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Full length article

When virtual spaces meet the limitations of traditional sport: Gender stereotyping in NBA2K

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ABSTRACT

Video games have continued to increase in popularity. While the growth has been substantial, representation and acceptance of women throughout gaming environments, including those with traditional sport influences such as NBA2K, a basketball simulation game, have been lacking. Recently however, the NBA2K franchise added Women's National Basketball Association (WNBA) player avatars to the NBA2K20 game. While this recent inclusion of WNBA avatars may be a great step in improving upon the concerning state of inclusion and representation of women throughout gaming, the reactions to and receptions of this change have not been fully explored. As a result, the current investigation, led by the tenets of hegemonic masculinity and bottom-up framing, sought to examine the perceptions of NBA2K fans, enthusiasts, and participants in regards to this change made by the NBA2K franchise in an effort to more fully understand the culture of gaming in relation to the treatment of women/girls. This objective was accomplished via an analysis of comments made through the social media application Instagram on the NBA2K20 WNBA inclusion announcement post. The Instagram comments were coded and analyzed through the use of the qualitative software Leximancer, which conducts thematic and semantic analysis on written words as well as visual text. Results revealed perceptions of the WNBA avatars embroiled with displays of hegemonic masculinity, demonstrating that the negative sentiments and framing women face within traditional sport settings are weaved within the virtual sport game simulations as well.

1. Introduction

Over the previous decade, the growth and subsequent increased popularity of video games have been undeniable (Holden, Edelman, & Baker, 2020; Interpret, 2019). Estimates are that roughly 2.4 billion individuals across the globe participate in gaming as roughly 57% of women between the ages of 18–29 and 77% of men in the same age group self-identify that they play video games (Hilbert, 2019). This growth has included increased popularity in traditional sport video game titles, such as NBA2K, a series of basketball simulation video games released annually since 1999. By November of 2020, the NBA2K20 release had made over \$1 billion in combined sales worldwide (Strickland, 2020). While the increasing sales and popularity of NBA2K video games have often been celebrated, one glaring concern with the merging of gaming and traditional sport has been the overall lack of women represented as either competitors or as avatar athletes within the

game titles themselves (Bailey, Miyata, & Yoshida, 2021). Sport simulation video games such as NBA2K represent incredibly precarious cultures for women and girls given that overt, covert, and subtle forms of sexism are highly prevalent in each segment (i.e., the sport industry and the gaming industry) (Darvin & Sagas, 2017; Robnett & John, 2020). Women and girl participants, fans, employees, and leaders face increased obstacles and barriers to entry and sustainment within traditional sport spaces just as they do within video game settings, resulting in lower representations of women/girls throughout the sport media as well as within video game titles themselves (Darvin & Demara, 2020; Darvin & Sagas, 2017; Holden, Edelman, & Baker, 2020; McArthur, 2020). This lack of equitable representation generates a critical environment to examine the overall culture of gaming further, as the NBA2K20 franchise recently added Women's National Basketball Association (WNBA) team and player avatars to the game in an effort to further expand their market (Wilde, 2020). While this investment and

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expansion by NBA2K to include WNBA avatars may be a great first step in adjusting the level of inclusion and representation of women throughout gaming, the reactions towards this update have not been fully explored. As a result, the current investigation sought to examine the perceptions of NBA2K fans, enthusiasts, and participants in regards to the effort made by the NBA2K franchise to diversify the game title via an analysis of comments made through the social media application, Instagram.

Unfortunately, despite the opportunities video game participation may afford in terms of generating equitable and bias free competition, gaming environments have continued to form themselves along gender lines (Ivory, Fox, Waddell, & Ivory, 2014; Kaye & Pennington, 2016; McCullough, Wong, & Stevenson, 2020). Previous research has revealed that gaming maintains processes that contribute to its existence as a highly masculine institution (Darvin, Vooris, & Mahoney, 2020; Holden, Baker, & Edelman, 2020; Ruvalcaba, Shulze, Kim, Berzenski, & Otten, 2018). Women characters are also scarce throughout video game titles and when they do exist, they are often depicted as victims of aggressive behavior or sexualized background decorations (Braithwaite, 2016; Ruberg, 2020; Williams, Martins, Consalvo, & Ivory, 2009). Moreover, similar to traditional sport organizations, women remain highly underrepresented across leadership roles throughout game development (Bailey et al., 2021). As a result, women and girls continue to face the traditional-sport stereotyping, biases, and obstacles within these virtual environments (Kaye & Pennington, 2016). Further, given that gaming has been classified as an intersection of sport and technology, the same stereotypes, biases, and obstacles faced by women and girls in technological environments increase the potential for damaging outcomes and associations in video game settings (Holden, Baker, & Edelman, 2020; McCullough et al., 2020; Yücel & Rızvanoğlu, 2019). While these outcomes continue to plague the experiences of women and girls throughout gaming, these experiences may be compounded within gameplay that features traditional-sport simulations (i.e. NBA2k, FIFA). As a result, a better understanding of the intersection of traditional-sport competition within a virtual, gaming setting as well as the subsequent outcomes for women and girls within these combined environments is needed. To fill this gap in the previous literature, the current study sought to examine the reception of women athletes in virtual spaces through an investigation of comments made on the NBA2K WNBA announcement post.

In 2019, NBA2K announced that all 12 WNBA teams would make their debut in NBA2K20. The WNBA athletes would be available in Play Now and Season modes, which would allow fans “to take control of their favorite WNBA players for the first time and experience gameplay animations, play styles and visuals built exclusively around the women’s game” (NBA2K, 2020). As part of the marketing for the new release, on August 9, 2019, NBA2K posted two WNBA player avatars with their overall rating (OVR) – Breanna Stewart (95) and Candace Parker (93) on their Instagram account. Instagram users responded, with the post garnering over 298,000 likes and 15,200 plus comments, numbers that were much higher than other Instagram posts featuring NBA players and OVR scores (e.g. a post with Zion Williamson, the first draft pick of the 2019 NBA draft garnered similar number of likes (347K) but only 6536 comments). Given that this was the first year that NBA2K integrated WNBA players and the announcement received noticeably increased reaction from social media users, it was a suitable environment to examine the reaction towards women athlete avatars placed at the intersection of traditional-sport competition and sport game simulations. Therefore, the purpose of this study was to investigate the discussion that Instagram users created around the NBA2K announcement post. In order to accomplish this task, the current study was led by the following overarching research question: RQ: How did Instagram users react to the announcement of WNBA players’ inclusion in NBA2K20?

1.1. Literature review

1.1.1. Gender stereotypes at the intersection of sport and gaming

Stereotypical attitudes towards women in video game settings are often similar to the obstacles faced by women in traditional sport environments (Darvin et al., 2020; Kaye & Pennington, 2016). These stereotyped opinions typically transcend the perceptions of women and girl video game competitors and seep into the gameplay designs themselves (Ivory et al., 2014; McArthur, 2020; Williams et al., 2009). Additionally, given that video games have largely been classified as a merger of sport and technology, the stereotypes, biases, and obstacles faced by women and girls in technological environments further complicate the space for this same population (Yücel & Rı). According to Yücel and Rızvanoğlu (2019), a digital divide exists between men/boys and women/girls, as women/girls are unable to access and take advantage of technology as often and/or consistently as men/boys. This divide originates at an early age, and gender differences toward computers and technology are often a result of differing socialization processes for boys’ and girls’ (Cooper & Kugler, 2009). These differing technological socialization processes based on gender that begin in childhood, are not all that different from the socialization processes for boys and girls in traditional-sport spaces. As a result, the intersection of sport and technology has served to strengthen the stereotypes that plague gaming and the subsequent reactions towards women and girl players as well as female-typed avatars (McArthur, 2020).

The manner by which women and girl characters are displayed within video games serve to further reinforce biased associations of the competence and abilities of women gamers (McArthur, 2020). Overall, previous inquiry has determined that there are key distinctions between men and women video game characters, as women characters are often aligned with damaging stereotypes or are absent from the games entirely (McArthur, 2020). To that end, one major area of concern is the lack of equitable representation of women characters in video games (McArthur, 2020; McCullough et al., 2020; Williams et al., 2009). It is estimated that roughly 40% of video games do not include any women characters and when women characters are present in video games, they are typically portrayed in an overly sexualized manner and/or as the victims of aggressive behaviors (McArthur, 2020; McCullough et al., 2020; Williams et al., 2009). Similar to the stereotypes associated with women and girls in traditional sport settings, in gaming environments women are often perceived as passive or dependent on men, and deemed less competent (Ivory et al., 2014). To that end, these associations may be heightened in sport simulation video games, such as NBA2K, as women and girls face biased associations in both settings (Darvin & Demara, 2020).

In addition to the stereotypical portrayals of women and girl characters, the stereotypes are further reinforced as men have been found to engage in leadership and achievement-based tasks more frequently once compared to women/girl characters (Williams et al., 2009). The outcomes of the consistency by which these portrayals are reinforced in gameplay are damaging towards women and girls as those individuals who frequently engage in gaming tend to be less critical of harmful stereotypical representations of women and girls in other settings (Brenick, Henning, Killen, O’Connor, & Collins, 2007; McArthur, 2020). These stereotypical and damaging portrayals of women and girl characters within a large proportion of video games, combined with the biases, obstacles, and limitations placed on women and girls in traditional-sport settings, may not only threaten the perceptions individuals hold towards women and girl gamers, but also the avatars and ‘real’ humans (i.e. professional women athletes) the women characters are based upon in gameplay within sport simulation video games (e.g. NBA2K).

1.1.2. Video game development and culture

Video games are largely thought to have emerged from the time of pinball machines that transitioned to gaming systems and games built by

engineers and computer science students throughout the 1960s and 1970s (Holden, Edelman, & Baker, 2020). The creation and availability of the home console along with the decreasing costs of home computers generated an environment for gaming to consistently increase in popularity (Holden, Edelman, & Baker, 2020). Throughout this development, gaming has been a man's world, dominated by masculine ideology (McArthur, 2020; Salter & Blodgett, 2012). This is largely due to how video games and the gaming industry developed, as well as who developed them, as an activity created by men for men. Within the gaming industry, there are very few women designers, programmers, and producers (McArthur, 2020). In addition, traditionally, gamers have been believed to be young, white, heterosexual men (Braithwaite, 2016). The perception of who the default gamers were, coupled with predominantly male video game developers, influenced the content of the games and have resulted in lack of women/girl characters overall as well as women/girl characters that are portrayed as sexualized background decorations or distressed damsels (Braithwaite, 2016; McArthur, 2020). As a result, gaming culture has grown as one that is culturally masculine, heteronormative, and sexist (Darvin et al., 2020).

According to the Entertainment Software Association (ESA), 60% of Americans play video games daily; the average gamer is 34 years old; and 55% of US gamers are men (ESA, 2019). Therefore, 45% of US video game players are women. However, gaming culture remains to be masculine, and sexual harassment has become a prevalent issue in the gaming community (O'Leary, 2012). An abundance of male characters that engage in highly masculine and aggressive behavior in video games reinforces masculine norms, promotes in-group cohesiveness and sexist attitudes among men, while isolating women (Fox & Tang, 2014; McArthur, 2020). Portrayals of women in stereotypical ways within video game content reinforces the sexist gaming culture. Studies revealed that playing games with sexualized characters leads players to normalize sexual harassment, and men indicated greater likelihood to harass women after engagement in gaming (Darvin et al., 2020; Dill, Brown, & Collins, 2008; Holden, Baker, & Edelman, 2020; Yao, Mahood, & Linz, 2010). Women are targeted with trash talking, objectionable language, and offensive comments on social media and game blogs (Darvin et al., 2020; Gray, 2012), and they are perceived as violating traditional gender roles (Taylor, 2006), and encroaching male territory (Yee, 2006).

The prime example of sexist attacks on women in the gaming community took place in 2014 with the #Gamergate movement. #Gamergate started as an attack on a woman game developer within these very gaming communities, and spread across social media platforms and gamer blogs with hateful, aggressive discourse. This movement raised questions regarding the state of gender and privilege in gaming culture, and put social media in the spotlight as an avenue for gendered harassment and threats (Braithwaite, 2016). Individuals who took part in this movement were referred to 'gamergaters' and they were associated with geek masculinity characterized by "strong interest in technology and playing computer games" (Taylor, 2012, p. 111) and described as socially inept, young, white, heterosexual male (Braithwaite, 2016).

Throughout the #gamergate controversy, gamergaters identified those who were heterosexual, white, and male as the typical gamer and the real victim of #gamergate due to being challenged with the lack of equity and diversity within gaming culture and at risk of losing their current games to more inclusive ones (Braithwaite, 2016). Therefore, the inclusion of women athlete avatars in the NBA2K franchise of games may invoke similar emotions among and reactions from the current gamers in an effort to reclaim privileges seen as rightfully belonging to men through the current cultural state of gaming.

1.2. Conceptual framework

The current investigation was developed through the applications of hegemonic masculinity and bottom-up framing, which are reviewed in following sections.

1.2.1. Hegemonic masculinity

Hegemony is the cultural dynamic by which a particular group of people sustains its privilege (Dellinger, 2004). This is accomplished through broad-based consent via the ideologies, practices, and social arrangements that are deemed natural in their current state (Dellinger, 2004). The concept of hegemony therefore focuses on the cultural aspects of gender inequality. Specific to the current investigation, hegemony is connected to what sustains men's power in particular environments (i.e. traditional sport and gaming) while simultaneously focusing on the large proportion of men who are then motivated to support the achievement of that power. This power is particularly evident in environments that are highly masculine in nature, such as traditional sport gaming (Ruvalcaba et al., 2018). According to Connell and Messerschmidt (2005), masculinities often reflect cultural values and ideologies as well as embodied practices. Therefore, the environment, sustained socialization, and practices present therein, all serve to shape the forms of masculinity present as well as the displays those in power aim to reinforce.

To that end, traditional sport is one of the most powerful economic, social, and political institutions in a society (Kane, 2011) and it is entwined with all aspects of culture and impacts societal norms, stereotypical gender roles, and attitudes and behaviors toward women and girls (McDonagh & Pappano, 2008). Kark and Eagly (2010) assert that male-dominated industries, such as traditional sport and gaming, often favor men over women in both culture and structure, and an organization that maintains a culture or structure that may hinder the inclusion of women/girls is often implicitly reinforced (Shaw & Frisby, 2006). By demonstrating men as dominant and powerful, and idolization of masculinity, traditional sport and gaming both reinforce male power and privilege in society, and subsequently establishes ideological norms depicting men as superior while presenting women as subordinates (Greer, Hardin, & Homan, 2009; Hardin, Lynn, & Walsdorf, 2005).

Due to the male hegemony in traditional sport, women face numerous barriers throughout the industry, and their representation in all facets of sport has been restricted. From an economic perspective, very few women have owned a sport team as a majority or minority owner (Hindman, & Walker, 2020). Similarly, women hold a limited number of leadership positions in sport industry, and they face inequitable pay (Darvin, Pegoraro, & Berri, 2018). These processes have been similarly uncovered within gaming, as men have been found to take part in activities that serve to reinforce their dominance in the space (Darvin et al., 2020). Specifically, an aspect of hegemonic masculinity encompasses the processes by which a dominant group works to sustain that power. In gaming, men have been found to contribute to hostile playing environments (i.e. swearing at opponents, harassment, and targeted threats) more frequently than their women counterparts (Darvin et al., 2020).

Although male privilege continues to exist in every society, as gender roles have become more egalitarian, sexism has become more subtle and ambiguous (Basford, Offerman, & Behrend, 2014), and blatant sexism is no longer acceptable or tolerated (Fink, 2016). However, in both traditional sport and gaming, sexism still exists, and even if it is overt, it can go unnoticed or normalized (Darvin et al., 2020; Holden, Baker, & Edelman, 2020; Fink, 2016). Connell and Messerschmidt (2005) stated that "to sustain a given pattern of hegemony requires the policing of men as well as the exclusion or discrediting of women" (p.844). In traditional sport and gaming, hegemony of the dominant group, white, able-bodied, heterosexual men, continues to impact perceptions of women athletes and gamers by challenging their capability, impeding their efforts to gain status and respect, and reproducing conservative and enduring gender roles (Anderson, 2008; Darvin et al., 2020; McArthur, 2020; Schell & Rodriguez, 2000). That being said, while there is evidence that these processes of hegemony negatively impact the women/girl participants themselves, it is unclear if these same attempts to sustain dominance also impact the perceptions of women avatars within sport simulation games.

1.2.2. Bottom up framing

In addition to an application of the tenets of hegemonic masculinity, this investigation utilized the bottom up framing framework. According to Entman (1993), the framing process selects various aspects of reality, making them more salient through the selection, emphasis, and exclusion of information. It is through these functions that news frames produced by media outlets help establish meaning regarding issues within society (Zaharopoulos, 2007). In addition, the framing process has been said to reflect the dominant norms and values within a society (Endres, 2004). Nisbet (2010) argued that there is a need to study framing in digital media from a different perspective, one that will mark a shift from previous studies which focused on the “transmission model of traditional news framing effects to a more interactive, social constructivist” (p. 75), to one that focuses on a ‘bottom up’ model of framing. This shift to a bottom up, or emergent framing conceptualization, is important to consider because it changes the focus of framing studies from traditional media and hierarchical gatekeepers, to ordinary, everyday individuals that easily and regularly produce (online) media, and who ultimately become “active contributors, creators, commentators, sorters, and archivers of digital news content” (Nisbet, 2010, p. 75). In the context of traditional sport, bottom up framing has been used to investigate digital media users’ responses to athlete activism (e.g. Frederick, Pegoraro, & Sanderson, 2018; Schmidt, Frederick, Pegoraro, & Spencer, 2019); responses to athlete’s transgressions (e.g. Allison, Pegoraro, Frederick, & Thompson, 2019; Frederick, Stocz, & Pegoraro, 2016); and reactions to women athletes (e.g. Pegoraro, Comeau, & Frederick, 2018). Therefore, as outlined in this section, the current study used the framework of hegemonic masculinity together with the concepts of bottom up framing by social media users to investigate the reactions of Instagram users to the inclusion of WNBA players in the NBA2K20 game.

2. Methods

To gather the comments from the Instagram post, the authors used Picodash—a third-party data gathering site that used Instagram’s application program interface (API) to collect the sample (Romney & Johnson, 2019). The total count of comments shown by Instagram includes posts from both public and private users and Instagram only allows exporting posts from public users. Typically, about 15–30% of user profiles are private (Romney & Johnson, 2019). Therefore, the resulting sample provided by Picodash was 10,663 comments, 30% less than the 15,200 total comments shown by Instagram for the three-day period starting on the announcement day of August 9, 2019.

Each comment was reviewed, and the data were cleaned based on the following parameters set by the research protocol: 1) the post was made in a language other than English, 2) the post was solely composed of emojis, or 3) the post content was not relevant to the topic (i.e. a selling message of various services such as web design, music). With the removal of 1154 comments, the final number of Instagram comments examined was 9509.

Once data were cleaned, temporal and user-based metrics were examined to capture communicative patterns in the dataset. While Instagram is a mobile photo and video sharing service, the comments and replies made on posts allow Instagram to be a communications platform similar to Twitter, and temporal metrics and user metrics can be used to evaluate communicative patterns and users’ communication strategies (Bruns & Stieglitz, 2012, 2013; Weller, Bruns, Burgess, Mahrt, & Puschmann, 2014). Temporal metrics include volume of total posts over time, volume of original posts, replies, and mentions, and number of unique users participating in the conversation. The vast majority of the comments in the dataset ($n = 6,905$, 72.62%) were made on the first day, indicating users’ immediate reaction to the announcement and interest in the NBA2K20 game. The volume of comments decreased to 1933 (20.33%) on day two and to 671 (7.05%) on day three. Parsing the posts into categories of original posts, replies, and mentions, revealed

6105 original posts (64.20%), 3145 replies (33.07%), and 259 mentions (2.72%). The total number of unique users involved in the dialog over the three-day period was 7815. Data also revealed a decline in number of unique users across time. On August 9, 5795 unique users were involved in the conversation, which then declined to 1605 and 518 unique users on August 10 and August 11, respectively. See Fig. 1 for volume of post types across the time period of the study.

User metrics examine the balance between original posts and replies to uncover type of communicative strategies employed by social media users. Users who make original posts/comments engage in annunciative approach, while users who reply to others’ posts and mention others in their posts engage in conversational approach (Bruns & Stieglitz, 2014). Most users were involved in an annunciative approach, sharing their comment on the announcement of inclusion of WNBA players in NBA2K20 only through original posts (Bruns & Stieglitz, 2014). Out of 7815 unique users, 5333 (68.24%) of them made only original posts, while other users ($n = 2482$) were identified as engaging in a conversational approach by replying to others and/or mentioning other users in their posts.

Examination of recipients of mentions reveal importance of users to the conversation. Users who receive many mentions yet rarely reply are seen as subjects of conversations (Bruns & Stieglitz, 2014). Ronnie Singh (@Ronnie2k), the digital marketing director at NBA2K20 was the most visible account and the main subject of the conversation with the greatest number of mentions (87 mentions). Candace Parker (@candaceparker) and NBA2K (@nba2k) were the second and third most frequently mentioned accounts with 41 mentions and 29 mentions, respectively. In addition to Candace Parker, 14 other WNBA players were subjects of the conversation including Britney Griner, Maya Moore, A’ja Wilson, Kelsey Plum, Elena Delle Donne, Breanna Stewart, Skylar Diggins-Smith, DeWanna Bonner, Kia Nurse, Kelsey Mitchell, Courtney Williams, Liz Cambage, Diana Taurasi, and Sue Bird.

Following the temporal and user metrics, the data set was analyzed using the qualitative software Leximancer, which conducts thematic and semantic analysis on written words as well as visual text (Bals, Campbell, & Pitt, 2012). An advantage of the automated approach of Leximancer is that it generates a concept list (i.e., descriptors) that is statistically reliable and reproducible, as it is generated from the input text itself, whereas manual lists require checks for coding reliability and validity (Angus, Rintel, & Wiles, 2013). Leximancer’s analysis begins with only a few seed words and then can go on to analyze vast sets of texts that contain a large number of concepts, making it an effective tool to analyze blogs, user comments, and social media posts (Bals et al., 2012). Leximancer does not generate counts for its thematic output. Rather it presents themes in terms of their relevance and connectivity within the larger data set, which provides the basis for identifying frames within the data. It is important to note that Leximancer does not name themes based on context. Rather, the software names a theme based on its most prominent descriptor. However, all content within a Leximancer-generated theme has the same context (see Frederick, Pegoraro, & Burch, 2016). Computational approaches provide the ability to analyze large datasets of text (Indulska, Hovorka, & Recker, 2012) which has proven valuable in research, but equally important are the human contributions to analysis. Therefore, the combination of computational and human analysis is a necessary step in the data analysis process (Neuendorf, 2002) and it is the responsibility of the researchers to dig deeper into the data to discover the nature of the dialogue within each theme to understand its nuance and context accurately.

According to Bruns and Stieglitz (2013), original posts made on social media reveal users’ emotional reactions and their individual thoughts on the topic. The themes identified within original posts revealed users’ collective reaction to the topic. Conversely, reply posts are conversational and interactive in nature, and influenced by the original posts (Bruns & Stieglitz, 2013). Within the reply posts, the themes identified revealed additional perspectives on the topic

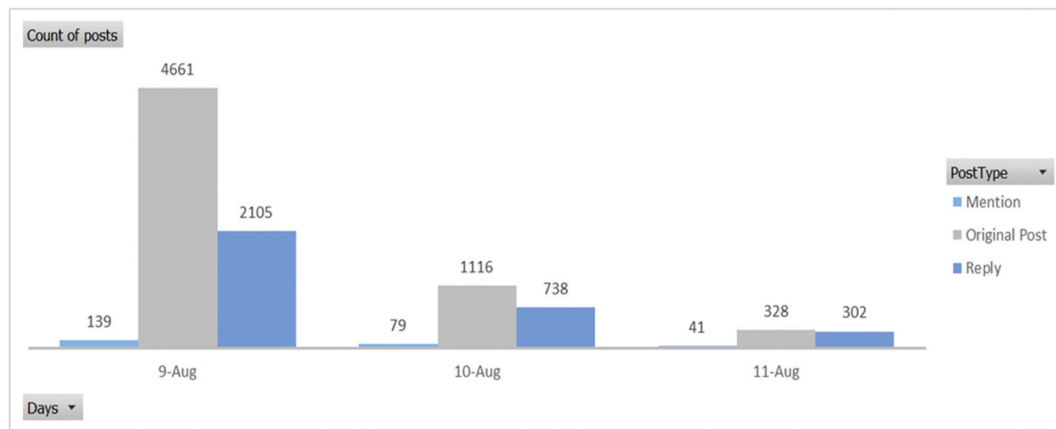


Fig. 1. Volume of post types across the time period of the study.

influenced by the original posts and evolved due to the interaction among users. After Leximancer identified the initial themes within original and reply posts, the researchers reviewed the content of each theme to uncover the nature of the dialogue and the meaning within each theme. The researchers then reorganized the themes to form frames and then named the frames based on relevance and connectivity of the content identified in the themes. Leximancer has been utilized as an analytical tool for sport-specific social media research (see Billings, Burch, & Zimmerman, 2015; Blaszk, Frederick, Newman, & Pegoraro, 2016; Frederick et al., 2016; Frederick, Pegoraro, & Burch, 2016; Pegoraro et al., 2018).

3. Results

The inductive thematic analysis of the Instagram posts on the announcement of NBA2K20 and the inclusion of WNBA players revealed several themes within the data. Reviewing the content of each theme and its relevance and connectivity to other themes resulted in formation of frames of the content found in the original and reply posts. The meaning uncovered within each frame and the associated themes along with the prevalence of each theme are discussed next.

3.1. Frames within original posts

Leximancer identified 10 themes within original posts. Among these themes, “WNBA”, “Overall”, and “Game” were the most prevalent themes with a large percentage of original posts belonging to them. Based on the review of the content of each theme, the three prominent frames emerged from the original Instagram posts on the announcement of NBA2K20 release were a) *male performance as the measuring stick*, b) *invasion of male space by women*, and c) *hostility towards women*. See [Figs. 2 and 3](#) for the Leximancer themes and frames emerging from the original Instagram posts and the prevalence of each theme and the corresponding frame.

Male performance as the measuring stick. The most prevalent frame emerged with the 64% of the original posts centered on the idea of men being the epitome of athletes, basketball players and the requirement of using their performance as a benchmark to rate women athletes. A prominent discussion point was the NBA2K20 ratings of NBA and WNBA players as represented in the themes of “WNBA” and “Overall”. Some of the comments reflected the need to control the ratings of the WNBA players in NBA2K20 and adjust them based on NBA players’ ratings stating, “All WNBA players should be under 50”, “WNBA 95 overall = NBA 55 overall.” These types of comments revealed users’ belief in men being the embodiment of athleticism and athletic talent, and the standard by which women athletes should be measured in video games. Most other comments expressed deeper disappointment with the player

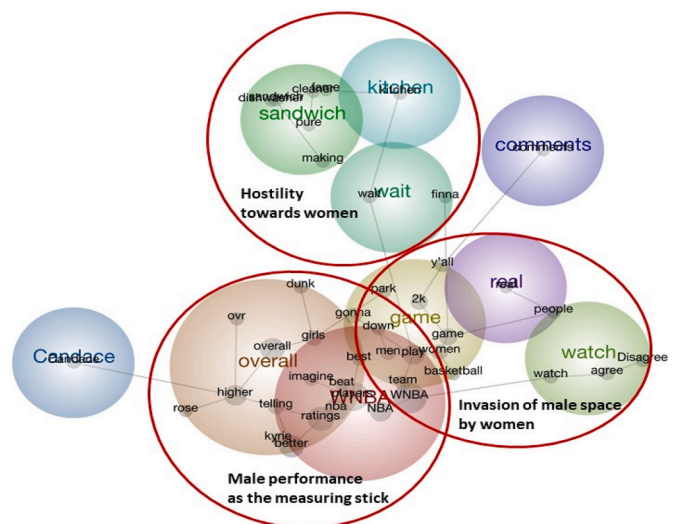


Fig. 2. Leximancer themes and frames: original Instagram posts.

ratings and their sentiment was a total disbelief regarding the high overall ratings of WNBA players in the game. A sample post reflecting this sentiment was “You are telling me a damn WNBA player got a higher rating than the cover athlete?” Similar comments flooded the Instagram indicating strong objection to the WNBA players’ ratings but went beyond the disappointment to protect the NBA players and the male hegemony. Couple of users claimed, “This is a disgrace to the nba and their players”, “Y’all disrespecting the nba players in the league”. Users interpreted the high WNBA player ratings on NBA2K20 as an offense to male supremacy presenting an infiltration of traditional sport biases into this non-traditional sport format.

Invasion of male space by women. Building on and extending off the first frame, the *invasion of male space by women* emerged as the second prevalent frame (20.8%) in which users expressed their disagreement with the inclusion of WNBA players in NBA2K20. This sentiment was especially rampant in the “game” theme but was further validated by the themes of “real” and “watch” as they disclosed the reasons why WNBA players should not be included in NBA2K20. Traditionally, men and women competed in basketball in a segregated environment. The sentiment of the second frame echoed the need to extend this segregation into video games to preserve a traditionally masculine space that belonged to men keeping women and girls out, even as avatars. For instance, many users believed that WNBA players should not have been included in the game: “Why can’t they have their own damn game no one wanted them”, “Take women out of the game this is supposed to be

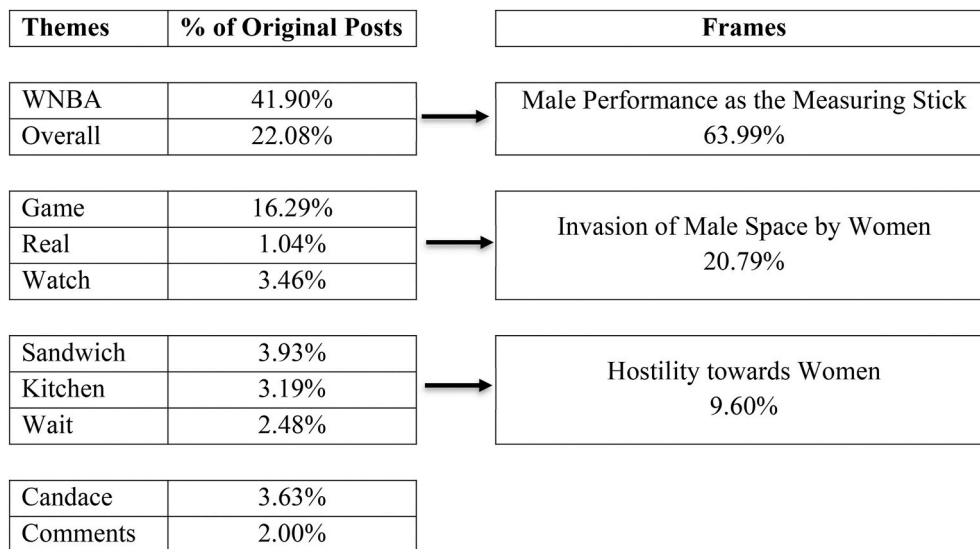


Fig. 3. Prevalence of themes and frames: original Instagram posts.

NBA2k20 not WNBA2k20”, and “Why y’all gotta ruin the game why can’t y’all make a WNBA 2k”. Although video games are not restricted by physical constraints and can present an opportunity to overcome gender segregation in sport at a virtual environment, it is evident that users believed that women did not belong to NBA2K20. Sentiment of “real” and “watch” themes further established this perspective by presenting potential reasons why WNBA players did not belong in the game: “Wait girls playing sports that’s not real”, “are these real people” or “man idk i dont watch the layup contest.” These three themes collectively represented users’ disapproval of the inclusion of WNBA players in the game, and their desire to preserve a traditionally male space.

Hostility towards women. The third frame from the original posts was a narrative on women's place in a society and emerged in "sandwich", "kitchen", and "wait" themes. Users presented hostility towards women for pursuing athletic careers and being included in the NBA2K20, which was perceived to be a violation of the traditional gender roles. One user stated, "Women wanna be in everything except the kitchen" and many others ordered women athletes to "get back in the kitchen where they belong". Some users made comments that are more blatant by assigning domestic tasks to WNBA players' NBA2K20 ratings: "96 peanut butter spreading 98 fridge organizing 97 bed making 96 table setting", "99 dishwashing 99 sandwich making 5 athleticism" demeaning the athletic talent and qualities of the WNBA players. Few others went further discussing how they would dominate the WNBA players in the game through comments such as "Boy I can't wait to windmill between the legs dunk on a 95 overall WNBA player with LeBron" to establish the superiority of male athleticism in video games. In coherence, many sarcastic posts indicated users' disinterest in playing WNBA players in NBA2K20 due to WNBA players' limited 'real basketball skills' such as dunking: "Cant wait to do layups", "Can't wait to go in on a dunk oh wait", "Cant wait to never use them". As a result, the sentiment of the original posts were one sided and can be summarized as preserving male dominance in traditional sports and extending it to the video games through misogynistic, non-sexual comments.

3.1.1. Frames within reply posts

Reply posts revealed 11 themes forming three main frames. The “WNBA”, “Game”, “Women” and “Bro” themes were the four most prevalent themes based on the percentage of reply posts within. Three main frames were: a) *league respective ratings*, b) *women as basketball players*, and c) *clash of opinions on comments*. Refer to [Figs. 4 and 5](#) for the Leximancer themes and frames that emerged from the reply posts and their prevalence.

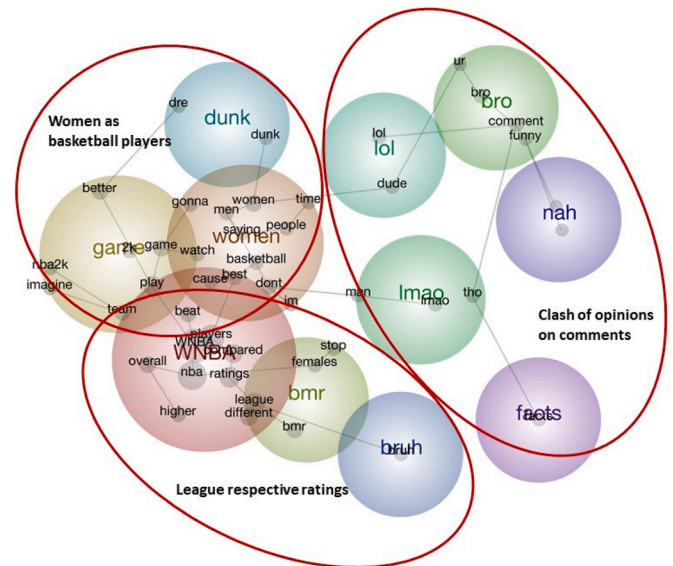


Fig. 4. Leximancer themes and frames: Instagram reply posts.

League respective ratings: The most prominent discussion among the users continued to be the WNBA and NBA players' ratings in NBA2K20 making up 51.3% of the reply posts. The conversation within the "WNBA" theme was bidirectional. On one hand, many users took it upon themselves to explain the overall ratings and responded to the outrage and disappointment expressed in the original posts. These users explained WNBA player ratings as respective of their own league with statements such as "The ratings are based off their abilities in their respective leagues", "Thats their ratings compared to other wnba talent not the regular NBA", "93 on WNBA doesnt mean 93 on nba." The dialog within in "bmr" and "bruh" themes was attempting to police the demeaning reactions shown to the WNBA player ratings via a tone of an ally with comments like, "WNBA ratings are for there league only my man lmao", "bruh her overall is compared to the WNBA smh", "bruh are you stupid the ratings are different for the WNBA". In addition, some users went on to explain what WNBA players' overall ratings would be if they were based on the same criteria with NBA players. Some statements representative of the narrative are "it's relative to the wnba if they mixed all players together the highest women played would be a 65

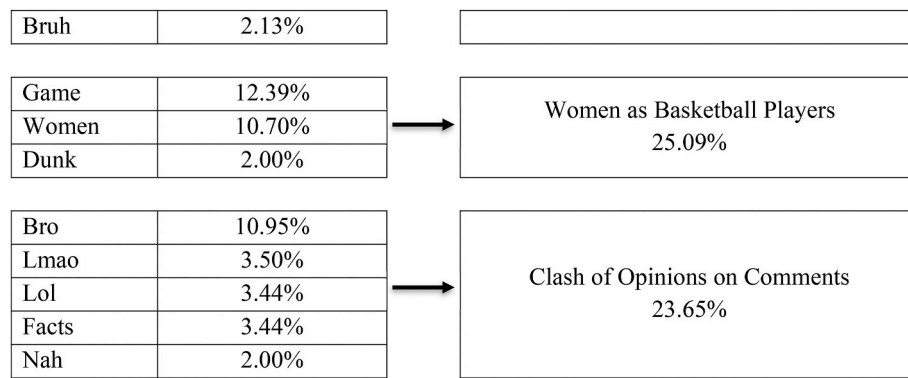


Fig. 5. Prevalence of themes and frames: Instagram reply posts.

ovr”, “The ratings are relative to other WNBA players otherwise they would all be 30-45ovr and it would be pointless.” These sentiments reveal an additional perspective within the theme. Although users agree with the WNBA player ratings on NBA2K20, they also believe women lack the basketball talent men have presenting a traditional stereotype in sport. Conversely, others reinforced the demeaning perspective presented in the original posts through statements like, “LeBron would beat the best WNBA team by himself 100-0”, “I dont wanna c these tingz w higher ratings than Hall of famers.” Varying opinions led to tension and frustration among the users.

Women as basketball players: The “Women”, “game”, and “dunk” themes were centered on the discussion of women as basketball players and their talent, and collectively formed the second most prevalent frame with 25% of the reply posts. The narrative in this frame was also bidirectional presenting opposing views on WNBA players’ talent. Some users believed WNBA players are the best in their craft with statements such as “They’re the best WOMAN’S basketball players in the world” and “if u watch WNBA like me then yeah why wouldn’t u be excited to see them & im waiting on maya moore rating cus she the best.” On the contrary, most others evaluated WNBA players’ talent in respect to NBA players and dunking was presented as the gold standard of basketball talent. Some examples of these comments included the following: “Here’s a painful truth, men r better at basketball than women r”, “there’s no way wnba skillset is better then nba”, and “the ones in the wnba those are frauds they cant even dunk that good but my 300lb friend has a higher vertical then them.” In addition to the talent of the WNBA players, the overall status of women’s basketball was argued as an evidence of low quality, less talented basketball. One user stated “if thats so why they tickets dont sell n why dont they get paid no where near as much as men the refs get paid more then women basketball players n im the mad one OKAY Why would i be mad i aint in the nba wish i was.” Another user made an unsubstantiated comment stating, “Everyone in the crowds are Photoshoped in after the game” to prove the point of WNBA players lack the talent and expertise, therefore, the league lacks public interest. Throughout this frame, WNBA players’ talent was criticized and presented as less than, but the WNBA players were not sexualized or attacked as sex objects as it is often the norm in gaming culture.

Clash of opinions on comments: The third frame among reply posts included several smaller themes (“bro”, “lol”, “nah”, “lmao”, and “facts”) and represented dichotomous opinions. Majority of the posts in all five peripheral themes revealed that users found hostile original posts belittling the WNBA players and their talent amusing, and engaged in the conversation not to discuss the NBA2K20 but to discuss how entertaining the posts are. Sample posts are “the comments are hilarious”; “all of these comments are legendary”; “these comments are savage asf”. On the other hand, some of the users tried to correct the hostile and disrespectful narrative towards the WNBA players and their talent with comments such as “there was no need for such an insulting comment”,

“they hella disrespectful in these comments”, “you should show more respect for these baller bro, anyone of them could beat you in a 1vs1.”

4. Discussion and implications

In August 2019, the NBA2K franchise announced not only the release of the NBA2K20 video game, but that this version would include WNBA athlete avatars. Sport simulation video games such as NBA2K largely encompass incredibly precarious, albeit highly socialized and often normalized, cultures for women and girls as a result of varying forms of overt, covert, and subtle sexism that is prevalent within broader traditional sport and video game settings, respectively (Darvin & Sagas, 2017; Robnett & John, 2020). Given that women and girl participants, fans, employees, and leaders face increased obstacles and barriers to entry and sustainment within traditional sport spaces and video game settings, the lower levels of representation of women/girls within sport and video games calls into question the reception of the newly added NBA2K20 WNBA avatars (Darvin & Demara, 2020; Holden, Baker, & Edelman, 2020; MacArthur, 2020). As a result, this research sought to examine the reception of this inclusion of women athlete avatars in the video game, with special attention paid to a sport simulation video game (i.e. NBA2K) due to the similar biases women/girls face in both traditional sport and video game environments. In order to accomplish this task, original comments and replies to those comments from the NBA2K20 Instagram post that announced the addition of WNBA player avatars, were analyzed. Results of this analysis revealed several emergent frames for the original comments including, a) *male performance as the measuring stick*, b) *invasion of male space by women*, c) *hostility towards women*. Findings also revealed several emergent frames for the replies to the original comments including, a) *league respective ratings*, b) *women as basketball players*, c) *clash of opinions on comments*.

The frames that were uncovered within the original comments display the powerful influence of both hegemonic masculinity and gender stereotyping within a traditional sport simulation (i.e. virtual) game environment (Dellinger, 2004). Within the frame of *male performance as the measuring stick*, it became evident that individuals relied heavily on processes of stereotyping as well as a preference towards men athletes and masculinity within their perceptions of the inclusion of WNBA players to the NBA2K franchise. Not only do men dominate the traditional sport space, but men are also seen as the dominate force in sport simulation environments (Darvin et al., 2020; ESA, 2019). To that end, given that hegemony is the cultural dynamic through which a particular group of people sustains its privilege, it became clear that these individuals sought to sustain male privilege in gaming via a broad-based consent (Dellinger, 2004). Hegemony is connected to what sustains men’s power in particular environments and this process of sustainment was a driving force behind many of the comments made about WNBA athletes in a sport simulation space (Ruvalcaba et al., 2018).

In addition to the frames that displayed a connection to the tenets of hegemonic masculinity, hostility towards women was also revealed through an analysis of these original comments. Previous research has uncovered that highly hostile environments exist for women and girls in gaming (Darvin et al., 2020; Ruvalcaba et al., 2018). The findings within this current study both expand and further support the assertion that the male-dominated gaming culture, including sport simulation games (i.e. NBA2K), are often exclusionary to women and girls. The results of the current study expand previous findings of hostility in that these results focus on the perceptions of the women video game avatars themselves (i.e. WNBA players), rather than simply the perception of women and girl video game players (Darvin et al., 2020). As a result, these findings suggest that not only are the women and girl video game players subjected to hostile cultures and negative stereotyping, but the perception of women avatars can similarly fall victim to these same damaging opinions, processes, and outcomes. Therefore, the hostile video game culture that women and girls often must navigate, is perhaps even more deeply embedded than originally assumed. This finding became further evident within the frame of an *invasion of male space by women* and speaks to the manner in which men in the gaming space tend to not only feel threatened by the entrance of women and girl video game players, but by women avatars as well (e.g. WNBA avatars). Similar to the tenets of hegemony, these frames have made it apparent that men and boys will seek to protect their privilege within video game setting to the point of discrediting and discriminating against women avatars.

The frames that were uncovered within the replies to the original comments suggest that the influence of traditional sport may serve to temper some of the negative cultural norms that exist within gaming. For example, within the frame of *league respective ratings*, many of the replies to the comments made it clear that these player avatar ratings were with respect to the individual leagues (i.e., NBA and WNBA), rather than an overall comparison of both men and women professional basketball players. That being said, this frame still appeared to intersect with *male performance as the measuring stick* in that the replies appeared to suggest that the NBA, and subsequently NBA players, were far superior to the WNBA players, even in a sport simulation setting. Once again, through an application of the tenets of hegemonic masculinity, this finding not only revealed an attempt to protect male privilege in the gaming space, but male privilege in the traditional sport space as well (Dellinger, 2004). It appeared that a threatening aspect of the WNBA player avatar ratings was the fear that someone may assume certain WNBA players were superior to certain NBA players in a non-virtual setting.

The results of this study also provide insight into the use of bottom-up framing to push back against, or reframe, the original NBA2K20 post. In traditional media studies, framing theory attests that the news frames produced by media outlets help establish meaning regarding issues within society (e.g. Zaharopoulos, 2007) and the reframing of bottom up content found on social media platforms is either a process of accepting or refuting the media framing of a topic or issue. More often, social media users seek to reject the media framing of an issue and while that is what is found in this study, the reframing was to reject a positive framing of women athletes. Essentially, social media users sought to become the gatekeepers of the issue through their posts. This is different than most bottom up reframing studies where most of the findings indicate that users were attempting to reframe an issue in a more positive way, or more truthful way than the media did (e.g. Pegoraro et al., 2018). Therefore, in this study, the bottom-up framing framework revealed that users chose to use their posts and comments to reinforce hegemonic masculinity and reject the original gender inclusive framing provided by NBA2K20.

5. Limitations/future research

This research while is sought to investigate the reactions of social media users to the inclusion of women in the NBA2K20 video game, is

not without some limitations. Each social media platform has distinctive demographics, and while Instagram is a widely used platform, this study only included one platform and therefore, the reactions on platforms (e.g. Facebook or Twitter) with different demographics might yield different results. Secondly, the research was limited to the posts from public accounts, and therefore the posts from private accounts are missing from the dataset. The use of textually analysis techniques limited the analysis to textual comments only and therefore posts that utilized emojis only were eliminated, resulting in lost data. Similarly, the use of only English language posts limits the analysis to users comments posted in that language only. In terms of context, this research only investigated one video game, NBA2K20, thereby limiting the results to users of that game.

Future research could address some of the limitations noted here, for example investigating reactions across social media platforms to note similarities and differences by user datasets. In addition, the investigation of reactions of women characters being included in other sport simulation games (i.e. FIFA21, NHL20) could be conducted to ascertain whether hegemonic masculinity is more innate to basketball video game fans or is it more ubiquitous across fans of all sport simulation games. The addition of emojis and other languages would also expand the research into different language groups and perhaps geographic regions. Additional research areas include the analysis of live feeds of game play for NBA2K20 to see if comments on live play differ from comments on this type of static social media posts. This research could also investigate if players choose the WNBA players or play the WNBA version of the game and then what live comments are part of those feeds.

6. Conclusion

While video gaming has shown yearly growth in participation and viewership, the representation of women throughout gameplay has been lacking. As a result, when NBA2K announced the game would feature WNBA teams and player avatars, the response on social media was swift, resulting in thousands of comments on the NBA2K's Instagram post. An investigation into these comments revealed that sport simulation video game fans were adhering to the same frameworks found within traditional sport spaces. Analyses revealed the presence of hegemonic masculinity in the comments from social media users, demonstrating that the sentiments and framing found within traditional sports had transferred to the sport simulation realm. Social media users not only attempted to protect male privilege in the video game space, but also sought to protect it in the traditional sport space. This was attempted through a targeted effort aimed at ensuring individuals would not consider WNBA players as superior to certain NBA players, regardless of player ratings. Overall, this blurring of the lines between traditional sport and the sport simulation video game realm reveal how entrenched hegemonic masculinity is in the sport world, including within these non-traditional sport environments.

CTediT author statement

Lindsey Darvin: Conceptualization, Investigation, Resources, Formal analysis, Writing – original draft, Writing – review & editing, Supervision, Project administration, Ceyda Mumcu: Conceptualization, Validation, Formal analysis, Data curation, Writing – original draft, Ann Pegoraro: Methodology, Software, Validation, Formal analysis, Writing – original draft.

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