

# Body Image Perception: Adolescent Boys and Avatar Depiction in Video Games

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## *Abstract*

Research on mass media's impact on body image has mostly been focused on females thus far. Of the little research that has been done on male body image, most of it has been focused on adult males, and therefore the effect of mass media on adolescent boys' body image is still a relatively primitive field of knowledge. Through comparing the exposure of adolescent boys to muscular avatars in popular video games, a source of mass media that a majority of adolescent boys are exposed to, and relating it to research done on the effects of frequent ideal image exposure through other forms of mass media on males, the influence of video games on the body image of adolescent boys can be determined.

This study consisted of several factors: (1) understanding the impact of constantly viewing ideal images in mass media on males' perceptions of their own bodies, (2) reviewing the body types of the male avatars in several modern, popular video games played by adolescent boys, (3) relating the exposure of video game avatars on adolescent boys' views of their own physiques, and (4) examining the implications of negative body image on adolescent boys' eating and exercise strategies. Although video game avatars tend to have a slightly different body shape than those presented in most types of mass media, their unifying trait of naturally unattainable muscularity resulted a reaction among adolescent boys that was similar to that of adult males with regard to mesomorphic (muscular, V-shaped) body types in mass media. This resulting negative body image can lead to psychological disorders such as depression or such physical disorders as anabolic steroid usage, unnatural dieting, and excessive exercising.

## *Introduction*

Adolescent boys ages 13-18 in the United States spend, on average, nine hours per week playing video games (Barlett and Harris 586). This amount of time dwarfs the level of contact boys in the U.S. have with other comparative media such as magazines and even television. Yet, little research exists in the field of male body image in relation to video game avatars. This study focuses on how exposure to video games affects adolescent male perception of their bodies and the consequences of this shift in body image.

The physiques of the avatars in popular video games for adolescents have become increasingly muscular in the past several decades. This musculature is exaggerated and is not attainable by natural means. Exposure to these avatars may lead adolescent boys to have higher body dissatisfaction, which in turn may lead to the development of psychological and physical disorders such as depression, binge eating, and steroid usage.

## *Media-Induced Real-Ideal Image Discrepancies*

Discrepancies between real and ideal body images, induced by unattainable muscular body types promoted by the media, can lead to negative body image and high levels of body dis-

satisfaction in adolescent boys. Males tend to internalize these real-ideal discrepancies without considering the unnatural means of their creation. Adolescent boys specifically seek muscular bodies for better athletic performance or to be perceived as more attractive, and exposure to the realistic movements of the muscular avatars in video games can contribute to their negative-body image.

Body image dissatisfaction has been found to be prevalent among adolescent boys. According to Sylvia, Morse, and King, Crowther and Williams define body image dissatisfaction (BID) as negative thoughts and attitudes about the shape and weight of one's own body (183). According to Humphreys and Paxton, a growing number of males are not satisfied with their body and male body image concerns have significantly increased over the past decades (253). In fact, Garner reported that 41% of teenage 13-19 years old boys were found to be dissatisfied with their overall appearance (38). In addition, McCabe and Ricciardelli, according to Humphreys and Paxton, reported that 50-70% of Australian boys expressed a desire to change their body shape or weight (253-254). Agliata and Tantleff-Dunn further found that Mishkind, Rodin, Silberstein, and Streigel-Moore reported that 95% of college-aged men reported unhappiness with some part of their bodies and 70% experienced a disconnection between their current and ideal body shapes. Furthermore, Cash also reported that body dissatisfaction among males has increased nearly threefold (7-8).

According to Pope, Olivardia, Gruber, and Borowiecki, men have been increasing their efforts to gain muscle and maintain a lean body:

Recently succumbing to what has been called an "Adonis complex of attractiveness" (Pope et al., 2000), men have increased their efforts to build muscle and stay lean. The ideal male body of the new millennium is increasingly unattainable (Pope et al., 1999), resulting in real-ideal discrepancies that lead to lower self-esteem and depression in men (Pope et al., 2000). As observed in so many studies of females, having a desired body size and degree of physical attractiveness other than one's own can lead to body image dissatisfaction, the use of weight-control strategies, and a heightened potential for eating pathology (Thompson & Tantleff, 1992; Jacobi & Cash, 1994). (8)

"The Adonis complex" is representative of the continuing trend—from the past several decades—of males attempting to become increasingly—sometimes even unnaturally—muscular. This trend directly correlates with that of ideal male images in mass media as they are becoming more muscular, fortified by the development of anabolic steroids that permitted unnatural levels of muscularity to become common, and thus, incorporated into the standard, idealized male body type. As Pope et al. reported, this evolution of the ideal male body to become more muscular has been made aware to males of all ages, including the youngest generation, through action toys. The increased discrepancy between real and ideal images can lead to body image dissatisfaction, which, according to Barlett and Harris, can result in negative body-image, a common starting point for psychological disorders or physical ones like "weight-control strategies" and potential "eating pathology."

The frequent exposure to idealized images in the media that American men experience leads to real-ideal image discrepancies. Agliata and Tantleff-Dunn noted that the sociocultural theory of body image suggests that societal beauty standards stimulate the origination and continuation of body image disturbance (8-9). Agliata and Tantleff-Dunn further found that constant exposure to the ideal, muscular, and lean male image through mass media can negatively impact the body satisfaction and mood of men (8). In accordance with these findings, Leit, Gray, and Pope reported that men's perception of their appearance could be influenced by media images of ideal male bodies, which tend to contribute to body image disturbance in men

(337). Leit et al. further claimed that men would experience a decrease in their body esteem after being exposed to stimuli that raises their negative body-image (337). Barlett and Humphreys reported similar findings, observing that men would experience a decrease in self-esteem as effects of viewing muscular stimuli, and they would have significantly higher negative body-image as a result of being exposed to a muscular stimuli (588).

Real-ideal image discrepancies resulting from mass media exposure leads to an increased drive for muscularity and development of muscle dysmorphia. Agliata and Tantleff-Dunn observed that after being exposed to media images of idealized male bodies, men who perceive discrepancies between their actual body and the idealized bodies reported dissatisfaction with their own bodies (8). According to Barlett and Harris, drive for muscularity and positive attitudes towards muscularity are important variables for men, regarding body image, in addition to body esteem and body satisfaction (590). Pope et al. noted that body dysmorphic disorder is another form of body image disturbance that consistently impacts men, and that a specific type of body dysmorphic disorder commonly associated with men is “muscle dysmorphia” (66). According to Pope et al., frequently associated with muscle dysmorphia is the impairment of social or professional functioning, resulting from an obsessive preoccupation with increasing muscularity (66).

Agliata and Tantleff-Dunn suggested that, in their study, the participants’ exposure to appearance videotapes caused habitual schema-driven reactions, founded on previous comparisons of self to ideal image, resulting in negative self-evaluations (17). Agliata and Tantleff-Dunn also suggested that these negative reactions to commercials are increasing as advertisements use more muscular, increasingly unattainable figures in their advertising (8). Their study showed that—regardless of their varying schemas—males respond to appearance-related stimuli and may interpret and internalize these responses directly, without first filtering them through a previously-established internal set (17-18). Thus, males will interpret their real-ideal image discrepancies as their own body being flawed, when the ideal images they are comparing themselves to are unnatural constructs.

Adolescent boys tend to seek more muscular bodies in order to appear athletic. According to Humphreys and Paxton, a leading cause for body dissatisfaction in boys is failure to achieve the athletic, muscular ideal (254). Similarly, Martins, Williams, Ratan, and Harrison reported that males are experiencing body dissatisfaction due to a desire to increase muscle mass or achieve a muscular physique (43). According to Martins et al., the cultivation theory regarding video games views media messages that laud unrealistic strength and muscular physique as attractive as socializing agents that influence viewers how to perceive the male body, and predicts that continuous exposure to the ideal male physique would result in the use of steroids and other food supplements in order to become more muscular and, therefore, “normal” (44). In accordance with these findings, Barlett and Harris found that undergraduate males showed an increase in their negative body-image when they played a videogame that emphasized muscular male bodies (586).

### *Differentiating Aspects of Video Games and their Resulting Influence*

Video games differ from other forms of mass media because of the higher levels of immersion they promote, due to the personalization options and movements of the avatars. Although video game avatars do not always represent the ideal, mesomorphic body type that most American males strive for, they do tend to be more blocky than the average American male; given the immersion aspect and the athletic movements of the avatars, the increased muscularity of the avatar alone may be a possible stimulus for adolescent boys to perceive them as ideal body

images. Barlett and Harris claimed that Anderson et al. reported that research has shown that children spend an average of nine hours playing video games every week, and that Weaver found that over 70% of college students consider themselves avid video game players (586); both studies imply the importance of studying video games as a factor impacting young people's body esteem. Attesting to the importance of studying body imagery in video games, and its potential impact on males' body esteem, Martins et al. found that Bainbridge reported that video games sales have exceeded motion picture sales, and that the Entertainment Software Association claimed that the audience for video games is comprised largely of males (43).

A crucial disparity between videogames and other forms of mass media is the aspect of immersion. Barlett and Harris observed that a key difference between videogames and other forms of mass media is the active role element present in video games, resulting from players having the ability to control their video game characters and claimed that video games allow players to become more immersed in the virtual world (586). Ivory and Kalyanaraman also found that video game play is related to immersion but claimed that it has not yet been analyzed to discover its impacts on people's body image (547). Barlett and Harris observed that more modern video games allow for a greater amount of immersion; because of the high level of details and options in recent video games that players can choose from to personalize video game characters (i.e. hair/eye color, face shape/style, height, weight, muscularity, etc.) players are granted the ability to create characters that closely resemble either their actual or ideal appearance, increasing their amount of immersion in the game (586-587). Sylvia et al. claimed that the advanced technology of modern videogames plays an important role in how video games affect body image because as videogames become increasingly realistic, they become more psychologically impactful (184). Sylvia et al. performed an experiment that consisted of randomly assigning undergraduate male college students to either a muscular or average figured avatar, comparing their levels of body dissatisfaction before and after playing a highly detailed, realistic video game for 45 minutes (185). Sylvia et al. found that the participants playing with a muscular avatar displayed lower body satisfaction than participants playing with an average-figured avatar but did not affect either group of participant's attitudes towards muscularity, suggesting that video game play with muscular avatars only temporarily lowers males' body satisfactions, but has no permanent effects on whether males view muscularity positively or negatively (186). However, Barlett and Harris contended that:

Video games (unlike television or magazines) offer an active role for players to become and control their video game characters. This allows players to become more immersed, or become a part of, the virtual world. Research has shown that video game play is related to immersion (e.g., Ivory and Kalyanaraman 2007), but has yet to be tested in terms of body image in media. Perhaps participants will be more likely to think and feel bad about their body more after video game play rather than television viewing because the players get to assume the role of the characters in a video game. Recent video games allow for a greater amount of immersion than earlier video games because the more modern video games allow the players to create characters in great detail, including hair color, eye color, face shape, hairstyle, height, weight, muscularity level, and so forth. Thus, in more recent video games, players have the ability to create players that closely resemble their actual or ideal appearance, which may further the amount of immersion in the game. (586-587)

The factor of immersion present in video games differentiates video games from other forms of mass media. When video game players—mostly adolescents—are given the chance to create and personalize avatars to represent themselves in video games, they tend to design the avatars to contain ideal features that they desire but do not possess. Because the players can “create characters in great detail, including...height, weight, muscularity level,” they are more

likely to be able to identify with the characters they create, “further[ing] the amount of immersion in the game” (587). This high level of immersion, stemming from “assum[ing] the role of the characters in the video games” may lead to the players having higher body dissatisfaction because they can embody their ideal body type virtually, but not in reality, resulting in increased discrepancies between real and ideal body types (586). If the players personalize their avatars to follow the ideal male image of the mesomorphic body type, the discrepancies between real and ideal body types may lead to muscle dysmorphia, or the obsessive drive to increase muscularity, negating the findings by Sylvia et al.

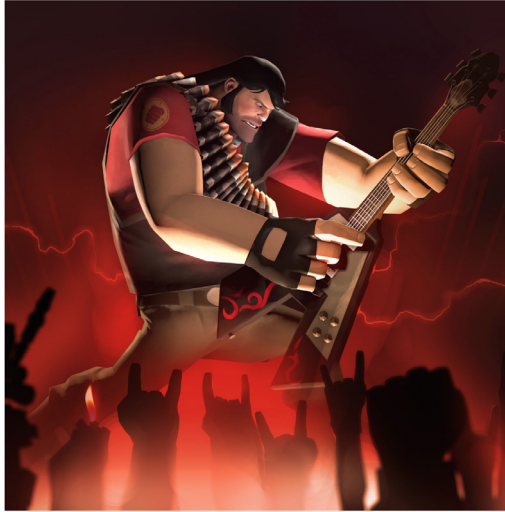
Martins et al. performed another study, comparing the body sizes of male video game characters to real-world men by scaling the characters to a height of 69.55 inches, based on their anthropometric sample data, and investigating how the levels of realism in video games emphasized or de-emphasized certain body proportions (45). They found that video games with high levels of photorealism portrayed male characters larger than the average American male, but non-conforming to the mesomorphic body ideal found in mainstream media (47). Martins et al. also observed that male characters in video games with low levels of photorealism were larger than the average American male, but their dimensions were so large that they appeared cartoon-like (47). Thus, compared to the V-shaped ideal emphasized in most forms of mass media, video game characters emphasize a body ideal that is much more blocky (47). According to Martins et al., who compared videogame avatars to real measurements of an average American male and dimensions of the media ideal, video game avatars tend to be larger than the average American male, but blockier than the media ideal, implying that video games may portray the male figure in different ways than other media forms (47-48). According to Martins et al.:

One curious finding about the video game sample's dimensions is the unusual distribution of muscle and fat. If video game characters, on average, mirror the V-shaped ideal present in mainstream media, we would expect that video game characters' chests would be much larger whereas their waists and hips should be comparatively smaller. In fact, research demonstrates that the male ideal represents a man with a chest-to-waist ratio of 1.4 (Pope et al., 1999). The real world sample we used has a chest-to-waist ratio of 1.14. If the video game characters were to represent the stereotypical male ideal, we would expect a ratio larger than the real-world sample and closer to 1.40. Yet we do not see this. The video game characters are larger on average, but have a smaller ratio of 1.07. In other words, they are not more ideal, but simply blockier. (47)

The avatars found in video games, although similar to the ideal male images presented by most forms of mass media because of their overall larger figure than the average American male, differ from ideal male images found in other forms of mass media because instead of following the mesomorphic, V-shaped body type trend presented in those forms of mass media, the body shapes of avatars found in video games are more blocky. Therefore, although video game avatars are more muscular than the average American male, they are not necessarily considered more attractive than the average American male or at least not as attractive as the mesomorphic body type presented by most forms of mass media, which is supposed to be representative of societal ideals. The discrepancy between the body types of video game avatars and other mass media ideal male images could possibly influence adolescent boys' development of body dissatisfaction or muscle dysmorphia. On one hand, adolescent boys may not respond to the avatars as stimuli due to their body shape differences compared to other mass media ideal male images, and thus would not experience a decrease in body dissatisfaction. On the other hand, adolescent boys may respond more to video game avatars due to increased exposure to them versus any other forms of mass media, and may be influenced to just pursue increased muscularity, rather than the specific mesomorphic shape.

This study compared the bodies of the characters present in each of three popularly mod-

ern video games among adolescent boys: Team Fortress 2, God of War: Ascension, and Uncharted 4: A Thief's End. By reviewing the body types of the characters and relating them to the popular mesomorphic media standard as well as the proportions of the average American male, a better understanding of how adolescent boys are impacted by exposure to certain video games was developed.



*Figure 1. The Heavy from the video game Team Fortress 2 (Valve Corporation).*



*Figure 2. A character from God of War: Ascension (Santa Monica Studios).*



*Figure 3. Nathan Drake from Uncharted 4: A Thief's End (Naughty Dog).*

is much smaller than the upper body, as the legs are too narrow to be proportionate with the rest of the body. The lack of proportion of the figure and lack of muscular tone make this figure seem unrealistic and cartoonish, as Martins et al. suggested, possibly reducing the possibility of adolescent boys viewing the figure's larger body type as an ideal to attain (Figure 1).

The character from God of War: Ascension has much more muscle tone and detailing as well as larger muscle mass. His minimal clothing—simply a loincloth and armor covering his forearms and calves—expose his shoulders, biceps, chest, and waist, which are sized propor-

The Heavy from Team Fortress 2 appears to have very little muscle tone, although the size of the upper body is much larger than that of the average American male. Although his figure is fully clothed, it is apparent that the torso and upper body are very blocky, and not representative of the mesomorphic body shape presented by other forms of mass media, with little size difference between the width of the waist and the shoulders. There is also little difference between the size of the upper arms and the forearms. The lower body, however,

tionately and constitute the mesomorphic ideal standard, but are all larger and contain more muscle tone than those of the average American male. The lower body is also proportionate to the rest of the body, with similarly increased muscle tone and mass. The God of War character's body is much more believable as an ideal body than Heavy from Team Fortress 2, and is much more likely to create real-ideal image discrepancies within adolescent boys who are frequently exposed to God of War characters (Figure 2).

Nathan Drake from *Uncharted 4: A Thief's End* appears to have a body type much more representative of that of the average American male than either of the characters in *Team Fortress 2* or *God of War*. Although he is fully clothed, Nathan Drake appears to have a slim waist and leg size that is very close to that of the average American male, which contradict the findings of Martins et al., although his arms and chest may be slightly larger and more muscular than average; his body is also illustrative of the mesomorphic body ideal, but is more reasonably sized than the *God of War* character's body. Therefore, Nathan Drake's body type may represent an attainable ideal to adolescent boys who are frequently exposed to images of him due to its subtly larger and more muscular figure. Because it barely deviates from the norm, Nathan Drake's figure may be more impactful in spurring adolescent boys to change their bodies to emulate his figure than the *Team Fortress 2* characters, and perhaps, the much larger *God of War* characters (Figure 3). Therefore, although the *God of War* characters' body types may be more influential in developing real-ideal image discrepancies in adolescent boys than the characters in *Uncharted* because of their enormous muscle tone and mass and proportionate figures, the characters in *Uncharted* are more likely to influence boys to change their body shape because of their realistic and reasonable muscle tone and mass, in addition to their appropriate proportions. Thus, frequent exposure to video games that present characters with more muscular, but still attainable body types, such as *Uncharted: A Thief's End*, may be more influential in causing negative body image in adolescent boys, than overly muscular characters, such as in *God of War: Ascension*, or cartoonish, blocky characters, as in *Team Fortress 2*.

### *Physical and Psychological Impacts of Negative Body Image*

Adolescent boys who develop negative body-image as a result of exposure to muscular in avatars video games have a higher chance of developing unhealthy psychological and physical disorders centered around losing weight and gaining muscles. These boys have been found to turn anabolic steroid usage, food supplements, extreme dieting strategies, and excessive exercising in order to attain their ideal body image.

According to Agliata and Tantleff-Dunn, body dissatisfaction has been associated with low self-esteem, depression, and social anxiety (7). Pope et al. noted the effects of increased appearance pressure on men, claiming that the current ideal male body is increasingly unattainable (66), and Agliata and Tantleff-Dunn found that the inability to achieve this ideal physique results in real-ideal discrepancies, and can lead to lower self-esteem and depression (8). Barlett and Harris claimed that the extent to which one thinks about and considers their body and how one perceives their self-worth has been associated with psychological disorders, such as anorexia nervosa, bulimia, and muscle dysmorphia, and negative behavioral outcomes (587). Barlett and Harris further reported having a negative body-image is linked with psychological disorders, such as feelings of depression or anxiety (587).

Thus, adolescent boys appear to be pursuing increased muscularity. McCabe and McGreevy reported that a main trend men seem to be following in order to alter their body shape is to adopt strategies to lose weight but gain muscle tone (438). Relevant to these findings, Agliata and Tantleff-Dunn noted that real-ideal body image discrepancies can lead to the implementation of weight-control strategies, and an increased risk for eating pathology (8). Barlett and

Harris further claimed that having a negative body-image is associated with excessive exercise and dieting, and that having a negative body-image has been linked with having a higher chance of using steroids (587).

Adolescent boys have even turned to steroids and food supplements as means of achieving increased musculature. Peixoto Labre reported that individuals diagnosed with muscle dysmorphia have reported using anabolic steroids or other performance-enhancing drugs, despite the evidence of their harmful side effects, in their pursuit of increased muscularity (234). McCabe and McGreevy also found that males' body dissatisfaction can lead to the harmful behaviors of over-exercising and using anabolic steroids, and that low body dissatisfaction among men can lead to eating disorders (438). Martins et al. claimed that McCabe and Ricciardelli similarly reported that this drive for muscularity could have dangerous effects, as boys as young as 11 are negatively changing their lifestyle habits through steroid usage, excessive exercising, and restriction of carbohydrate intake, all to achieve a more muscular physique (43). Peixoto Labre noted that the increasing popularity of weight training machines, gym memberships, and performance enhancing nutritional supplements are trends that substantiate the idea that the ideal male figure is becoming more muscular (234). According to Peixoto Labre, adolescent males looking to gain weight may develop binge eating disorder, or turn to steroids or nutritional supplements (236). According to Peixoto Labre:

The use of anabolic steroids is associated with many health risks. The known or suspected physical consequences of anabolic steroid use include cosmetic effects (such as acne and development of abnormal breast tissue), as well as heart disease, liver toxicity, liver tumors, and infertility. It also has been suggested that steroid use by children may lead to stunted growth. In addition, intravenous steroid use can contribute to the transmission of diseases such as HIV/AIDS and hepatitis B and C. A study of adolescent steroid users found that one in four had shared needles. In addition, steroids also may serve as a gateway to other injectable drugs. (237)

As the presence of increasingly blockier avatars in video games increases, with higher resolution and increases levels of immersion, adolescent boys are being exposed more frequently to images that may influence them to have a lower body image. Thus, this raises the risk for adolescent boys to develop eating disorders or irregular dieting habits. The use of steroids and food supplements then comes into play, as boys are more likely to be influenced by the video games to gain more muscle. However, with side effects like breast tissue and stunted growth, it is possible that the intended use of the steroids to achieve the ideal Western body that is tall, lean, and muscular may backfire. The improper use of steroids by adolescent boys can also easily spread diseases, as they are not formally educated about these procedures. In addition, steroids are responsible for liver toxicity, heart disease, and other serious side effects, and should therefore be eliminated by educating adolescent boys about the impracticality of using the muscular avatars in video games as role models. According to Martins et al. the cultivation theory, regarding video games, views media messages that laud unrealistic strength and muscular physique as attractive as socializing agents that influence viewers how to perceive the male body, and predicts that continuous exposure to the ideal male physique would result in the use of steroids and other food supplements in order to become more muscular and, therefore, "normal" (44). This pursuit to become "normal" can have deadly consequences as outlined by the dangers of improper steroid usage.

### *Conclusion*

As avatars in popular video games for adolescents become increasingly muscular, adolescent boys who frequently interact with these games may develop higher body dissatisfaction, which in turn may lead to the development of psychological and physical disorders such as de-



pression, binge eating, and steroid usage. When faced with ideal images, males universally tend to compare their own bodies to those images, developing real-ideal image discrepancies. These inconsistencies between their desired body type and their actual body type can lead males to increased body-image dissatisfaction. Because adolescent boys are frequently exposed to video games that contain unnaturally muscular avatars, they may view the body types of these avatars as ideals to attain.

The high quality of detail present in modern video games further exacerbates the real-ideal image discrepancies adolescent boys experience as a result of exposure to video games, as the heightened level of realism present in the avatars' bodies increases the perceived plausibility of achieving a similar body type, despite the fact these bodies are purely computer constructs. Additionally, the increased level of immersion present in video games, due to the personalization options, further intensifies the association between player and avatar, contributing to heightened discrepancies between real-ideal body types. As a result, adolescent boys experience diminished body esteem, resulting in a plethora of psychological and physical disorders, oriented towards achieving a more muscular stature. These findings are especially alarming considering the enormous audience video games cater to, as well as the sheer amount of time adolescent boys spend playing video games.

Further research following the lives of adolescent boys with negative body images could precisely reveal the lasting effects of the psychological and physical disorders that form because of negative body image. Also, a comparative study documenting the impacts of exposure to early video games, with more realistic bodies, versus current video games on adolescent boys' body image may provide more concrete evidence about how the evolution of muscular avatars in video games has impacted adolescent boys.

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