

Warzone

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SPRING 2021

# The Double-Edged Sword of Online Gaming

An Analysis of Masculinity  
in Video Games and the  
Gaming Community

Geena Davis Institute  on Gender in Media  
*If she can see it, she can be it.™*

  
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# Introduction

Although women's interest and participation in online gaming is on the rise, boys and young men are still the majority of those who participate in video games and online gaming in the US.<sup>1</sup> What do boys and young men see and experience in online gaming in terms of relationships, violence, and ideas about what it means to be men? More recently, there has been a willingness to discuss and address ideas of toxic manhood and masculinity, as well as misogyny and the exclusion of women in the gaming community. To aid in these discussions, it is important we understand the way manhood is presented, discussed, and perpetuated in the gaming community. Given the amount of time many boys and young men spend in these spaces and communities, these are vital questions for promoting and sustaining gender equality and healthy masculinity.

This groundbreaking study examines masculinity and representations of different identities (**gender, race, LGBTQIA+ individuals, disability, age, and body size**) in the most popular video games and in the TWITCH online gaming community. The Oak Foundation has partnered with the Geena Davis Institute on Gender

in Media and Promundo to examine representations of the aforementioned identities and masculinity in video games and gaming communities. Given pressing global concerns about the societal impacts of toxic masculinity and the ever-growing popularity of video gaming around the globe, alongside the COVID-19 pandemic that facilitated greater interest and participation in gaming, this work is more important than ever. This study contributes to the Global Boyhood Initiative, led by Promundo, the Kering Foundation, and Plan International, a new international effort to promote and support healthy boyhood.

Video games play an important role in the lives of young people in the US and around the world. Video game play has spiked 75 percent during the COVID-19 pandemic<sup>2</sup>, with the gaming industry earning \$159.3 billion in 2020.<sup>3</sup> According to a Nielsen gaming survey, 82 percent of global consumers played video games or watched video game play in March 2020, the height of pandemic lockdowns in the US.<sup>4</sup> Over half (54 percent) of players are boys/men while 46 percent of players are girls/women.<sup>5</sup> Prior to the pandemic, video games had become a mainstream form of

entertainment, with 60 percent of Americans playing daily. Video games have an incredible reach into the lives of boys and men.

The purpose of this study is to understand what boys and young men are seeing and experiencing in the online gaming community. Overall, our results find that the experience is a double-edged sword for male gamers. On the positive side, streaming platforms are a vital space for connecting with male friends – these communities are a space where boys and young men can share their emotions and problems and be their authentic selves. But online spaces are also rife with identity-based prejudice, harassment, and bullying that are ultimately harmful to boys and young men, and also harmful because other community members who interact with this content may mimic or condone these behaviors online as well as offline. We offer a list of concrete actions in this report for parents and content creators to improve online gaming spaces for male gamers, and those female and non-binary gamers who also find a sense of belonging within the gaming community.

This study is the first-ever content analysis on a streaming platform (as opposed to non-streaming Representation in Video Games), of its kind. We not only analyze video game play, but the broader ecosystem of online gaming communities. The broader ecosystem of online gaming includes game play, as well as platforms for watching others play, gamer commentary, and chat features where viewers interact with one another. Therefore, we include in our analysis also *user-generated content*, such as the comments made by popular streamers during game play and comments posted by observers of this game play in the “chat” feature. This allows us to examine the ecosystem of streaming video game play to understand where and how masculinity is enacted. We combine this analysis with a survey of the experiences of boys, male teens, and young men in online gaming spaces aged 10 to 26. This research design allows us a more comprehensive picture of how the gaming community shapes the lives of young male gamers. All together, this study includes the following methodological components:

- ▶ Content analysis of video games
- ▶ Content analysis of streamer commentary
- ▶ Content analysis of video game chat features
- ▶ Survey of boys and young men, aged 10 to 26

Our study is also the first systematic content analysis of U.S. Representation in Video Games since 2009. Much has changed in the media landscape in the last decade, so this study will serve as the new benchmark for gendered representations and specifically masculinity in video games. It is also the first study to analyze six major marginalized groups in US society, in gaming: women, people of color, LGBTQIA+ individuals, people with disabilities, adults ages 50+, and people with large body types. Moving forward, this study will serve as the benchmark for representation of these groups and work to inspire content creators and researchers to expand their lenses of representation when it comes to character depictions in video games. This is a companion study building off of an analysis of masculinity applied to boys’ television, “If he can see it, will he be it?”<sup>6</sup>

Lastly, this study is unique in its blend of automated coding and expert human coding to better understand representations in video games and experiences in online gaming spaces. By fine-tuning a state-of-the-art automated language analysis model, we were able to develop an algorithm to analyze more chat messages than is possible with just human analysis, in isolation.

**The purpose of this study is to understand what boys and young men are seeing and experiencing in the online gaming community.**



# Executive Summary

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## Representation in Video Games

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We analyzed 27,564 characters in 684 fifteen-minute gameplay segments from sessions with the top 20 Twitch streamers.

### Gender Representations

- ▶ Among all characters, male characters outnumber female characters four-to-one (79.9% compared with 20.1%).
- ▶ Among leading characters, girls/women make up 27.6%.
- ▶ Female characters are far more likely to be visually or verbally sexually objectified than male characters (3.5% compared with 0.1%).
- ▶ Female characters are ten times more likely to be shown in revealing clothing than male characters (24.6% compared with 2.3%).
- ▶ Female characters are nearly five times as likely

to be shown with some level of nudity than male characters (12.4% compared with 2.5%); therefore, while female characters are showing up in video games, they are likely to be sexualized.

### Race/Ethnicity Representations

- ▶ White characters outnumber characters of color three-to-one (75.3% compared with 24.7%). This representation is less diverse than the US population, which consists of 38% people of color, but a notable improvement from the 20.0% of characters of color represented in the last decade.
- ▶ Nearly nine-in-ten (89.3%) leading characters are white.
- ▶ White characters tend to be significantly more likely to perpetrate violence than characters of color (51.7% compared with 33.6%).
- ▶ When characters do enact violence, characters of color are twice as likely to be motivated by the protection of a stranger or society as opposed to personal gain or anger than white video game characters (14.4% compared with 7.3%).

- ▶ Characters of color often show up in stereotypical roles (e.g., Black sidekicks, Latinx gang members, Middle Eastern terrorists). About one-in-four characters of color appear as stereotypes (29.5% of Black characters; 28.9% of Middle Eastern characters; and 20.7% Latinx characters).

### LGBTQIA+ Representations

- ▶ LGBTQIA+ characters are virtually absent from video game representations; only 0.03% characters were identified as LGBTQIA+, far below the 4.5% of the US population who identify as LGBTQIA+.

### Disability Representations

- ▶ Only 0.1% of characters are shown with a physical disability; far below the 19% of the US population with a physical, cognitive, or communication disability.
- ▶ Of leading characters, only 0.5% are depicted with a disability.

### Age Representations

- ▶ Only 3.2% of characters are ages 50+, a bigger erasure of older adults than in family films (7.6%) and family television (9.5%), and far below the 34% of the US population who are 50+.
- ▶ Of lead characters, even fewer (0.8%) were ages 50+.

### Body Size Representations

- ▶ Only 1.5% of characters have a large body type, far fewer than the 39% in the US population.
- ▶ Of the characters with a large body size, nine-in-ten are male, reinforcing the rarity of female characters with large body types in different types of media.
- ▶ 5.4% of leading characters have a large body type.

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## The 7 Pillars of Promundo's Man Box Scale

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- ▶ Masculine norms are strongly upheld, with four-in-five (81.9%) male characters displaying at *least* one pillar of masculinity.
- ▶ Seven-in-ten male characters (70.5%) are shown engaging in stereotypically masculine activities (i.e., taking risks, engaging in violence, getting angry, etc.).
- ▶ Nearly one-in-four (23.7%) male characters express anger.
- ▶ Violence is a major component of masculinity, with 63.6% of male characters enacting violence, and 84.8% of the time that violence is directed against other people.
- ▶ The leading motive for violence from male characters was personal gain (84.3%), compared to the small proportion of male characters perpetrating violence for the more noble motivation of protecting a stranger or society (7.4%).
- ▶ Almost half of male video game characters (48.9%) carry a gun during gameplay.
- ▶ Males perpetrate more violence (63.6% compared with 54.2%), carry a weapon (61.1% compared with 46.9%), and kill 10+ humans (12.5% compared with 4.2%) at a higher rate than female characters.
- ▶ White male characters are significantly more likely to engage in risky behaviors (70.6% compared with 43.3%), to exhibit toughness (64.9% compared with 39.4%), and to engage in traditionally masculine activities (71.4% compared with 49.7%) than male characters of color.



- ▶ White male characters perpetrate violence at a significantly higher rate than male characters of color (55.4% compared with 30.9%).
- ▶ White male characters are twice as likely to carry a weapon as male characters of color (55.9% compared with 27.3%); in particular, a gun (45.6% compared with 24.9%).
- ▶ One-in-three white male characters (35.9%) kill at least one human compared to only 8.5% for male characters of color.

### Streamer Comments

- ▶ We analyzed streamer comments from 684 fifteen-minute gameplay segments from sessions with the top 20 Twitch streamers.

### Gender

- ▶ All of the top streamers are men.
- ▶ Sexist language was used in 37.7% of segments, with “bitch” being the most common gender slur used by streamers (28.9% of gameplay segments).
- ▶ Streamers used sexually degrading language in one-in-four (24.4%) gameplay segments, with 7.9% of segments using a variant of the phrase “suck my dick,” intended to enact dominance over another player.

### Race/Ethnicity

- ▶ Of the top streamers on Twitch, only one streamer is a man of color.
- ▶ Streamers used racist language in 5.6% of gameplay segments, with 2.2% of segments featuring gamers speaking in stereotypically foreign accents for comedic effect.
- ▶ 0.7% of segments had the n-word spoken one or more times.

### LGBTQIA+

- ▶ Of the top streamers on Twitch, only one publicly identifies as a gay man.
- ▶ Streamers used homophobic or transphobic language in 10.1% of segments.

### Disability

- ▶ None of the top streamers has a visible physical, communication, or cognitive disability.
- ▶ Streamers used ableist language in nearly half (48.8%) of gameplay segments.
- ▶ Streamers used some variation of the ableist language “crazy” in one-in-five gameplay segments (18.3%).

### Age

- ▶ None of the most popular streamers are adults ages 50+.
- ▶ Streamers used ageist language in 3.6% of gameplay segments.

### Body Size

- ▶ One of the eight popular streamers analyzed has a large body type. In half (50.0%) of his gameplay segments, other players or viewers directed sizeist insults at him.
- ▶ Streamers used sizeist language in 6.9% of gameplay segments, with 3.8% of stream segments using the word “fat” as an insult to a streamer or another player.

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# The 7 Pillars of Promundo's Man Box Scale

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- ▶ Popular streamers reinforced the “Man Box” in 96.5% of gameplay segments analyzed.
- ▶ Streamers used aggressive or controlling language in 42.3% of segments.
- ▶ Streamers acted tough in 39.0% of segments.
- ▶ Streamers promoted violence in one-in-three segments (33.9%).
- ▶ In one-in-ten (9.4%) segments, streamers used homophobia to prove their “manhood.”

## What Do Viewer's Say?

We analyzed 225,190 chat comments from gameplay segments.

- ▶ Two-in-five gameplay segments (59.9%) include comments that promote the “Man Box.”
- ▶ 97.7% of gameplay segments include violent language in the chat.
- ▶ 62.6% of segments include sexist language in the chat.
- ▶ 91.7% of segments include crude and/or sexual language in the chat.
- ▶ 37.7% of segments include racist language in the chat.
- ▶ 84.4% of segments include ableist language in the chat.
- ▶ In segments where streamers use sexist, racist, homophobic, sizeist, ableist, or ageist language, we see a significant increase in this language use from viewers in the chat.

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# Survey Findings

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We surveyed 1,050 boys and men ages 10–26 who play video games on a regular basis in an online survey.

## Gaming for Human Connection

- ▶ One-in-three boys (ages 10–15) say that they feel closer to their friends when they play video games (31%) and that playing makes them feel less lonely (35%).
- ▶ One-in-four boys (26%) think that video games teach them how to be good friends.
- ▶ A vast majority of older gamers (ages 16–26) report that video games help them connect with guy friends in supportive ways that make them feel comfortable enough to let their guard down and get close with other men. Most respondents say they share their problems, worries, and concerns with other men in gaming spaces.
- ▶ Two-thirds of older gamers (16–26) say they feel more like their “true self” in gaming spaces than in “real life,” and that they feel like they fit in more in virtual gaming communities.
- ▶ Three-in-four gamers say that people who do not play video games do not understand how meaningful these experiences can be.

## Bullying and Harassment in Online Gaming

- ▶ A majority of young gamers (ages 10–15) have witnessed cursing (54%) and name calling/making fun of people (51%). One-in-three younger respondents (37%) have seen other players ganging up on one player.
- ▶ Young gamers (ages 10–15) also experience bullying and harassment in online gaming spaces. Two-in-five (39%) have been the target of bad language/cursing and name calling and 25% have had other players gang up on them.



- ▶ About half of older respondents (ages 16–26) say they routinely witness homophobia and racism in online gaming spaces.
- ▶ At least 40% of respondents in both age groups say they regularly witness sexism, ableism, ageism, and sizeism in online gaming spaces.
- ▶ One-in-four gamers ages 20–26 say they experience racism (27%), homophobia (26%), and ableism (25%) on a regular basis. One-in-five say they experience sizeism (23%), ageism (20%), and sexism (19%) on a regular basis.

This groundbreaking study examines representations and enactments of masculinity in the most popular online streaming community. We also survey boys and young men to assess their experiences in online gaming spaces. This is the first systematic content analysis of Representation in Video Games since 2009, and the first study to systematically analyze content in a gamer streaming platform.

We begin this report with an overview of the methodology, previous research on this topic, and analysis. The analysis section is divided into four sections: Representation in Video Games, streamer comments, chat comments, and our survey findings. We conclude this report with actionable recommendations for parents and content creators.

## Previous Studies

This section summarizes previous research around specific themes that provide the context for this research. We begin with a look at research on masculinity and the “Man Box.” We then focus on who plays video games (gamer profile), common experiences in the gaming community, what gamers are exposed to (Representation in Video Games), and the negative and positive impacts of video game play.

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# The 7 Pillars of Promundo’s Man Box Scale

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This study requires a shared understanding of the term “masculinity.” This term refers to a range of behaviors and traits that are primarily associated with being a man in a given culture; it refers to prevalent ways that boys and men are socialized and expected to behave. Typical masculine socialized traits often include emotional restrictiveness, self-reliance, aggression, risk-taking, casual attitudes about sex, and an avoidance of behaviors labeled as feminine and often those labeled as homosexual.<sup>7</sup> Promundo’s research on masculinities finds that cultural beliefs about how “real men” should behave often have detrimental effects on boys and men, in addition to the negative impact on women.<sup>8</sup> In the “Man Box” study, Promundo identified seven pillars of masculinity that have negative effects for boys and men, building off of the notion of the “Man Box” first coined by Paul Kivel<sup>9</sup>.

1. **Self-Sufficiency:** A man is expected to be entirely self-reliant. He should figure things out on his own without help from others.
2. **Acting Tough:** A man should always defend his reputation and be willing to use physical aggression to do so. A man should also act strong, even if he is afraid or feeling vulnerable.
3. **Physical Attractiveness:** A man should be physically attractive, but effortlessly so. A man who spends too much time worrying about his looks is not masculine.
4. **Rigid Masculine Gender Roles:** A man should engage in stereotypically masculine activities and embrace stereotypically masculine roles. For example, a man should be willing to take risks, be a leader, and be the financial provider for his family. He should be less focused on “feminine” skills such as cooking, cleaning, or caregiving.

5. Heterosexuality and Homophobia: Being gay or queer is not manly, and a man should avoid being gay or perceived as being gay.
6. Hypersexuality: A man should value sexual conquests over intimacy, and never say “no” to sex. He is expected to be naturally sex-driven and the sexual initiator.
7. Aggression and Control: A man should be willing to use violence to get respect and should have the final say about decisions in his relationships.

The 7 Pillars of Promundo’s Man Box Scale study finds that men in the US, UK, and Mexico feel pressure from others to fit into these masculine expectations. Most survey participants in the US (59%) and Mexico (59%) report being taught by their parents to hide feelings of nervousness or fear. Additionally, three-in-ten men report pressure from romantic partners and male peers to stay in the rigid confines of the “Man Box.” Regardless of whether boys and men accept these stereotypically masculine roles for themselves, the vast majority, as seen in the surveys, are well aware of these expectations.

In many ways, some, perhaps many, men are beginning to reject certain aspects of traditional masculinity. While men reported awareness of masculine expectations, such as heteronormativity and the pressure to always say “yes” to sex, fewer men personally agreed with those ideas. Men in all three countries also rejected the notion that men are superior to women, or that men should not have a role in caregiving of children. Despite this progress, men are particularly likely to affirm societal pressures to live up to these norms of masculinity associated with toughness, independence, and limited emotional expressiveness.

Most men and boys are keenly aware that they are often judged and evaluated by male peers for adhering to these traditional ideas about manhood. We also know that notions of masculinity are modeled to boys in their family, in media and in their social networks, particularly among male peer groups. Most boys and men are keenly aware of being judged and

evaluated by the male peer group to live up to the “Man Box.” Given how prevalent gaming and video games are for young men, it is key to study male friendship, which is especially important to the study at hand. We examine displays of friendship in video game play, male interactions in online gaming spaces, and self-reported experiences of connection and friendship in these spaces, probing both how such spaces can be sites for reinforcing negative and stereotypical male norms, but also to see how they can be spaces of friendship, connection and positive emotional expression.

### Video Gamer Profile

Research indicates that three-in-four (75%) American households have at least one gamer in the family.<sup>10</sup> A majority (60%) of children and teens ages 8 to 18 play video games every day, and those who do play spend an average of two hours playing per day.<sup>11</sup> Overall game play has spiked 75% during the COVID-19 pandemic.<sup>12</sup> Video game play is mostly done in groups. A majority (63%) of adult gamers report playing with others, either online (an average of 4.8 hours per week) or in person (an average of 3.5 hours per week).<sup>13</sup> Generation Z males—born in 1997 and after— are especially into video games. Nine-in-ten (91%) Gen Z males play video games on a regular basis, and 68% say video games are a core part of their identity.<sup>14</sup>

When it comes to race, according to existing research Latinx players are more likely to be regular video game players (47%) than Black (44%) and white (41%) Americans.<sup>15</sup> Additionally, a larger percentage of Latinx players label themselves as “gamers” (19%) than Black (11%) or white (7%) players.<sup>16</sup> When it comes to perceptions of representation in video games, more Black (13%) and Latinx (11%) players say that video games portray racial minorities poorly compared to white players (7%).<sup>17</sup>

Existing research also finds that men are three times more likely than women to make video game purchases.<sup>18</sup> Women in the US are about as likely to play video games as men when all game genres

are considered (e.g., Candy Crush and other mobile games); but men are far more likely to play online for longer periods of time and to play in gaming communities.<sup>19</sup> A vast majority of college men (88.3%) play video games at least once a week compared with 54.6% of college women.<sup>20</sup> On average, men in college play nearly three times as many hours of video games each week as college women (11 hours compared to 4.25 hours).

## Video Gaming Communities

Gaming communities, whether in-person or online, create socially acceptable spaces for boys and men to connect with other boys and men. For instance, gaming can facilitate community and a space of active belonging for players. A recent study of college men finds that video game play and video game culture commonly facilitate social gatherings for male peer groups.<sup>21</sup> Video games provide a space for boys to excel and be successful learners, as well as a safe space to perform heterosexual masculinity and challenge societal expectations of appropriate behavior without supervision.<sup>22</sup>

Previous studies find that video games foster in-person and online communities that are crucial for male friendships. As boys age into early adulthood, they increase their emotional distance in relationships to conform to masculine gender norms.<sup>23</sup> Early studies of this topic find that video game play provides a way to connect to other boys and men while maintaining or performing masculine norms that prohibit emotional intimacy in male friendships. In short, gaming becomes an acceptable place to show closeness to other boys that otherwise is often discouraged.<sup>24</sup>

On the negative side, dozens of studies have documented sexism in online and in-person gaming communities and gaming culture. One survey study finds that men in gaming spaces feel more entitled to express social dominance in the virtual world than they would in the real world because men outnumber women in networked video games and masculine behavior is typically rewarded.<sup>25</sup> For example, a recent survey of female gamers in online gaming spaces

finds that 57% experienced some type of harassment, 54% were asked for a sexual favor, and 22.4% were told rape jokes while gaming.<sup>26</sup> Men in these spaces are also likely to believe that women who play video games are not very good at them; that female players are the “weakest link” in team play. Clearly the sexism in gaming is more than just harmless banter; it often turns into deeply held sexist beliefs among men and real harm against women, girls and individuals of sexual minorities.

## Representation in Video Games

Numerous studies have analyzed Representation in Video Games in terms of who is represented and how they are represented regarding masculinity, sexualization, and violence. Significant gender and race differences are found in terms of who is represented in video games and how they are represented. In the gaming industry, men hold nearly 90% of jobs in content creation, and 81% of content creators are white, so it is no surprise that gender and race biases play out in artistic, design, and programming decisions.<sup>27</sup>

Stark gender differences are found in terms of who shows up as characters in video games. The last large study of US Representation in Video Games from 2009 found that male characters in the top 150 games outnumbered female characters more than five-to-one (85.2% compared with 14.8%).<sup>28</sup> A more recent study of the 100 top-grossing video games in the U.K. found female characters have made progress in the last decade, but the gap is still large (78.0% male compared with 22.0% female).<sup>29</sup> However, the study finds that this increase is mostly due to more women characters featured in non-playable secondary roles. In a content analysis of games rated “Teen,” 89.0% of games contained playable male characters (characters whose actions are controlled by a player rather than those controlled by the rules of the game, often called non-playable characters), while only 52.0% included playable female characters.<sup>30</sup> Male video game characters are also more likely to be central to the game’s plot and featured as heroes than female characters.<sup>31</sup> To summarize, video games now



include more female characters than a decade ago, but a large and persistent gender gap remains.

Gender differences are also found in the quality of representation in video games. In short, video games reinforce gender norms of women as traditionally attractive and hyper-sexualized and men as hyper-aggressive and violent, so even as more women are showing up in video games, their roles are highly stereotyped.

Female characters are most often shown as secondary characters who are attractive, sexy, and wearing revealing clothing.<sup>32</sup> Most female characters are shown as sexualized (59.9%) compared to almost no male characters (0.8%), and female characters are five times more likely to be shown in revealing clothing (38.7% compared with 8.1%).<sup>33</sup> More specifically, female characters are twice as likely to be shown with no sleeves (47.6% compared with 22.0%) and with low necklines (85.7% compared with 14.3%). A greater percentage of female characters are “wearing clothing that would not be appropriate for completing the task at hand” (16.0% compared with 2.0%). Female characters are ten times more likely to be shown as partially nude than male characters (43.0% compared with 4.0%).<sup>34</sup> Four-in-ten female characters in video games have unusually large breasts<sup>35</sup> with an impossibly small waist.<sup>36</sup> Lastly, video games are significantly more likely to depict female characters as engaged in sexual behaviors (e.g., provocative touching or moaning) than male characters.<sup>37</sup>

In contrast, male characters are typically depicted as hypermasculine, hyper-muscular, and aggressive. Most male characters have V-shaped bodies—a larger chest with smaller waist and hips.<sup>38</sup> Male characters in video games are also more likely than female characters to be portrayed as aggressive (82.6% compared with 62.2%).<sup>39</sup> Overall, 31.1% of male characters are shown as hypermasculine and 62.6% of female characters are rated as “visions of beauty.”

Male characters also use more weapons, have more abilities, and are more muscular and powerful than

female characters, and this has gotten more extreme over time. An examination of male characters across twenty years find increased muscularity and “powerful body types,” and greater use of weapons.<sup>40</sup> Additionally, eight-in-ten acts of violence are committed by male characters.<sup>41</sup> Male characters are also more likely victims of violence in popular video games.

When it comes to race, video game characters are overwhelmingly white (85.0%).<sup>42</sup> Black characters (10.7%), and especially Asian/Pacific Islander (4.0%), Latinx (2.7%), and Native American (0.9%) characters are mostly missing in action from the most popular video games. In a recent survey of gamers, Asian-American gamers are the most likely group to report that they rarely see themselves represented in video games.<sup>43</sup>

When characters of color do appear in video games, they are frequently stereotyped. For example, many Black characters in the top video games appear as athletes in sports games and are overrepresented as violent and in “sidekick” roles.<sup>44</sup> Similarly, video games have been critiqued for depictions of violence aimed at Latinx immigrants and stereotypes of Latinx characters as gang members.<sup>45</sup>

## Video Game Impacts

Video game play has been linked to both positive and negative outcomes for boys and young men. Positive outcomes include pro-social behaviors, improvements in mood and feelings of accomplishment, while negative outcomes include endorsement of traditional gender roles, higher rates of hostile and benevolent sexism, and acceptance of rape myths about and sexual violence toward women.

Previous studies have found that video game play is linked to more traditional gender role beliefs. The more hours gamers play video games, the more they endorse traditional masculine norms, including the ideas that men should be aggressive, dominant, tough, and emotionally restrictive.<sup>46</sup> Video game play is associated with a higher adherence to masculinity ideology (the “Man Box”) and engagement in risky

behaviors for boys and young men.<sup>47</sup> It is important to note gamers who have already “endorsed” hypermasculine values are more likely to play video games marketed for violence.<sup>48</sup>

When it comes to violence in video games, a recent experimental study finds that boys are more likely than girls to identify with game characters, and players of violent-only games are more likely to identify with game characters than players of non-violent games.<sup>49</sup> Video game play is also associated with higher rates of aggression and violence for boys and men,<sup>50</sup> as well as decreased empathy toward others.<sup>51</sup>

For boys and young men, video game play is linked to higher rates of hostile sexism,<sup>52</sup> and more play time is associated with higher rates of this type of sexism.<sup>53</sup> Hostile sexism seeks to preserve men’s dominance through blatant disrespect of women who violate traditional women’s roles or pose a threat to men’s superior social status. This sexism typically manifests in the form of gender slurs, put downs, or derogatory comments aimed at women who violate traditional gender norms. Video game play is also associated with higher rates of benevolent sexism,<sup>54</sup> a form of sexism where evaluations of women seem positive but actually reinforce existing gendered power structures. An example of benevolent sexism is the belief that men must protect women or the romanticization of caretaking roles for women.

Researchers find that male gamers who play sexually explicit video games are more likely to think of women as sex objects and are more likely to sexually harass women.<sup>55</sup> Furthermore, men who play video games are more likely to accept rape myths than men who do not play.<sup>56</sup> The more boys play video games, the lower their empathy for female victims of sexual violence, especially for boys who identify more strongly with violent game characters.<sup>57</sup>

However, previous studies also find positive aspects of gaming, including improvements in mood and increases in positive emotion, intense pride in accomplishment, enhanced cognitive abilities,

development of adaptive regulation strategies, and increased pro-social behaviors.<sup>58</sup> We examine the potential of online gaming spaces as sites for positive male friendship and bonding in this study.

This review of previous studies shows that boys and men spend more time playing video games than girls and women; that men of color are the most likely to play video games; that women and people of color are underrepresented and stereotyped in video games; and that video game play reinforces conventional gender roles and increases aggression, violence, hostile sexism, benevolent sexism, intention to sexually harass, and belief in rape myths. At the same time, video game play also has a variety of positive outcomes for boys and men, including creating spaces for male friendship in a world where toxic masculine norms discourage it.

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## Methodology for This Study

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We employ mixed methodology for this study: a content analysis of different aspects of the most popular gamer streaming platform and a survey of boys and young men who play video games on a regular basis.

### Content Analysis

We analyzed content on Twitch, the most popular live-streaming global platform for gamers. Currently, 37.5 million Americans use this platform on a regular basis, meaning they tune in at least once a month.<sup>59</sup> The site averages 26.5 million visitors per day.<sup>60</sup> Male streamers on Twitch outnumber female streamers two-to-one, and 41.0% of streamers are age 24 or younger.<sup>61</sup> In recent years, Twitch has faced increased competition for streaming game services from YouTube, Microsoft’s Mixer, and Facebook Gaming, but Twitch remains the most popular streaming site for gamers.

Twitch is an online space that allows people to live stream their video game play and to interact with the streamer and other viewers through written comments in the “chat.” The top streamers often develop cult-like status that attracts hundreds of thousands of viewers each time they play. Expert streamers on Twitch made \$3,000+ per month through the site and “donations” from loyal followers,<sup>62</sup> while the top ten streamers make an estimated \$20 million a year combined, not including sponsorships.<sup>63</sup>

We analyzed three aspects of Twitch streaming content for this study: Representation in Video Games, streamer comments, and chat comments.

### Representation in Video Games

For Representation in Video Games, we analyzed representations of race, gender, sexuality (LGBTQIA+ affiliation), disability, age, and body size in games played by the top streamers. The games streamers choose to play are invariably the top-grossing games at the time of play, so this research design allows us to draw conclusions about representations in the most popular video games as well as the culture of game play in Twitch.

All of the video game play, streamer comments, and chat comments align, meaning they come from the same representative sample of Twitch play. We randomly selected the month of October 2020 for analysis and included only English-speaking streamers. Given the sheer volume of content on the site and the volume of hours of gameplay, we narrowed the sample to the top five streamers each week. The top streamers played an average of 45.6 hours per week analyzed, so we randomly sampled 15-minute game play segments for analysis, with a confidence level of 95% and a confidence interval of  $\pm 3.5\%$ . This allowed us to systematically analyze the players on the platform with the biggest reach in a representative way.<sup>64</sup> Overall, we analyzed 684 fifteen-minute gameplay segments. Our final dataset includes 27,564 video game characters played in the games played by the top Twitch streamers.

### Streamer Comments

We analyzed the comments made by streamers and other players you could hear audibly during the gameplay in the sample. In total, we analyzed streamer comments from 684 fifteen-minute gameplay segments.

### Chat Comments

On average, each 15-minute video game segment had 2,076 chat comments posted.<sup>65</sup> Many of these chat messages featured only emoticons, repeated words, or game-specific language. Of the 627,001 comments collected, over half of the comments (61.9%) had two or fewer unique words. We then applied preprocessing steps to this dataset before analysis to ensure we kept human, non-spam messages only, which excluded messages with less than three unique words and removing all automated bots’ messages. Our final dataset included a total of 225,190 chat comments for analysis.

The chat content we analyze is less extreme than what was actually posted in the chat due to Twitch filter features. In 2016, Twitch introduced the automated tool AutoMod to automatically block messages deemed inappropriate using a set of customizable rules. Since then, new explicit or inappropriate terminology has been added to the tool so potentially offensive messages sent were not visible. Thus, we were only able to collect and analyze the messages *not* flagged by AutoMod or a human moderator.

We took a representative sample of chat content for analysis of expression of emotions, characteristics of masculinity, friendships, and slurs. We used this sample of chat messages to fine-tune a pre-trained Bidirectional Encoder Representations from Transforms (BERT)<sup>66</sup> model appended with a series of Multilayer Perceptron Layers to filter out messages with a low likelihood of having text requiring an annotation. With a 95% confidence interval via a 5-fold cross validation procedure, we generated an algorithm to filter out irrelevant messages before annotation by an expert human coder. We regularly re-trained and



re-deployed the model on new sets of labelled chat messages to ensure we maintained a high accuracy model without any potential drift in probabilities for annotation in new data. In addition, we created a dictionary of 1,700 offensive words and slurs which we applied to the chat database, double checked by a human reviewer for contextual meaning.

## Survey

We also fielded a national opt-in, online survey of boys and young men to measure their experiences in the gaming community from December 14–23, 2020. We sampled three groups for a total of 1,050 respondents:

- ▶ Male gamers ages 10–15 (n=350)
- ▶ Male gamers ages 16–19 (n=350)
- ▶ Male gamers ages 20–26 (n=350)

Respondents 16 and younger were recruited through their parents. Some survey questions were only asked of respondents ages 16 to 26 because they were not appropriate for younger respondents.

We surveyed boys and men exclusively to narrow our analysis to experiences pertaining to masculinity as described by men and boys in the gaming community; we recognize that women and girls experience much of the sexism expressed by men and boys in gaming and that they have important opinions about men’s and boys’ behavior on gaming platforms, but for this study we focus on men and boys. Survey participants were asked about their amount and type of game play, motivations for playing, and positive and negative gaming experiences.

## Respondent Profile

We classified the players into different degrees of intensity:

- ▶ Light players (1-8 hours a week)
- ▶ Medium players (8.5-24 hours a week)
- ▶ Heavy players (24.5+ hours per week)

The sample includes roughly equal numbers of light (n=352), medium (n=379), and heavy (n=319) players.

According to Table 1, all respondents play video games on a gaming console or PC. Gamers are more likely to play video games on Playstation (57%) than Xbox (50%) or Nintendo Switch (37%).

About two-thirds of respondents of all ages say they purchased a new video game in the past three months.

**TABLE 1 • Consoles and Games in the Past 3 Months**

	Ages 10–15	Ages 16–20	Ages 20–26
Played video games on a video game console, gaming PC, or regular PC/laptop	100%	100%	100%
Purchased a new video game	67%	69%	72%

When it comes to the amount of play, boys (ages 10 to 15) are the most likely to play video games every day of the week, and the most likely to play multiple times each day. Gamers ages 15 to 20 play the longest on average per session (3 hours).

TABLE 2 • Amount of Video Game Play

	Ages 10–15	Ages 16–20	Ages 20–26
Play video games 7 days a week	61%	50%	47%
Play video games multiple times a day	70%	62%	56%
Average length of play	2.5 hours	3.0 hours	2.8 hours

Most gamers in the survey say they play online games with others, but gamers ages 16–20 are the most likely to report this (95%). Most gamers in the survey say they play with both people they know personally and strangers in online spaces.

TABLE 3 • Playing Videogames Alone Versus With Others

	Ages 10–15	Ages 16–20	Ages 20–26
Play online games with others	91%	95%	93%
Only play with people I know personally	29%	29%	23%
Only play with people I don't know personally	2%	6%	7%
Play with people I know and don't know	69%	65%	70%

Gamers ages 10–15 are as likely as older players to play fighting games, and nearly as likely to play third-person shooter games.

TABLE 4 • Types of Game Play

	Ages 10–15	Ages 16–20	Ages 20–26
Action and adventure games	67%	68%	72%
First-person shooter games	57%	68%	63%
Multiplayer online battle arena	57%	46%	43%
Fighting	44%	46%	44%
Strategy	38%	41%	51%
Third-person shooter	41%	44%	44%
Role-Playing	31%	39%	59%
Sports	50%	36%	37%
Survival	37%	43%	42%
Racing/Flying	44%	32%	30%
Simulation	28%	27%	35%
Puzzles	25%	14%	26%

Young gamers (ages 10–15) are more likely to report playing cooperative games than older players (ages 16–26).

TABLE 5 • Cooperative Versus Competitive Games

	Ages 10–15	Ages 16–20	Ages 20–26
Cooperative/Co-op (work together with other players as teammates, usually against the video game)	76%	78%	80%
Competitive (play against other players, such as player vs. player or deathmatch)	2%	3%	2%

Gamers in our study are frequent viewers of video game play on streaming platforms, such as Twitch. At least 70% of gamers in our survey say they engage these platforms at least once a week. Older gamers (aged 16 to 26) are more likely to visit streaming platforms multiple times a day than younger gamers (aged 10 to 15).

**TABLE 6 • Frequency of Engaging Online Streaming Platforms**

Frequency	Ages 10–15	Ages 16–19	Ages 20–26
Multiple times each day	21%	30%	28%
Once a day	14%	15%	15%
A few times each week	30%	26%	25%
Once a week	5%	4%	4%
<b>TOTAL</b>	<b>70%</b>	<b>75%</b>	<b>72%</b>

Among gamers who visit streaming platforms, virtually all are actively engaged in the gaming community in these spaces. The most popular forms of engagement are using the chat feature (to communicate with streamers and other viewers on the platform), hosting a live stream of game play, and hosting a live discussion.

**TABLE 7 • Interacting with Online Gaming Platforms**

Interaction Type	Ages 10–15	Ages 16–19	Ages 20–26
Use chat feature	45%	55%	52%
Host a live stream	39%	38%	39%
Host a live discussion	27%	25%	24%
Take a live viewer poll	13%	14%	19%
Donate to a streamer/cause	5%	9%	13%
Post a live viewer poll	8%	5%	9%
Invite a viewer to live stream on your channel	8%	6%	7%

Younger gamers (aged 10 to 15) are assumed to be students. Most players ages 16–19 are also full-time students, while one-in-three older respondents (aged 20 to 26) are employed full-time.

**TABLE 8 • Education/Employment Status**

	Ages 16–19	Ages 20–26
Full-time Student	70%	22%
Employed Full-time	3%	35%
Employed Part-Time	10%	17%
Currently Unemployed	9%	14%

When it comes to race/ethnicity, our sample does not include Native American, Alaska Native, or other indigenous respondents. Otherwise, it includes decent representations of players of color when compared to the US population. We weighted the sample to match population percentages.



TABLE 9 • Respondent Race/Ethnicity

Race/ Ethnicity	% in Sample	% in US Population
Black	10.3%	13.4%
Latinx	13.7%	18.5%
Asian	14.4%	5.9%
White	61.6%	76.3%

Overall, 5% of respondents in the sample identify as LGBTQIA+. This matches well with the 4.5% of the US population who identify as LGBTQIA+.

TABLE 10 • LGBTQIA+ Gamers

	% in Sample	% in US Population
Heterosexual	95.0%	94.5%
LGBTQIA+	5.0%	4.5%

Five percent of gamers in our sample report that they have a disability or a long-term health condition. This number is far lower than the percentage of people in the US who have a physical, cognitive, or communication disability.

TABLE 11 • Gamers with Disabilities

	% in Sample	% in US Population
Has a disability	5.0%	19.1%
Does not have a disability	95.0%	80.9%

# Analysis

In this section, we examine the quantity and quality of representations of traditionally marginalized groups in US society and how traditional masculinity shapes online gaming spaces. We begin this section with an analysis of Representation in Video Games, followed by analyses of streamer comments, chat comments, and our survey findings.

## Representation in Video Games

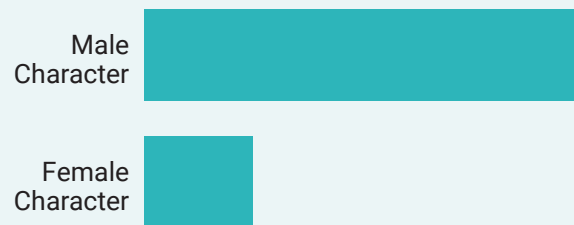
We examine representations of gender, race/ethnicity, LGBTQIA+, disability, age, and body size in popular video games played by the top-rated players on Twitch in this section. We also examine how masculinity shows up in video game play.

## Gender Representations

In the popular video games played by the top streamers, male characters outnumber female characters four-to-one (79.9% compared with 20.1%).

This is an improvement from the last decade-old US study with 85.2% of male characters, and similar to the latest (UK) study from 2017 that finds 78% of characters to be male.<sup>67</sup>

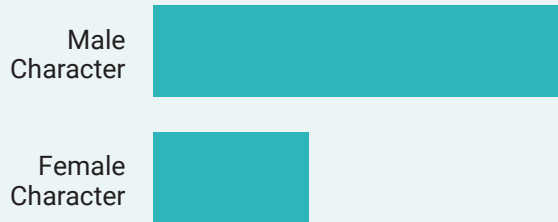
### CHARACTER GENDER



While the gender gap is still large for video game characters, looking at leading characters, women fare better at 27.6%. This is a promising finding; although a gender gap persists, it is smaller among characters chosen for game play by the most popular streamers

on the most popular online video game streaming platform. It is important to note that non-binary and transgender characters are not represented in the most popular video game play on Twitch.

### LEAD CHARACTER GENDER



Overall, *quantity* of representation is poor for gender in video games and so is *quality* of representation, as measured by sexualization and depictions of toxic masculinity.

### **Sexualization**

Sexual objectification refers to the process of treating someone like a sexual object, such as focusing on sexualized parts of someone's body. We measure visual objectification through angles that focus on specific body parts and verbal objectification from other players commenting on another player's appearance. In the most streamed games, female characters are 35 times more likely than male characters to be visually or verbally objectified (3.5% compared to 0.1%).

### SEXUALLY OBJECTIFIED



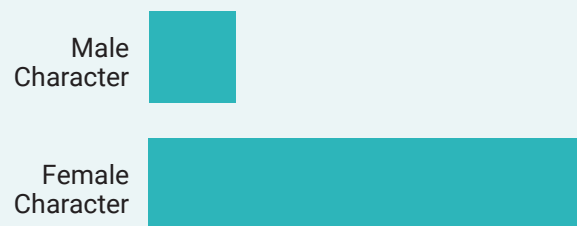
When it comes to other types of sexualization, female characters are ten times more likely to be shown in revealing clothing than male characters (24.6% compared with 2.3%).

### REVEALING CLOTHING



Female characters are nearly five times as likely to be shown with some level of nudity than male characters (12.4% compared with 2.5%).

### SHOWN WITH NUDITY



This sexualization gap has doubled since the last time this variable was examined in Representation in Video Games, meaning that female characters are far more likely to be sexualized today than a decade ago.<sup>68</sup> Again, this affirms that women are more likely to be featured in games than a decade ago but when they are featured, they are more likely to be hypersexualized.

## Sexualization, Intersectional Analysis

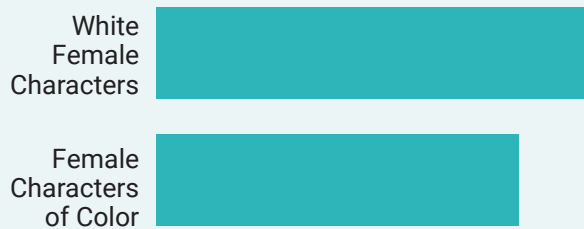
White female characters in the top streamed video games are sexualized at a higher rate than female characters of color. Nearly one-in-four (23.2%) white female characters are shown with revealing clothing, significantly higher than for female characters of color (15.4%).

### REVEALING CLOTHING



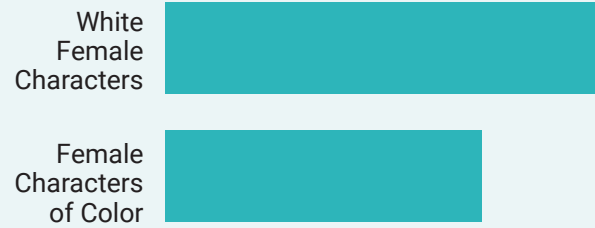
White female video game characters are more likely to be shown with nudity compared to female characters of color (14.6% compared with 12.3%).

### SHOWN WITH NUDITY



When it comes to body size, white female characters are significantly more likely to be shown as skinny compared with female characters of color (61.6% compared with 45.3%).

### SKINNY BODY TYPE



It is important to note that white female characters are mostly represented as characters whose value solely stems from possessing perfect, idealized bodies that are heavily sexualized. About one-in-four (24.6%) white female characters are stereotyped as a sex object, and 13.2% are depicted as the more extreme Fighting F\*ck Toy gender trope.

## Toxic Masculinity

We measured representations of **The 7 Pillars of Promundo's Man Box Scale**

- ▶ self-sufficiency
- ▶ acting tough
- ▶ physical attractiveness
- ▶ rigid masculine gender roles
- ▶ heterosexuality and homophobia
- ▶ hypersexuality
- ▶ aggression and control

Expert human coders gathered specific information about each character for each attribute. The 7 Pillars of Promundo's Man Box scale measures attitudes, and here, we employ them to measure behaviors.



Overall, four-in-five (81.9%) male characters display at least one of these aspects during game play. Of particular note:

- ▶ Seven-in-ten male characters (70.5%) are shown engaging in stereotypically masculine activities (i.e., taking a risk by jumping into an unknown void; engaging in violence by knifing an opponent).
- ▶ Two-thirds of male characters (65.7%) are shown acting tough.
- ▶ Nearly one-in-four (23.7%) male characters express anger.

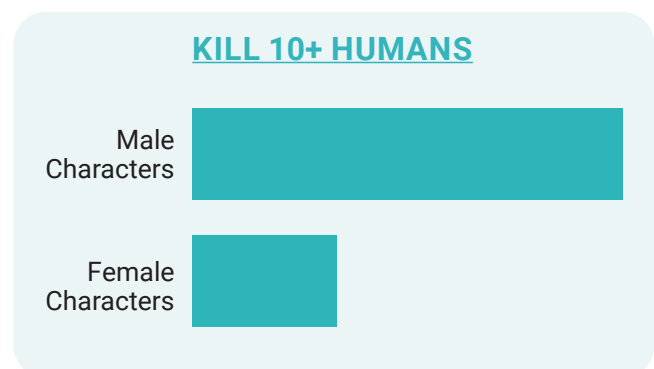
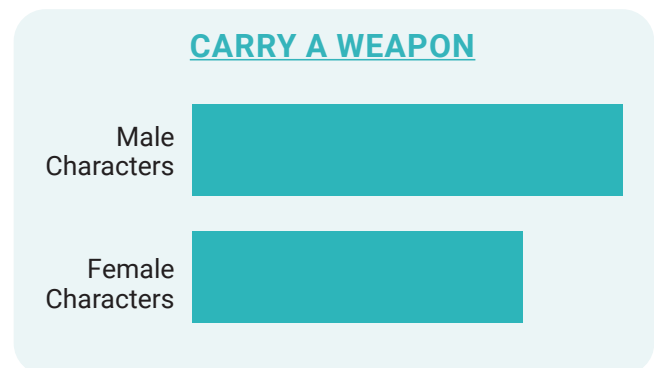
Characters in video games display the pillars of masculinity at significantly higher rates than characters in the most popular boys' TV shows,<sup>69</sup> meaning Representation in Video Games does more to reinforce the **7 Pillars of Promundo's Man Box Scale**.

Of special note is the amount of violence perpetrated in video games. Four-in-five video games in our study (79.4%) depicted characters perpetrating violence. An overwhelming majority of male characters in video games perpetrated some form of violence (63.6%), with most of that violence (84.8%) against other people. The leading motive for this violence from male characters was personal gain (84.3%), compared to the small proportion of male characters perpetrating violence for the more noble motivation of protecting a stranger or society (7.4%).

When it comes to weapons, almost half of male video game characters (48.9%) carry a gun during gameplay. One-in-three (33.3%) male video game characters were shown killing one or more humans, and one-in-eight (12.5%) male video game characters were shown killing more than ten. Overall, we see very little additional depth in male characters besides a stereotypically violent, aggressive, and angry caricature of a man who carries out violence for personal aggrandizement, gain or thrill.

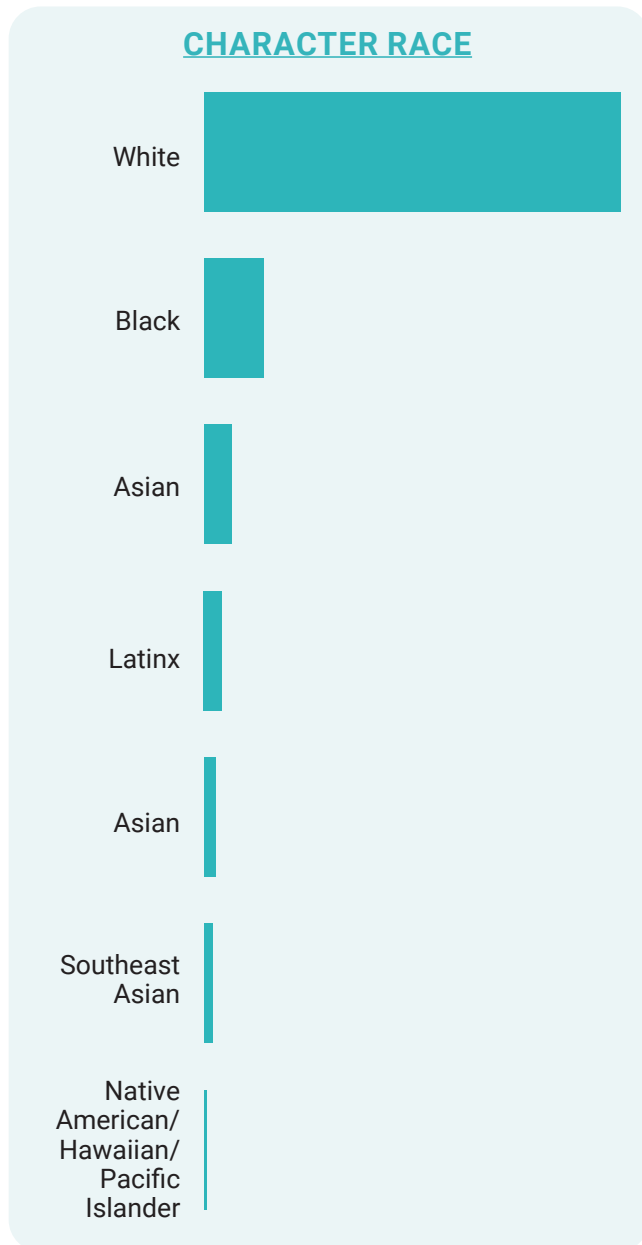
As previous studies have found, we see male video game characters as more violent and aggressive

compared to female characters. Male characters in video games exhibit each of the **7 Pillars of Promundo's Man Box Scale** significantly more than female video game characters. Comparing the two groups further, males perpetrate violence more than female characters (63.6% compared with 54.2%), carry a weapon more than female characters (61.1% compared with 46.9%), and kill 10+ humans—nearly triple the rate of female characters (12.5% compared with 4.2%).



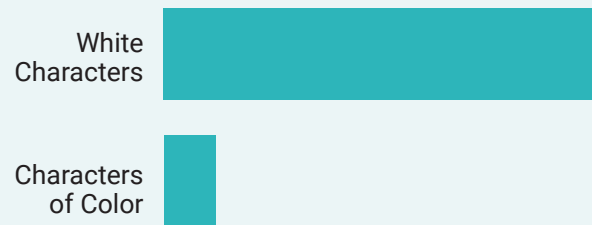
## Race/Ethnicity Representations

In the most popular streamed video games, white characters outnumber characters of color three-to-one. This representation is less diverse than the US population, which is 38% people of color, but a notable improvement from the 20.0% of characters of color in the last wide scale study in 2009.<sup>70</sup>



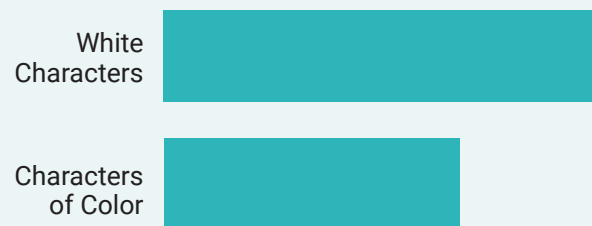
The race gap is even wider with leading characters. Of the leading characters with discernable races, nearly nine-in-ten (89.3%) characters are white. Given the small percentage of characters of color, we compare white characters to characters of color for the remainder of this section.

### LEADING CHARACTER RACE

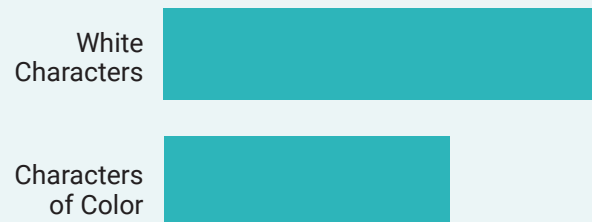


When it comes to the **7 Pillars of Promundo's Man Box Scale** we find that white characters are more likely to display at least one pillar of masculinity than characters of color (73.0% compared with 52.9%). Of particular note, white characters are significantly more likely to engage in risky behavior compared to characters of color (64.4% compared with 44.2%) and are shown acting tough a significantly greater proportion of the time (59.9% compared with 39.8%).

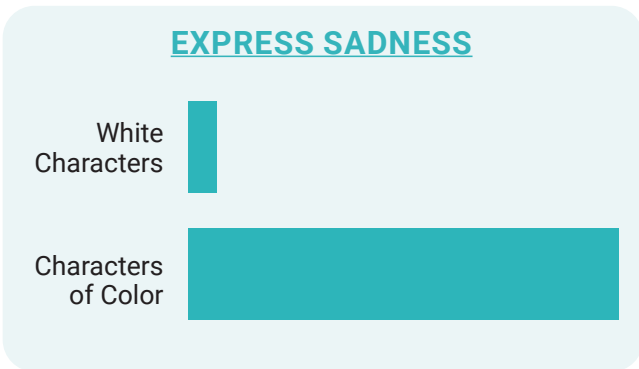
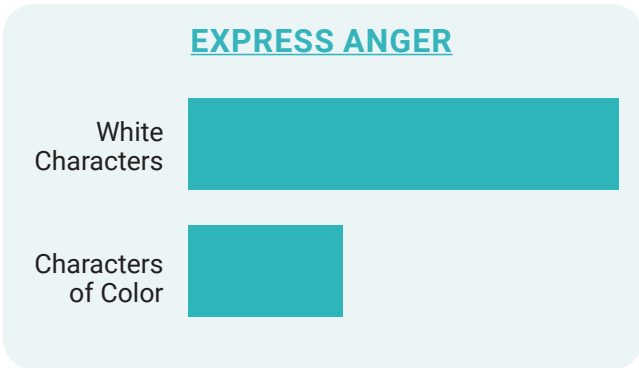
### ENGAGE IN RISKY BEHAVIOR



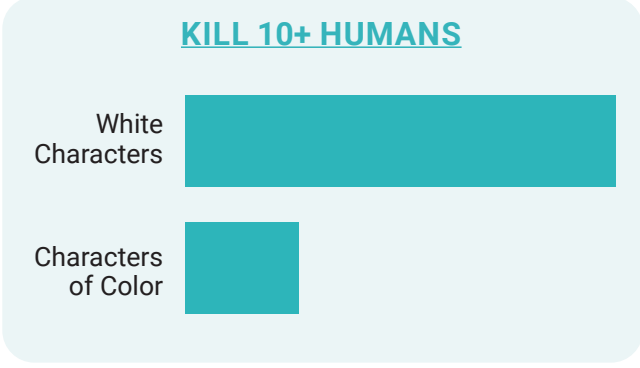
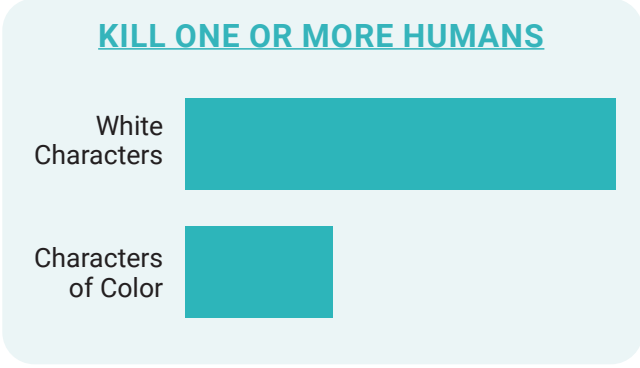
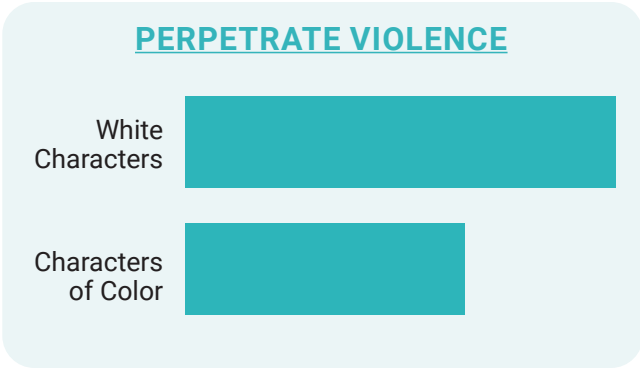
### ACT TOUGH



When it comes to displays of emotion, white characters express anger nearly three times more than characters of color (15.3% compared with 5.5%), with characters of color expressing sadness 15 times the rate for white characters (1.5% compared with 0.1%). This is a positive finding in that characters of color are more likely to express an emotion other than anger, a sign that their characters are humanized with emotional displays that go beyond the box of masculinity.



When it comes to violence, white characters tend to be significantly more likely to perpetrate violence than characters of color (51.7% compared with 33.6%). This cuts against the grain of stereotypes associated with Black and Latinx people as more violent than white people. It also reinforces the normality of white male violence. When it comes to the character kill rate, we find a similar race gap.<sup>71</sup> White video game characters are three times more likely to kill at least one human during game play (31.5% compared with 10.8%), and three times more likely to kill 10+ humans than characters of color (7.6% compared with 2.0%).



When characters do enact violence, characters of color are motivated by the protection of a stranger or society nearly twice that of white video game characters (14.4% compared with 7.3%). This means that characters of color are less likely to engage in violence than white characters, and when they do use violence, it is for more noble ends. The normalization of white male violence here is notable.

### VIOLENCE MOTIVATED BY PROTECTION OF STRANGER OR SOCIETY

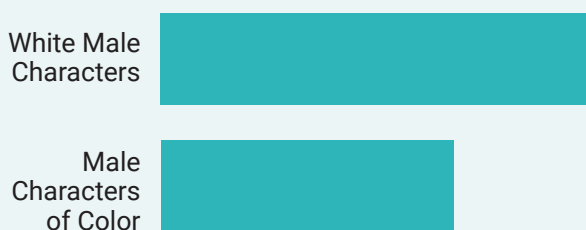


In addition to the quantity of representation being so poor for characters of color, when they are featured in a video game, they are often stereotyped. One-in-three Black characters (29.5%) are presented as a stereotype (the most common being “Violent” and “Criminal”), and 28.9% of Middle Eastern characters are presented as a stereotype (the most common being “Violent” and “Threatening”). One-in-five Latinx characters (20.7%) are presented as a stereotype (the most common being “Criminal”).

### **Masculinity, Intersectional Analysis**

When it comes to depictions of toxic masculinity, we find a race/ethnicity gap, with white men displaying more hyper-masculinity. White, male characters are more likely than male characters of color to exhibit at least one of the pillars of masculinity (79.3% compared with 54.0%).

### EXHIBIT AT LEAST ONE PILLAR OF MASCULINITY



Of particular note, white male characters are shown as significantly more likely to engage in risky behaviors (70.6% compared with 43.3%), to exhibit toughness (64.9% compared with 39.4%), and to engage in traditionally masculine activities (71.4% compared with 49.7%) than male characters of color.

We find a similar pattern with violence. White male characters are shown perpetrating violence at a significantly higher rate than male characters of color (55.4% compared with 30.9%). A significantly higher proportion of white male characters engage in violence that is motivated by personal gain (79.6% compared with 54.6%).

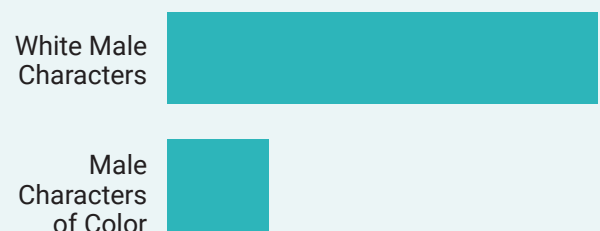
### PERPETRATE VIOLENCE



White male characters are twice as likely to carry a weapon as male characters of color (55.9% compared with 27.3%); in particular, a gun (45.6% compared with 24.9%). Compare this to the US population where white men are twice as likely as men of color to own a gun (38% compared with 18%).<sup>72</sup>

One-in-three white male characters (35.9%) kill at least one human compared to only 8.5% for male characters of color.

### KILL 1+ HUMAN





## LGBTQIA+ Representations

Overall, only four characters (0.03%) out of 11,657 characters were readily identified as LGBTQIA+, and only two leading characters are LGBTQIA+. It is no wonder, then, that 84% of LGBTQIA+ gamers think that their sexual orientation is not well represented in video games.<sup>73</sup>

Given the sizeable market for products, services, and experiences aimed at LGBTQIA+ consumers, it is surprising that the top video game producers would not be inclusive of this segment of the population. . Perhaps content creators are concerned that the hyper-masculine (read homophobic) culture surrounding video games would not be accommodating to more LGBTQIA+ characters, but new research on Generation Z (Americans born in 1997 and after) finds that a majority (52%) identify as something other than straight or heterosexual.<sup>74</sup>

*There are too few LGBTQIA+ characters to analyze the quality of their representation in the dataset.*

## Disability Representations

In the most popular streamed video games, only 0.1% of characters are shown with a physical disability. (No characters are depicted with a communication or cognitive disability.)

Of leading characters, only four characters (0.5%) were depicted with a disability.

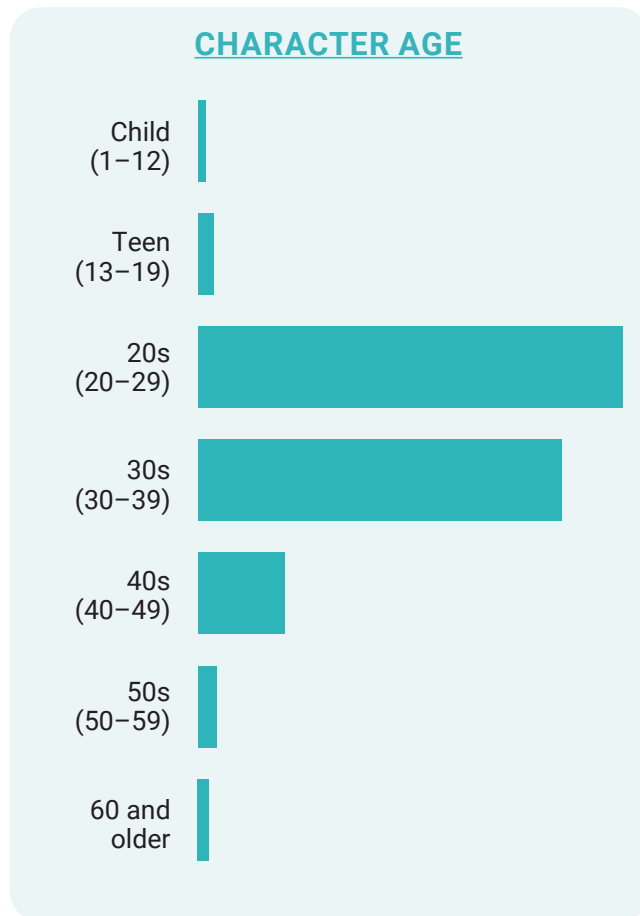
*There are too few characters with physical, communication, or cognitive disabilities to analyze the quality of their representation.*

## Age Representations

We focus on characters ages 50+ in order to capture ageism in character representations in video games.

As shown in Table X, characters ages 50+ are mostly erased in popular video games (3.2%). This erasure of

older adults is more extreme than the ageism found in popular family films (7.6%)<sup>75</sup> and family television (9.5%).<sup>76</sup> The vast majority of characters (84.9%) are in their 20s and 30s, which means that younger people are well-represented in video game play.



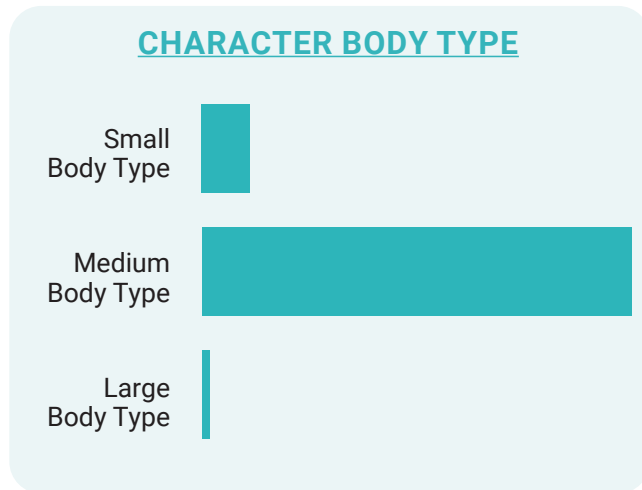
Of lead characters, even fewer (0.8%) were ages 50+.

*There are too few characters ages 50+ to further analyze the quality of representation with a focus on older adults.*

## Body Size Representations

For body size, we focus on characters with large body types to capture sizeist character representations.

In the most popular streamed video games, 1.5% of characters have a large body type. Of the characters with a large body size, nine-in-ten are male, reinforcing the rarity of female characters with large body types in different types of media.



A small amount (5.4%) of leading characters have a large body type.

*There are too few characters with a large body type to further analyze the quality of their representation in video games.*

# Streamer Comment Findings

In this section, we present the findings of our analysis of 106,710 streamer comments from a representative sample of 302 gameplay segments of the most popular streamers. We examine representations of gender, race/ethnicity, LGBTQIA+, disability, age, and body size. We also analyze representations of masculinity in the language use of the most popular streamers.

## Gender Representations

Eight streamers had the most-viewed content each week for the month we analyzed. One hundred percent of these streamers are men.

Sexist language was used in 37.7% of segments, with the most common gender slur being “bitch” (28.9%). Nearly one-in-four (24.4%) segments were annotated as sexually degrading, with 7.9% of segments using a variant of “suck my dick” in a sexually degrading manner.

## Race/Ethnicity Representations

Of the eight streamers with most-viewed content analyzed, only one streamer is a person of color (a bi-racial Black man).

Racist language was used in 5.6% of segments, with 2.2% of segments featuring gamers speaking in stereotypically foreign accents for comedic effect. A surprising 0.7% of segments had the n-word spoken one or more times.

## LGBTQIA+ Representations

Of the eight streamers analyzed, one publicly identifies as LGBTQIA+.

Homophobic or transphobic language was used in 10.1% of segments analyzed. The most common slur was a streamer using a variant of “suck my dick” in a homophobic way (4.7%).

## Disability Representations

None of the eight most popular streamers has a visible physical, communication, or cognitive disability.

Of all slurs used during streaming segments, ableist language was the most common. Nearly half of streamer segments (48.8%) included some form of ableist language, with the most common slur used being “crazy” (18.3%).

## Age Representations

The oldest of eight streamers analyzed is 33 years old, so none of the most popular streamers are adults ages 50+.

In terms of streamer comments, 3.6% of stream segments used ageist language, with almost every occurrence (3.5%) insulting a player by playing or acting like they were “older” (50+).

## Body Size Representations

One of the eight popular streamers analyzed has a large body type, for which he faces a steady stream of prejudice from other streamers and viewers in the chat.

Sizeist language was used in 6.9% of streams, with 3.8% of stream segments using the word “fat” as an insult to a streamer or another player. For the one streamer with a large body type, half (50.0%) of his segments included sizeist language used against him via the chat or another player.

## Representations of Masculinity

Of the gamer speak in each gameplay segment we analyzed, a whopping 96.5% of segments included language promoting at least one of the **7 Pillars of Promundo’s Man Box Scale**. Of particular note:

- ▶ 42.3% of gamer speak included aggressive or controlling language.
- ▶ 39.0% of segments featured streamers acting tough.
- ▶ In one-in-three segments (33.9%), streamers promoted violence (e.g., “kill him now”).
- ▶ One-in-ten (9.4%) segments featured gamers mentioning or promoting homophobia in order to prove their “manhood.”

We examined displays of emotions from streamers during gameplay:

- ▶ Gamers commonly expressed emotions of happiness (45.8%) and anger (25.1%) during gameplay segments.
- ▶ Streamers displayed the emotions of shame (9.9%) and sadness (6.4%) at lower rates.

One-in-five segments (19.7%) featured gamers expressing friendship with another player.

In summary, the most popular streamers on Twitch are mostly young, white, heterosexual men who commonly use sexist and ableist language during game play. The one popular streamer with a large body type experiences a steady stream of sizeism from viewers and other streamers when he plays. Virtually every gameplay segment reinforces the pillars of masculinity, with aggressive language and “acting tough” being the most common aspects. On a positive note, popular streamers express friendship with other players in a sizeable number of gameplay segments.

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## Chat Comment Findings

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This section presents the findings of our analysis of 55,921 comments posted in the chat feature of Twitch during the 302 segments of gameplay in the study.

Two-in-five gameplay segments (59.9%) include comments that promote one or more of **the 7 Pillars of Promundo’s Man Box Scale**, and 97.7% of segments include violent language. For every 100 messages sent, roughly 5 (4.7%) included violent language. This means that, on average, Twitch chat

participants post a violent message in the chat every 61.7 seconds.

Many of the chat segments also include biased or offensive language:

- ▶ 62.6% include sexist language
- ▶ 91.7% include a message with curse words and/or sexual language
- ▶ 37.7% include racist language
- ▶ 84.4% include ableist language

Twitch users watch an average of 95 minutes of Twitch per day,<sup>77</sup> which means that during a typical session, a viewer will hear something sexual, sexist, ableist, and racist.

In addition to separate gamer speak and chat segment analysis, we looked at an interaction between the two, noting the rates of different chat traits appearing as a function of gamer speak. When a streamer uses sexually objectifying language, the amount of sexually objectifying language in the chat doubles. We find similar increases in chat messages using a respective slur when the gamer uses sexist, racist, ableist, ageist, and sizeist language. This confirms that the most popular streamers in online platforms set the tone for the language used by participants in the chat.



# Survey Findings

The purpose of this section is to examine the experiences that boys, male teens, and young men have in gaming spaces in greater detail. Our survey includes a total of 1,050 male video game players in three age groups: 10–15 years old (n=350), 16–20 years old (n=350), and 20–26 years old (n=350). We report findings for these groups in terms of motivations for playing video games, how games facilitate human connections, emotions experienced during game play, and some negative aspects of the online gaming space.

## Motivations for Playing Video Games

We asked boys and young men what they like most about playing video games. The top reason for eight-in-ten respondents is because video games are fun! About two-thirds say they like the “challenge” and “excitement” of playing. Young gamers are more likely to say they like the challenge than older teens or young men.

TABLE 12 • Top 3 Things Respondents Like About Playing Video Games

	Ages 10-15	Ages 16-19	Ages 20-26
It's fun	82%	81%	79%
I like the challenge	69%	59%	59%
It's exciting	68%	65%	63%

## Gaming for Human Connection

Over half of the young gamers in our sample (53%) say that they like playing because it allows them to play with their guy friends, and one-in-three older gamers report the same. This confirms previous studies that find that gaming spaces are important places for boys and men to connect with male friends. About half as many respondents say they like playing video games to connect with girl/female friends, as shown in Table X.

Many gamers also say they play video games to connect with family. Young gamers (ages 10–15) are more likely to say they like video games because it is a way to connect with family than older gamers. Additionally, about one-in-three older respondents say they like feeling like part of a community when they play video games. These statistics show how important video games are for boys and young men to connect with different people in their lives.

**TABLE 13 • Like Playing Video Games to Connect with Others**

	<b>Ages 10-15</b>	<b>Ages 16-19</b>	<b>Ages 20-26</b>
I get to play with my guy/male friends	53%	38%	34%
I get to play with my girl/female friends	15%	20%	15%
I get to play with my family	29%	18%	21%
I get to meet new people while playing	29%	30%	28%

We asked younger respondents (ages 10–15) about their agreement with different aspects of community and friendship pertaining to video games.

- ▶ Three-in-four (76%) say that playing video games is their favorite thing to do with their friends.
- ▶ One-in-three boys say that they feel closer to their friends when they play video games (31%) and that playing makes them feel less lonely (35%).
- ▶ One-in-four boys (26%) think that video games teach them how to be good friends. These responses indicate that video games play an important part in positive male friendships for young boys in ways that make boys feel less lonely and part of a community.

**TABLE 14 • Percentage of Boys Who Agree with Friendship Statements**

	<b>Ages 10-15</b>
Playing video games is one of my favorite things to do with my friends	76%
I feel closer to my friends when playing video games than when doing any other activity with them	31%
Video games help me feel less lonely	35%
Playing video games with others teaches me how to be a good friend	26%

We asked older gamers (ages 16–26) the extent to which they agree with statements about their experiences in the gaming community. Table X shows the percentage who “strongly agree” or “agree” with each statement.

- ▶ A vast majority of gamers ages 16–26 report that video games help them connect with guy friends in supportive ways that make them feel comfortable enough to let their guard down and get close with other men. Most respondents say they share their problems, worries, and concerns with other men in gaming spaces.
- ▶ It is no surprise, then, that two-thirds of older respondents say they feel more like their “true self” in gaming spaces than in “real life,” and that they feel like they fit in more in virtual gaming communities.
- ▶ Online gaming spaces enable a majority of gamers to meet people they otherwise would not meet, and to feel like they are part of a community.
- ▶ Three-in-four gamers say that people who do not play video games do not understand how meaningful these experiences can be.

TABLE 15 • **Percentage Who Agree with Community & Masculinity Statements**

	Ages 16-19	Ages 20-26
Playing video games is a way for me to connect with my guy friends	91%	86%
Although playing video games is competitive, we help each other learn the game and cheer each other on	89%	89%
I can let my guard down with other boys/men when I am playing video games	77%	72%
I feel closer to my friends when playing video games than when doing any other activity together	69%	66%
Video games allow me to interact with people I would never meet face to face outside of video games	79%	82%
I feel like I'm part of a community when I play video games	80%	76%
When I play video games with guys, we sometimes talk about our problems, worries, concerns, etc.	63%	59%
I feel that I can better express my "true self" playing videos games than offline	64%	65%
I feel like I fit in more in the video game world than in the offline/real world	77%	72%
People who don't play videos just don't get how meaningful video games can be for someone	75%	77%

### Emotions During Gaming

Older respondents (ages 16–26) were asked about how they feel playing video games. Their top three emotions were happiness, excitement, and relaxation.

TABLE 16 • **Top 3 Emotions While Playing Video Games**

	Ages 16-19	Ages 20-26
Happy	71%	67%
Excited	69%	60%
Relaxed	61%	65%

One-in-three older respondents (ages 15–26) say playing video games makes them feel powerful (34%), strong (32%), and in charge (30%).

Some older respondents (ages 15–26) report negative emotions playing video games: frustrated (17%), different from others (10%), angry (10%), embarrassed (4%), and bullied (1%). This means that the vast majority of older respondents in our survey report positive emotions from video game play.

### Negative Gaming Experiences

We asked younger respondents (ages 10–15) whether they had witnessed bad language, name calling, ganging up, or bullying while playing video games.

- ▶ A majority report having witnessed cursing (54%) and name calling/making fun of people (51%).
- ▶ One-in-three younger respondents (37%) have seen other players ganging up on one player.
- ▶ One-in-four (24%) have witnessed other types of bullying in the gaming community.

**TABLE 17 • Witnessed & Experienced Negative Behavior in Video Gaming**

Negative Behavior	Ages 10-15 Witnessed Behavior	Ages 10-15 Experienced Behavior
Bad language/ cursing	54%	39%
Name calling/ Making fun of people	51%	38%
Getting other players to gang up on one player	37%	25%
Bullying	24%	15%

A sizeable number of young gamers have also directly experienced negative behavior in gaming spaces.

- ▶ Two-in-five (39%) say they have been the target of bad language/cursing and name calling.
- ▶ One-in-four younger respondents (25%) say other players have ganged up on them.
- ▶ Fifteen percent of young gamers say they have been the target of some other form of bullying.

We asked older respondents (ages 16–26) a series of more specific questions about bullying and bias they have witnessed and experienced in online gaming spaces. Table X reports the percentage of respondents who say they “always” or “often” witnessed these specific forms of bias in online gaming.

- ▶ About half of older respondents (ages 16–26) say they routinely witness homophobia and racism in online gaming spaces.
- ▶ At least 40% of respondents in both age groups say they regularly witness sexism, ableism, ageism, and sizeism in online gaming spaces.

**TABLE 18 • Witnessed Prejudice in Video Gaming**

Type of Prejudice	Ages 16-19	Ages 20-26
Someone’s sexual orientation / Homophobic language or name calling	50%	54%
Someone’s race / Racist language or name calling	47%	54%
Someone’s gender / Sexist language or name calling	41%	50%
Someone’s physical or mental disabilities / Ableist language or name calling	41%	48%
Someone’s age / Ageist language or name calling	44%	42%
Making fun of someone’s size or body type / Sizeist language or name calling	41%	45%

When it comes to direct experiences of prejudice, many gamers ages 16–26 report these experiences in the online gaming community.

- ▶ Young adult gamers (ages 20–26) are more likely to report experiencing every type of prejudice on a regular basis in online gaming spaces than respondents ages 16–19.
- ▶ One-in-four gamers ages 20–26 say they experience racism (27%), homophobia (26%), and ableism (25%) on a regular basis. One-in-five say they experience sizeism (23%), ageism (20%), and sexism (19%) on a regular basis.
- ▶ About one-in-five teen respondents (ages 16–19) say they regularly experience homophobia (18%) and racism (17%) in online gaming. Fewer experience ableism (15%), ageism (14%), sizeism (14%), and sexism (12%) on a regular basis.

**TABLE 19 • Experienced Prejudice in Video Gaming**

Type of Prejudice	Ages 16–19	Ages 20–26
My sexual orientation / Homophobic language or name calling	18%	26%
My race / Racist language or name calling	17%	27%
My gender / Sexist language or name calling	12%	19%
My physical or mental disabilities / Ableist language or name calling	15%	25%
My age / Ageist language or name calling	14%	20%
Making fun of my size or body type / Sizeist language or name calling	14%	23%

This survey data tells two very important stories. First, online gaming spaces are an important place for boys, male teens, and young men to connect with others; to let their guard down, share emotions and problems with friends, and be their authentic selves. Combined with the analysis of the chats earlier, these survey results confirm that gaming spaces operate like male peer or friendship groups in other spaces—sports, neighborhood groups, school—in that boys feel connected, feel less lonely, strive to fit in, and often perform “bad boy” versions of themselves to be accepted by their peer group. Indeed, these spaces are rife with identity-based harassment and bullying that reinforce elements of toxic masculinity even as they offer meaning and social connection to boys and young men.





# Conclusion

We analyzed representations of six identities (gender, race, LGBTQIA+, disability, age, and body size), as well as representations of masculinity, in video games, streamer comments, and chat comments. We also surveyed male gamers ages 10–26 about their experiences in online gaming spaces. This multi-part study provides a benchmark for representations in video games and a deep look into what boys and men experience in online gaming spaces.

## Gender Representations

In video games, male characters outnumber female characters four-to-one, and female characters are significantly more likely to be objectified, shown in revealing clothing, and depicted in some state of nudity. Compared with a decade ago, more female characters are showing up in video games, but they are more likely to be sexualized today.

All the top streamers are men, and they use sexist language in one-third and sexually degrading language in one-fourth of their gameplay sessions. In the chat, nine-in-ten gameplay segments include curse words and/or sexual language. When a streamer uses sexist language, the amount of sexist language in the chat increases.

## Race/Ethnicity Representations

In video games, white characters outnumber characters of color three-to-one, which is less diverse than the US population, but a notable improvement compared to over a decade ago. White characters tend to be significantly more likely to perpetrate violence than characters of color, but characters of color often show up as stereotypes. Streamers use racist language in 5.6% of gameplay segments, with 2.2% using mocking foreign accents and 0.7% using the n-word. One-in-three chat segments include racist language.

## LGBTQIA+ Representations

In video games, only 0.03% characters are depicted as LGBTQIA+, far below the 4.5% of the US population who identify as LGBTQIA+. Of the top streamers, one identifies as a gay man. Streamers use homophobic language in one-in-ten gameplay segments.

## Disability Representations

In video games, only 0.1% of characters are shown with a physical disability; far below the 19% of the US population with a physical, cognitive, or communication disability.

None of the top streamers have a visible physical, communication, or cognitive disability. The top streamers use ableist language in nearly half of gameplay segments, and 84.4% of segments include ableist language in the chat.

### Age Representations

In video games, only 3.2% of characters are ages 50+, and none of the most popular streamers are older adults. Streamers used ageist language in 3.6% of gameplay segments.

### Body Size Representations

In video games, only 1.5% of characters have a large body type. One of the top streamers has a large body type, and he is the target of sizeist comments from other streamers and viewers 50.0% of the time he plays. Overall, streamers use sizeist language in 6.9% of gameplay segments. When streamers use sizeist language, viewers in the chat are five times more likely to use this language.

### Representations of Masculinity

In video games, four-in-five male characters display at least one aspect of the **7 Pillars of Promundo's Man Box Scale**. The most common pillars are stereotypically masculine activities (70.5%), acting tough (65.7%), and expressing anger (23.7%). Video games contain more "Man Box" content than popular boys' TV shows. Most male characters in video games perpetrated some form of violence, and about half of male video game characters carry a gun during gameplay. One-in-three male video game characters were shown killing one or more humans during gameplay.

White male characters are significantly more likely to engage in risky behaviors, exhibit toughness, and engage in traditionally masculine activities than male characters of color in video games. White male characters also perpetrate violence at a significantly higher rate than male characters of color and are twice as likely to carry a weapon and four times more likely to kill at least one human.

Popular streamers reinforce the **7 Pillars of Promundo's Man Box Scale** in 96.5% of gameplay. The most common pillars used are aggressive or controlling language (42.3%), acting tough (39.0%), promoting violence (33.9%), and using homophobia to prove "manhood" (9.4%).

For chat comments, two-in-five gameplay segments reflect the "Man Box," and nearly all (97.7%) use violent language.

### Positive and Negative Gaming Experiences

Male gamers ages 10-26 report positive, affirming experiences in online gaming. Young gamers (ages 10–15) say video game play makes them feel less lonely, closer to their friends, and teaches them how to be good friends. A vast majority of older gamers (ages 16–26) report that video games help them connect with guy friends in supportive ways that make them feel comfortable enough to let their guard down and get close with other men. They share their problems, worries, and concerns with other men in online gaming spaces, and they feel like their "true self."

Most gamers agree that people who do not play video games do not understand how meaningful these experiences can be. What this suggests is that efforts to promote healthy, non-violent manhood and to reduce racist, sexist, and ableist language and actions need to be led or at least supported by those who are known to be gamers.

Gamers of all ages also report bullying and abuse in online gaming. Most young gamers (ages 10–15) have witnessed people cursing, name calling, and ganging up on players. A sizeable number have experienced this negative behavior directed at them. Many older gamers (ages 16–26) routinely witness homophobia, racism, sexism, ableism, ageism, and sizeism in online gaming spaces. Many have experienced these biases themselves in online gaming.



# Discussion

Online gaming spaces provide incredibly important opportunities for boys and young men to connect to others in ways that are taboo in other spaces. They can share their problems and concerns with other boys and men in ways that they are not socially allowed to in “real life.” However, online gaming spaces are rife with language and behaviors that reinforce toxic masculinity and prejudice. *This is the double-edged sword of online gaming spaces.*

What are boys and young men being exposed to that is toxic in online gaming spacing, and why does this matter? They are mostly seeing white, male players enacting hyper-violent masculinity through violence and gun use. The ubiquity of white male violence in video games must be called out in light of mass shootings, white extremist violence and white male police violence against people of color. Video games in many ways mirror the worst of US violence and as such we must ask how they normalize it, and how they may contribute to re-traumatizing those exposed to such violence directly and indirectly.

Boys and young men are also exposed to a steady stream of gender, race, homophobic, and other slurs aimed at other players and marginalized people in general. When they hear this language from their

favorite streamer, they are more likely to use this language themselves in the interactive chat. Twitch viewers learn that racism, homophobia, sizeism, ableism, and ageism are normal, acceptable ways to prove one’s “manhood.” Viewers also learn that women matter less in online worlds given their limited presence. They also learn that women exist for their pleasure as female players often appear as sex objects. Their favorite streamers teach them that sexism and sexually degrading language is acceptable. This is notable considering that one-in-three girls and women in online gaming experience gendered disrespect, harassment, and bullying in online gaming spaces.<sup>78</sup> In other words, popular streamers have considerable power in lessening sexism and other -isms in online spaces by setting a better tone.

- ▶ Gaming seems to operate much like heterosexual male peer groups in that cursing and sexist and racist comments are a way that boys play at being “bad boys,” to rebel against social norms without being ostracized or disciplined by adults—and to be accepted by the peer group. It is likely that some boys and young men signal that they know the difference between playing with sexism and

racism, and truly harmful and lived sexism and racism. The challenge as educators and content creators is how to call out the harm in casual racist and sexist banter while understanding this is a “performance” that boys often do in front of other boys.

Online gaming spaces are also vital spaces for boys and young men’s mental health and well-being, especially during the COVID-19 pandemic where options for in-person socializing are limited. Video game play makes them feel close to other boys and men and makes them feel less lonely. It is remarkable that two-thirds of gamers say they feel more like their “true self” in online gaming spaces than in real life. Gaming has become a ubiquitous form of “escape” and entertainment for most boys and men in the US. Its reach into the lives of American boys and men make it uniquely suited as a space to create and promote healthy masculinity.

Boys and men cite gaming spaces as important places for connecting to others and sharing their feelings, but participation in these spaces comes at a personal cost for some who experience prejudiced behavior from other players. Online gaming spaces are more hostile for players of marginalized identities who face higher rates of racism, sexism, homophobia, and other forms of prejudice. Given the importance of online gaming communities as a space where boys/men connect with one another, there is an urgency to make these spaces more inclusive and safer for all players.

- ▶ Efforts to police the gaming space and to reduce boys’ and young men’s gaming should be done in a way that acknowledges what boys and young men get from gaming. What is it that other spaces—family, school, sports, other peer spaces—do not offer that gaming does? Particularly during the COVID-19 pandemic, wherein in school and other spaces have been highly restricted, gaming has arguably become even more important as one of the few social spaces where boys and young men say they can connect and be themselves.



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# Interventions

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## Actions for Parents

- ▶ Recognize the importance of gaming spaces for connection, community, and friendship in the lives of boys and young men.
- ▶ Discuss bullying and harassment in online gaming spaces with your children to help them identify and intervene in this behavior. Ask them what they think about such occurrences, if it has happened to them, and what they think they can do to be part of the solution.
- ▶ Be an active participant in your younger children's gameplay. Watch them play. Play with them. Point out prejudiced language and biases in representation that are shaping their hearts and minds.
- ▶ Speak with your son(s) about toxic masculinity and the pressure to fit in the "Man Box." Speak with them about how these pressures surface in online gaming spaces and develop tools to navigate this environment with them. Ask them about moments when they have resisted such pressures, and tell them about your own, helping them see themselves as empowered to push back against harmful aspects of some gaming spaces.

## Actions for Video Game Developers and Distributors

**Another critical consideration is the gender and race representation within videogames within the context of who is creating these games. We should ensure that these stories are being told by game developers who themselves embody this kind of diversity.**

**The International Game Developer's Association's 2019 Developer Satisfaction Survey[1] states that in 2019, just 24% of game developers identified as female, and 3% non-binary. In addition, just 2% of game developers worldwide identified as Black.**

**If our goal is to better represent the countless stories about underrepresented identities, we need to create a better pipeline into the games industry for women, non-binary folks, and queer folks — especially people of color. After all, if they can see it, they can be it.**

**Most importantly though, as an industry, we need to support those underrepresented developers all the way through their careers so that they may rise to becoming the decision makers, reaching the level of creative directors, game leads, and studio heads. We need to empower - and crucially, financially support - those creators who are ready and eager to tell their stories.**

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*CEO, Glow Up Games*  
*Assistant Arts Professor, NYU Game Center*  
*AAAS IF/THEN Ambassador*



- ▶ Increase the number of playable female characters in video games.
- ▶ Increase the number of playable characters of color in video games.
- ▶ Increase the number of playable LGBTQIA+ characters in video games.
- ▶ Increase the number of playable characters with observable disabilities in video games.
- ▶ Increase the number of playable characters ages 50+ in video games.
- ▶ Increase the number of playable characters with large body types in video games.
- ▶ Increase the number of playable characters who possess a wide range of emotions.
- ▶ Avoid gender, race/ethnic, LGBTQIA+, disability, age, and body size stereotypes when creating character options for personality, appearance, etc.
- ▶ Avoid the objectification of characters, including having them wear revealing clothing.
- ▶ Avoid gratuitous violence.

### **Actions for Streamers**

- ▶ Be aware that any prejudiced language on your part inspires prejudice language from boys and men who are watching you play.
- ▶ Set the example for players. Intervene when you see or hear prejudiced language from other players and in the chat. Your voice carries considerable weight in shaping the culture of gameplay. Use it to create a positive culture of gameplay.
- ▶ Set an example in the industry. Become a spokesperson for healthy masculinity in gaming. Speak out about the pressures and harms of the “Man Box” and encourage other popular streamers to do the same.

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