people.	a Not at all character- istic of me	b Not very	c Slightly	d Fairly	e Very much character- istic of me
11. I make a point of looking other people in the eye.	a Not at all character- istic of me	b Not very	c Slightly	d Fairly	e Very much character- istic of me
12. I cannot seem to get others to notice me.	a Not at all character- istic of me	b Not very	c Slightly	d Fairly	e Very much character- istic of me
13. I would rather not have very much responsibility for other people.	a Not at all character- istic of me	b Not very	c Slightly	d Fairly	e Very much character- istic of me

14. I feel comfortable being approached by someone in a position of authority.

a	b	c	d	e
Not at all	Not	Slightly	Fairly	Very much character- istic of me
character- istic of me	very			

15. I would describe myself as indecisive.

a	b	c	d	e
Not at all	Not	Slightly	Fairly	Very much character- istic of me
character- istic of me	very			

16. I have no doubts about my social competence.

a	b	c	d	e
Not at all	Not	Slightly	Fairly	Very much character- istic of me
character- istic of me	very			

Ten-Item Personality Inventory

Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor disagree	Agree a little	Agree moderately	Agree strongly
1	2	3	4	5	6	7

I see myself as:

1. Extraverted, enthusiastic.
2. Critical, quarrelsome.
3. Dependable, self-disciplined.
4. Anxious, easily upset.
5. Open to new experiences, complex.
6. Reserved, quiet.
7. Sympathetic, warm.
8. Disorganized, careless.
9. Calm, emotionally stable.
10. Conventional, uncreative.

TIPI scale scoring ("R" denotes reverse-scored items): Extraversion: 1, 6R; Agreeableness: 2R, 7; Conscientiousness; 3, 8R; Emotional Stability: 4R, 9; Openness to Experiences: 5, 10R.

Consent to Participate in Research
Information to Consider About this Research

Study title:

Principal Investigators: Jonathan Taylor and Dr. Mary Ballard

Department: Psychology

Contact Information: 310-A Smith-Wright Hall

Ballardme@appstate.edu

Taylorj114@appstate.edu

You are invited to take part in a research study that asks about online video game play, personality, body image, and social behavior. You will also answer questions about personality, body image, and social behavior in online gaming. If you take part in this study, you will be one of about ___ to do so. We hope this study helps us learn more about personality and online video gaming.

The study will be conducted online through a Qualtrics survey. You will complete demographic information and answer questions about online video game play, personality, body image, and social behavior.

What are possible harms or discomforts that I might experience during the research?

To the best of our knowledge, there is no foreseeable risk of harm from participating in this study. All information will remain confidential and will be assessed in aggregate; your responses will not be able to be tied back to you. If you do experience mild distress related to completion of the survey, please consult a counselor or therapist in your area.

What are the possible benefits of this research?

You may enjoy completing the survey. If you agree to participate in the study and complete the survey, you will receive one Experiential Learning Credit (ELC) that you might be able to use for credit in one of your courses. In addition, the information gained in the study is aimed at helping us understand more about personality, body esteem, and social behavior online.

Will I be paid for taking part in the research?

You will not be paid for your participation in this study. If you agree to participate in the study and complete the survey, you will receive one Experiential Learning Credit (ELC) that you might be able to use for credit in one of your courses.

How will you keep my private information confidential?

This study is confidential. Information will be identified only by a number. Your data will be protected under the full extent of the law. We will keep the data for 5 years after data collection, based on the requirement of the American Psychological Association.