

# Exploring the Plurality of Black Women's Gameplay Experiences

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## ABSTRACT

Few gender-focused studies of video games explore the gameplay experiences of women of color, and those that do tend to only emphasize negative phenomena (i.e., racial or gender discrimination). In this paper, we conduct an exploratory case study attending to the motivations and gaming practices of Black college women. Questionnaire responses and focus group discussion illuminate the plurality of gameplay experiences for this specific population of Black college women. Sixty-five percent of this population enjoy the ubiquity of mobile games with casual and puzzle games being the most popular genres. However, academic responsibilities and competing recreational interests inhibit frequent gameplay. Consequently, this population of Black college women represent two types of casual gamers who report positive gameplay experiences, providing insights into creating a more inclusive gaming subculture.

## CCS CONCEPTS

• Human Computer Interaction → *User Studies*

## AUTHOR KEYWORDS

Black women; gaming; gendered game studies; intersectionality

## INTRODUCTION

Recent reports show that 37% or more of the player population in the U.S. consists of women, confirming that women not only play games but comprise a significant percentage of the gaming population [1-3]. Given the population of female gamers, numerous studies have examined the gender disparity that exists within the gaming subculture [4-6]. For example, early research studies criticized the gaming industry for marketing

“pink games” or video games that reflected gendered stereotypes (e.g., makeover or cooking games) to female players [7,8]. More recently, we have seen an increase in gendered game studies partly because of the negative portrayal of women in games (e.g., hypersexualized female game characters) and the sexual harassment of female gamers [9-13]. Seeking to address the oppression of female gamers and the underrepresentation of women in the gaming industry, mainstream feminist initiatives such as *Feminists in Games* [14] have generated much needed discussion around the topics of gender and diversity, spearheading collaborative efforts to change the status quo. While gendered game studies, a by-product of such efforts, bring into focus the challenges that women face, these studies often fail to acknowledge the heterogeneity inherent in the female gamer population, providing little or no information about the race or ethnicity of women who play video games or their experiences [1-3,15-17]. Despite these best intentions, women of color gamers are rendered virtually invisible within the gaming subculture.

Moving beyond the diverse representation of female game characters, recent gendered studies have begun to explore the gameplay experiences of women of color, drawing particular attention to the overlapping social constructs of race, gender and identity (among other things) that provide rich historical and political contexts that shape the lived realities of women of color [18-22]. With the burgeoning interest in women of color gamers, *intersectionality* has emerged as an analytical framework for examining the vast array of women of color gamers' experiences, giving credence to their unique perspective of “outsider-within” standpoint in White American culture [23-26]. Prior intersectional studies in gaming reveal that Black women, like other women of color, not only endure gender discrimination but are also subjected to racial slurs at the hands of other players [18,27-28]. As such, intersectionality-based studies tend to emphasize the injustices faced by Black women, and rightfully so since intersectionality serves as a critical praxis for engendering social justice and political change [24,29-30]. In comparison, we use intersectionality as a framework for inclusivity, positioning Black women gamers as legitimate members of the gaming community.

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Complementing previous intersectional game studies of women of color, we explore the plurality of Black women's choices regarding entertainment, fun, and leisure time. Acknowledging that Black women represent a heterogeneous population of shared beliefs and culture expressed in a variety of ways [29], we pose the following research questions: *What are the gaming preferences and practices of Black women? What factors promote and/or inhibit their gameplay and why? What trends exist in this particular population of Black women's gaming practices and how do they correlate to the larger player demographic?* Using an online game questionnaire, we initially inquire about the gameplay experiences of Black college women to understand their motivations for gaming. Afterwards, we engage a subset of Black college women who completed the original online game questionnaire in a focus group discussion to better understand their motivations for gaming, their infrequency of gameplay and their perceptions of themselves as outsiders within the gaming subculture.

This paper makes the following research contributions. First, extending both gendered and intersectional game studies literature [21-22,31-35], we explore the broad range of gameplay experiences of 69 Black college women, the largest number of Black women reported in any game study thus far. Second, leveraging Brekhus' *reverse markedness* theory [36], we socially mark Black college women's positive or neutral gameplay experiences, identifying this specific population as casual gamers while signifying their legitimacy as members of the gaming community. Finally, results from this exploratory case study reveal why some Black women enjoy more positive gameplay experiences than others, providing insights for creating a more diverse and inclusive gaming community.

## MOTIVATION AND RELATED WORK

### Intersectional Game Studies

Though women of color share the same gender as white women, they differ in race, subjugating them to a different reality and set of social injustices that are often ignored by mainstream feminism [25-26,37-38]. Intersectionality, a more common approach for gendered studies grounded in the social sciences or humanities, provides a framework for researchers to explore the complexity and range of experiences that shape the everyday experiences of women of color [39]. An intersectional framework has been employed to criticize the portrayal of female game characters in popular game titles [32-33]. For example, 90% of Black female game characters and 45% of White female game characters are treated as props or victims of violence in many popular games [40]. Passmore et al. [35] survey more than 250 players to understand their perception of how well games promote racial and ethnic diversity. Survey results

reveal that games offer limited options for players of color to customize game avatars (e.g., skin tone, size and shape of eyes, nose or mouth, etc.) that reflect their physical appearance. In another example, the leading Black female game character in the first-person shooter *Residential Evil 5* is reduced to "a sexualized mule" used to carry weapons for her White male companion [41]. In the context of evaluating a language learning video game, Black college women comment on the lack of diversity (i.e., no female game characters) and the lack of cultural accuracy (i.e., no Spanish speaking game characters of African descent who look like them), suggesting that issues of race and gender are more of an afterthought even in the design of educational games [42]. Such results make a compelling case for more thoughtfully designed, non-stereotypical and nuanced game characters as an integral part of the gameplay experience.

Everett and Watkins [40] introduce the idea that games can become *racialized pedagogical zones* – virtual spaces that enable players to learn about and enact race. Players' actions during gameplay can recreate racism and other social injustices in the real world that affect marginalized populations such as women of color. For example, Siyahhan & Gee [43] employ ethnographic methods to unpack Latinas gameplay experiences in the context of familial relationships, including family members' attitudes about gaming, the amount of time spent playing video games, and the kinds of games family members played. Results from this study indicate that males enjoy more playing privileges due to the location of console systems in their bedrooms and received encouragement to play multiplayer strategy games with their fathers and male siblings whereas females played more mobile games alone and with family members [43]. Gray [44] applies critical ethnography to examine Black women gamers' posts in support of the "Black Lives Matter" movement in an Xbox Live forum---a virtual space for gamers to post content outside of gameplay. Gray's [44] analysis reveals that racial tensions separated Black feminists from White feminists who had jointly sought sanctuary from members of the GamerGate movement, a movement that targeted and harassed women gamers.

Within the CHI community, only a handful of publications have intentionally examined the gameplay experiences of women of color. For example, Shaer et al. [31] recruit more than 300 women of different ethnicities and race, including Hispanic, Black, South Asian and Native American, to complete a survey about their gameplay experiences. In this study, women of color gamers experience racial slurs and sometimes hide their racial identities from players to avoid unwanted attention [31]. More recent studies have shown that players of color, including women of color gamers, enjoy a lesser degree of immersion during gameplay due to game characters of color with dehumanizing narratives or explicit acts of

racism (i.e., racial epithets hurled at players of color) [35,45]. Because of such egregious conduct, women of color can be discouraged from participating in gaming with the intended goal of excluding them altogether.

### **Black Women as Members of the Gaming Subculture**

One of the aims of this research is to legitimize Black women gamers as members within the gaming community. We utilize intersectionality as a framework for inclusivity for two prime reasons. First, intersectionality posits “that the experiences of women of color are important in and of themselves.” [25]. Our decision to study the plurality of Black women’s gameplay experiences comes from a place of empowerment with no need to compare Black women to any group as if there is some invisible standard that validates their lived experiences. Harding refers to this as “Black women’s standpoint,” the duality of being included but only on the periphery of mainstream culture while being excluded at the same time [26]. An intersectional framework changes how we as researchers and human beings understand and respect other people’s lived experiences. Because Black women are the only ones who have lived and breathed what it means to be a Black woman, we seek to engage Black women in conversations about their gameplay experiences, positioning them as the central foci, no longer on the outside looking in. As researchers, it is imperative that we not only acknowledge Black women’s gameplay experiences but create opportunities for them to talk about their experiences.

Second, we leverage intersectionality as a mechanism for inclusivity, including Black women’s gameplay experiences as part of the broader player demographic. In previous gendered game studies, the tendency has been to group all women together regardless of their ethnicity or race [7,22]. However, this approach ignores the unique experiences that women of color encounter in the gaming subculture [19,21]. The intersectionality inclusion model challenges the myth that all members of a disenfranchised group think or act alike, accommodating heterogeneity within the group [23]. In the context of gaming, this creates an opportunity to study the variations of Black women’s gameplay experiences, including why some Black women choose not to play video games. Utilizing intersectionality as a framework for inclusion in the context of gaming enables researchers to explore the continuum of players’ experiences across a diverse player demographic. This is not to say that we should dismiss intersectionality in game studies that explore players’ negative experiences as these negative experiences are just as important as the positive ones and should be represented in the continuum of players’ experiences. Rather, we posit that intersectionality as a framework for inclusion encompasses a rich array of players’ experiences,

including both positive and negative gameplay experiences as well as those that fall in between.

### **Studying Socially Marked Gameplay Experiences**

McCall [46] points out that women of color do not “fit neatly into any single ‘master’ category” but rather actualize a wide range of lived experiences, identities, and social locations. Just as the large population of women is non-homogenous, the population of Black women who play games represents a spectrum of Black women who play video games as well as those who do not. However, prior research of Black women’s gameplay experiences using the lens of intersectionality has emphasized the negative experiences in which Black women have endured racial slurs or gender discrimination from other players [14,31,44]. Such negative gameplay experiences are heavily articulated to mark the experiences of Black women gamers while treating the category of *gamers* typically used to refer to White males as the unmarked category [36]. This exemplifies the phenomenon of studying *socially marked experiences*, the mistreatment of Black women gamers because of their race and gender, as indicative of the large population of Black women. However, when studying marked experiences within race, an interesting phenomenon occurs. Negative experiences (i.e., racial slurs posted on a website that features Black women gamers during an eSports promotional event) become socially unmarked and positive or neutral experiences (i.e., a group of Black women in a dorm room taking turns playing Tetris) become socially marked. The scarcity of research that inspects the heterogeneity of Black women’s gaming experiences is lacking and raises the question as to whether racial and gender discrimination are commonplace for Black women who play video games. Most importantly, we as researchers should expect the gameplay experiences of Black women to be just as varied and to include *socially marked* and *unmarked* gameplay experiences.

### **UNDERSTANDING BLACK COLLEGE WOMEN’S GAMEPLAY EXPERIENCES**

As an exploratory study to investigate the gaming practices of U.S. Black college women, we hosted multiple game events on campus to create an informal, social atmosphere to encourage them to share their motivations (or lack thereof) for gaming. Hosting the game events on the all-female Historically Black liberal arts college located in the southeastern U.S. places the authors in a position to examine the socially unmarked gameplay experiences of Black women without positioning them as being exotically different from others, especially since the issue of racial and gender discrimination are rendered as mute points at the

initiation of this gendered game study. Our research questions included:

*Q1: What are the gaming preferences and practices of Black college women?*

*Q2: What factors promote and/or inhibit gameplay among Black college women?*

*Q3: What trends exist in this particular population of Black women's motivations for gaming and how do they correlate to the larger player demographic?*

### **Participants**

This paper explored the gaming preferences and practices of U.S. Black college women, a vastly underrepresented population within the gaming community. Using flyers and word of mouth, we extended an open invitation to students to attend game night, recruiting participants from the general population of Black women on the all-female Historically Black College campus. Sixty-nine Black women between the ages of 18 and 39 years old who were enrolled in an all-women, Historically Black College/liberal arts institution in the southeastern region in the United States voluntarily participated in multiple gaming events (i.e., game night) on campus. All participants self-identified as women. Of these 69 participants, 71% (49) of participants were 18-20 years old and 29% (20) were 21-39 years old. Though the sample size ( $n = 69$ ) for this study was small, this was still a larger number of Black women than previous gendered game studies [31,35]. We were careful not to impose the constraint that students had to identify as gamers to participate in this study since this would have defeated the purpose of recruiting from the general population of Black college students.

### **Study Design**

As part of building social capital within the community of college women, we organized multiple game nights in a computer lab on campus to recruit via flyers and word of mouth a substantial number of participants and to increase the likelihood of participants completing the online game questionnaire. Refreshments and door prizes were advertised to entice students to attend and to create a social atmosphere for gaming. After signing an IRB consent form, students first completed the online game questionnaire before playing a variety of randomly selected video games (e.g., DuoLingo, Hangman, etc.) or board games (e.g., Guesstures, Taboo, etc.) for approximately 1.5 hours. Because it was important to engage Black women in a conversation about gaming (inclusion in action), we conducted a focus group discussion with a subset of participants to better understand their responses to the online game questionnaire.

### **Data Collection**

We collected two sources of data: 1. an online game questionnaire; and 2. a focus group discussion.

#### *Pre-Game Questionnaire*

We administered an online game questionnaire that posed the following questions: 1. What types of video games have you played? 2. How many hours per week do you spend playing video games? The first question gauges the different genres of video games that this population of college women prefer to play. The second question measures students' typical frequency of gameplay on a weekly basis.

#### *Recorded Focus Group Discussion*

To collect multiple perspectives, we recorded and transcribed the 24-minute focus group discussion in which we probed 8 Black college women's motivations for playing video games. We shared the initial results of the online game survey with participants and used these results to guide the focus group discussion. The facilitator, the first author and a Black woman, disclosed her gaming behaviors as part of the focus group discussion. She asked a series of open-ended questions to understand the kinds of games the women played and their motivations for playing (or not playing) video games. Example questions included: *Why mobile games? Anybody play World of Warcraft [or] tried? Why don't you play games more often as a popular past time?*

### **Data Analysis**

In addition to a descriptive analysis of participants' responses to the online game questionnaire, we also conducted a statistical analysis using Chi Square and found no significant differences according to age groups' preferences or gaming practices. We transcribed the 24-minute focus group discussion and conducted qualitative analysis to identify emergent themes. All participants' responses were transferred into an Excel spreadsheet for content analysis. We conducted three passes of content analysis. In the first pass, both authors separately coded 50% of participants' responses and met to discuss the initial set of themes. The authors discussed their rationale for identifying emergent themes and resolved differences through discussion to achieve 71% inter-rater reliability. In the second pass, the authors separately coded all participants' responses to identify 101 unique emergent themes to achieve inter-rater reliability of 85%. Examples of emergent themes were *participant prefers puzzle games, participant plays mobile games in the car, only plays Wii when brother or sister wants to play, participant played console games when younger, etc.* Then similar emergent themes were grouped into appropriately named categories to identify 16 categories of emergent themes. Examples of categories included *game preferences, gaming*

behaviours, plays video games with family or friends and used to play video games.

## RESULTS

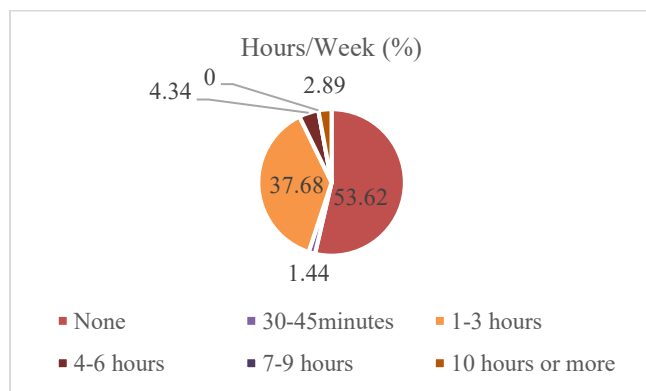
Analysis of online game questionnaire responses addressed the research question: *What are the gaming preferences and practices of Black college women?*

### Game Genres

Game genre was surveyed through the multiple-choice question *what kind of video games do you play?* Thirty percent (45/69) of participants admitted to playing mobile games commonly referred to as casual games while 19% (28/69) played puzzle games. Fifteen percent (23/69) played racing games, and another 14.6% (22/69) of participants preferred to play adventure games. Eight percent (12/69) played sports games, 3.3% (5/69) played First-Person Shooter (FPS) games, and 1.3% (2/69) preferred to play Massively Multiplayer Online Games (MMOGs). Five percent (8/69) of the participants indicated that they do not play any video games.

### Frequency of Play

Frequency of play was surveyed via responses to the question: *On average, how many hours per week have you spent playing video games?* Fifty-five percent (38/69) of participants reported not playing video games on a weekly basis while 37.7% (26/69) played video games at least 1 to 3 hours per week. Four percent (3/69) of participants played video games 4 to 6 hours per week, and 3% (2/69) played video games 10 hours or more per week.



**Figure 1. Hours spent weekly playing video games.**

### Findings from Focus Group Discussion

Though the questionnaire responses gave us a clear indication about this particular group's gaming preferences, the focus group discussion provided an opportunity to engage Black women in a conversation about gaming. Qualitative analysis of participants' responses answered the questions: *What factors promote*

*or inhibit gameplay among Black college women? What trends exist in this particular population of Black women's motivations for gaming and how do they correlate to the larger player demographic?* We identified the themes that emerged from the focus group discussion below.

### Prefer to Play Casual Games & Puzzle Games

This population of Black women identified mobile games (45/69) as the most popular genre of video games they played, followed by puzzle games (28/69). When we asked why students preferred to play mobile games more than any other genre, students shared that they liked playing mobile games because they were easily accessible via their mobile devices. One student stated, "I personally like playing games on my phone cause I'm always on my phone so that's why. People are on their phone more than they are on the computer." Students identified *Temple Run*, *Swipe Brick Breaker*, and *Pool* (available on Apple iMessage) as some of the more popular casual games they played. One student voluntarily demonstrated the *Swipe Brick Breaker* casual game on her mobile device.

[Student holds up mobile phone with *Swipe Brick Breaker* on the screen. Facilitator walks over to the student and the student begins to play the game. Facilitator watches the student.]

P4: And that's how many times you have to hit the block um before it uh disappears. So it goes up to...so it just keeps going.

Facilitator: This is cool. I like it. What's the name of the game again?

P4: *Swipe Break*

Similar to Brown's [1] report which showed that most Americans who play video games preferred puzzle games, the population of 69 Black women confirmed that puzzle games were the second most popular genre. When we asked why were puzzle games popular, one student replied, "Uh, I like that they're interactive because you usually with puzzle games you're like playing against someone." While this student's experience with puzzle games included a social element of gameplay, not all puzzle games invite players to interact with other players. A key attraction of puzzle games is their ability to accommodate solo gameplay experiences but having the option of social interactions is attractive to some players.

An interesting finding was that some of the young women, who did not know each other prior to matriculating into college and came from different

geographical locations, played some of the same mobile games.

P1: I used to play uh...*Criminal Case*.

P2: Oh my God! Me too!

P1: I used to play them, but I deleted them off my phone because I stopped playing it.

P3: *Criminal Case*.

P1: At one point, I was like into the crime stuff and I started playing.

Upon examination of *Criminal Case*, we discovered that this particular casual game required players to find clues to solve a murder while solving a series of puzzles relevant to the crime narrative. Given this population's preferences for casual games and puzzle games, *Criminal Case* represented the best of both worlds.

Several women also shared that they played Wii games with their family and friends, identifying Wii games as its own genre. This suggested that students did not perceive Wii games as a platform, similar to how students interpreted mobile games to be synonymous with casual games when mobile games actually represent the platform of play.

However, this pointed to the fact that the categories of games were not necessarily mutually exclusive, and it was possible that we did not accurately represent each category which may have led to incorrect identification of some genres. A more accurate way to capture this data would be to ask the participants to list the video games that they play and/or their favorite video games. Another question that we did not ask was which platforms for gaming did they play.

Several times throughout the focus group discussion, the facilitator leveraged her experiences playing video games to better understand why this group of women did not play other genres of video games.

Facilitator: Of course, there were a list of games that nobody even mentioned...Are you familiar with massively multiple player games? The ones where you have to pay a monthly subscription to play. You go into this fantasy world...

[Some participants nod.]

Facilitator: You do? Ok. But you don't play those games?

[A chorus of "No" from the participants.]

P1: My brother has those games but. I tried playing. I tried to play with him once. I just wasn't interested.

Facilitator: Is it because it cost money? Tell me. I know when I was first introduced to *Star Craft*, I thought it was too complicated for me to figure out what to do and ...I was curious to know what if you had experience playing those games, and so what was that like? So for you, your brother, it just didn't work out very well?

P1: He tried to explain it to me, how to play it, but I wasn't...trying to learn.

Because the facilitator had experience playing FPSs and MMOGs, she self-disclosed this information to tease apart why this particular group of women did not play them. It was not because they were unfamiliar with these genres or could not afford them. As noted above, one woman shared her experience of trying to play these types of games with her brother, revealing that the learning curve associated with these games caused her to lose interest. The facilitator shared that she too had difficulty learning how to play MMOGs, acknowledging that it takes enthusiasm and time to learn how to navigate and manage resources to thrive in such games. We realized that the time commitment and learning curve became a deterrent from playing FPSs and MMOGs for this subset of Black women who had a limited amount of time to play games. In contrast, casual games allowed Black women who chose video games as a form of recreation to play them in smaller increments of time, creating microflow gameplay experiences [47-49].

### **Games as a Social Activity**

Four women reported that gaming was more of a social activity shared with family members and friends. Interestingly enough, this group of Black women reported incidents in which they played console games and board games typically with family members.

P1: Then I also played Monopoly. Like when I go to my grandma's house, she still likes to play Monopoly and Boggle and other board games like that and Scrabble.

P2: ...and then we would have family, not for me, but I was like people come over so then that was like the time when everybody was playing games so like we would play Taboo, Guesstures, uhm Game of Life, Sorry. I used to play all those games.

P4: I played all those games too but when I was like 8, I used to play this like boxing game my dad had, used to play with my dad all the time.

Facilitator: When I was growing up, we played board games as a family past time, so especially around the holidays. So Monopoly. Uhm, you mentioned Life, we played that. Taboo is our new thing....

P4: I love to play Monopoly, so with my dad and I and with my sisters. We'll play Monopoly again. I like that. Uh, the interactions and such.

It became clear that gaming was more of a social activity shared with family members and friends. Like DiSalvo et al. [50] the Black women remembered playing video games with family members when they were younger, especially console games like Nintendo DS. During the focus group discussion, the Black women talked about a brother who tried to teach them how to play a FPS, a father who would play a boxing game with his daughter or siblings who wanted their sister to play Wii with them. This suggested that family members played an influential role in whether this particular group of women played video games. However, board games such as Monopoly remained culturally relevant since family members still played these board games for fun. Even the facilitator self-disclosed her family's practice of playing board games during the holidays. This made salient the opportunity to study familial practices centered around playing board games.

#### **Free Time Spent on Other Recreational Activities**

We surmised that the majority did not play video games weekly but played them infrequently, choosing to engage in other activities such as watching Netflix, hanging out with friends for recreation or just catching up on sleep.

P3: I just don't make times for games. If I have free time, unless I'm in the car or something. If I have free time, I will, more than likely, I'm not going to spend it playing games on computer or on my phone. I am going to find something else to do.

P5: Uhm well like when I'm like busy or something, games are not the first thing that come to mind. Like usually I want to go on Netflix or I want to talk to my friends or just hang out with them or something. But the only time I really do play any type of games is when I have like nothing else to do, or I want to play the Wii and I'm with my friends or we want to play Just Dance or something like that. But it I really have to be in the mood to play games 'cause I otherwise I'm just not thinking about that.

Facilitator: What do you prefer to do for fun?

P2: Sleep. Eat. Workout. Yoga.

P1: For me personally. Like you said I really don't have time to play games. And like also I I just don't play. I don't have any games on my phone because I personally don't, well I used to but like now I personally don't like having games on my phone. The only game that I really play that interests me is like playing something on the Wii. I'll play that. Other than that, I really don't care for games so.

Repeatedly, the women conveyed the message that video games were for kids since they had started playing video games when they were younger, some as young as 5 years old. They had better things to do with their free time than to play video games as adults. In contrast to Brown's [1] report which showed that more adult women than young boys play video games in the U.S., the low frequency rate for gameplay suggested that perhaps a critical mass of Black women between the ages of 18 and 39 were not playing video games for leisure. Though this particular population of young Black women appreciated the ubiquity of mobile games and favored casual and puzzle games, the demands of college and competing interests precluded them from spending a considerable amount of time playing video games. Due to the small sample size, it was not clear if a substantial percentage of young adult Black women chose to play video games in their spare time.

#### **DISCUSSION**

Using intersectionality as a framework for game studies research helps to create a more inclusive gaming subculture that recognizes and accepts different norms for gaming. Though the concept of intersectionality encompasses many different facets, we focus on the social context in which Black college women chose to play or not play video games. We are equally interested in Black college women who play video games as well as those who do not, thus giving attention to and disclosing dissenting perspectives [30]. Paying close attention to the plurality of gameplay experiences for this particular audience further defines the continuum of players' positive and negative gameplay experiences and those that fall in between.

##### *Inclusion as a By-Product of Intersectionality*

The game nights and the focus group discussion took place on the campus of the all-female Historically Black College, specifically in the computer lab where students had guaranteed access to the internet and computers to play web-based video games. This was significant because computer labs at this all-female Historically Black College are gender inclusive learning environments that remove the barrier of access to technology. (All students do not own laptops.) This also sends the message that Black women are welcome to play



games in the computer lab. Because we intentionally recruited participants from the general student population, this particular group of Black women ranged from 18 to 29 years of age and included traditional as well as non-traditional college students (more mature women who were raising families or had decided to pursue their bachelor's degree later in life), women who played video games, women who admittedly did not play video games, Science Technology, Engineering & Mathematics (STEM) majors, non-STEM majors, etc. The participants in our game study represented a diverse population of Black college women, thereby promoting the principle of *inclusion*, a by-product of intersectionality [23].

Because intersectionality invites the inclusion of those who are often silenced, ignored or just invisible, the inclusion of marginalized populations challenges the status quo. DiSalvo et al. [34] illustrates this by using the Glitch Program to give Black males, another marginalized population in gaming, exposure and access to the gaming industry while challenging their perceptions of who does computing. Intersectionality by its very nature is designed to empower people and influence change [29]. We want to empower Black women to believe that the act of gaming, whether its PC games, console games or even mobile games, includes them too and that their experiences are relevant within the gaming subculture.

#### *Intersectionality Invites Self-Disclosure*

The act of self-disclosure, revealing the researcher's relationship with participants and motivations for doing the research, has emerged as a new method for conducting intersectionality research involving disenfranchised populations in the context of Human Computer Interaction (HCI) [24,39]. Self-disclosure requires the researcher to understand his/her role in conducting research, to admit to any assumptions or biases about the targeted marginalized populations and to leverage individual experiences relative to the study being done [24]. Similar to the critical design theory framework [38], intersectionality views the researcher as a creative agent in the analysis process, placing the researcher within the scope of analysis. Self-disclosure holds the researcher accountable for any assumptions or biases made about the marginalized populations while simultaneously interrogating the integrity of the results presented.

When using intersectionality as an analytical framework in the context of HCI, it is important to build social capital when working with marginalized populations. While intersectionality places members of the targeted community in close proximity to the researcher, self-disclosure helps to establish both credibility and rapport and invites intimate discussions about participants' life experiences [29]. In the spirit of self-disclosure, the first

author leveraged her position as a faculty member on the all-female Historically Black College campus to host multiple gaming events over a period of 6 months, investing time and resources to become well-acquainted with the target population and collect data. Additionally, the first author introduced herself as a Black woman who studies the design and use of educational games during all campus gaming events, including the focus group discussion. She also identified herself as a Black woman who plays video games but does not proclaim to be a gamer. This motivates her interest in addressing the underrepresentation of women of color in the gaming industry and their invisibility among the subculture of gamers. It is the first author's goal to render women of color as being visible within the community of gamers. The act of sharing her experience with games and her motivations for investigating Black women's gaming behaviors reduces the power distance between the researcher and the members of marginalized populations, establishes rapport with participants, and encourages participants to share their personal experiences and opinions about games.

#### *Non-Incidental Gameplay vs. Infrequent Gameplay*

This particular population of Black women largely represented casual gamers with the majority preferring to play mobile and puzzle games. In comparison to FPSs or MMOGs, genres that require players to interact with others to accomplish game tasks, mobile games created more solo gameplay experiences which insulated this particular group of Black women from other players' implicit biases and incidents of racial and/or gender discrimination. Even when Black women reported gaming as a social activity, it was conducted within the supportive environment of family and friends, a typical context for gaming in some Black and Latino households [43,50]. To some degree, this explains why none of the women in this particular game study reported incidents of racism or gender discrimination during gameplay. The lack of reported incidents during gameplay, an example of studying the mundane, provides insights for designing positive gameplay experiences across different genres. For example, game designers of multiplayer games (e.g., FPSs, MMOGs or strategy games) could implement mechanisms that enable players to block and report negative social interactions with other players while also holding individual players accountable for their behavior or actions towards others. Doing so creates a more inclusive environment in multiplayer games and sends the message that neither racial, gender or other acts of discrimination will be tolerated.

On the other hand, some of the Black college women shared that they had stopped playing games due to lack of time and interest. Most participants in the focus group discussion repeatedly referred to a time when they were younger and played games more often, a common gaming



practice for young Black males [43]. When pressed about how they chose to spend their recreational time, focus group participants accredited their lack of interest in gaming or infrequency of play to spending face-to-face time with friends, engaging with social media, physical well-being or simply catching up on sleep due to hectic schedules which included academic activities and extra-curricular pursuits. Participants' explanations seemed reasonable since freshmen college students are adjusting to college life and learning how to manage their time wisely. Additionally, this confirmed prior game studies that revealed that more mature women (30 years old and up) than younger women play games for leisure [16]. Given that this particular group of Black women are between the ages of 18 and 29 years old, this supports the theory of age as a determining factor in players' motivations for gaming [16]. The question remains as to whether we would see the same infrequency of gaming and lack of interest in other women in the same age bracket regardless of ethnicity (future work), and if so, then the gaming subculture is not at fault. Rather, it would require recognizing that the typical lifespan for women involves pursuing educational, career and personal goals in early adulthood, childbearing years which leaves less time for recreational pursuits such as gaming [49].

#### *Casual Gamers on the Continuum of Players' Experiences*

Our purpose is to make salient the different gaming practices that exist among diverse population of players to define the continuum of players' experiences. Given that most women who play games do not perceive themselves as gamers [3-5], it was not surprising when one Black woman explicitly stated, "Uh, I've never really been a gamer type of person. Besides maybe things like mobiles games on my phone or just playing pool against somebody on iMessage games but that's about it." We can understand why the Black women in our study shared the same perception. The common misconception is that the average gamer is either a White or Asian male, owns a sophisticated gaming system and spends several hours every day playing games [11,27,51]. Because games played on mobile devices have become synonymous with casual games, playing mobile games is perceived as a sign of a non-gamer [48-49,51]. Comments from gamers on game forums, blogs and articles indicate that playing mobile games is for girls/females and that real gamers play more than just mobile games [52]. This is one of the reasons why women who play mobile games do not perceive themselves as members of the gaming subculture. Contrary to this popular misconception, mobile games account for 42% of the growing global gaming market with U.S. sales poised to exceed \$900 million dollars in 2018 [53]. As evident of market sales, the gaming industry recognizes the significance of casual

gamers in the continuum of player experiences and creates games that cater to this player demographic.

Careful examination of everyday, non-incidental gameplay experiences translates to the larger player demographic, one of the benefits of reverse markedness [36]. Our initial findings reveal that this population of Black college women prefer to play mobile games and are casual gamers at best, partly because of the daily routine of their busy lives [54]. Giving the hectic lifestyles of many women players who juggle career demands and/or family obligations, casual games accommodate an intermittent playing style for this population of Black college women [48-49]. With so many competing interests and responsibilities, Black college women value ubiquity as a key component of the gameplay experience, a motivating factor for their preference for mobile games.

Mobile games inherently offer affordances that create various kinds of gameplay experiences for the casual gamer. For example, mobile games provide *gaming on the go experiences*, the ability to play games anytime and anywhere. One focus group participant admitted that she played mobile games because "they are always with you," indicating that she carried her mobile device everywhere she went and having easy access enabled her to play games whenever she desired. Participants talked about playing mobile games while riding in the car. The *gaming on the go* casual gamer does not want to be limited to the use of specialized equipment or a designated location to engage in gaming and enjoys the freedom of play that mobile games provide. Likewise, mobile games afford players the ability to fill in gaps of time between tasks or *kill time* [49,54]. In the focus group discussion, participants talked about playing games when they had nothing else to do or as a last resort. Participants in the focus group discussion portray the *killing time* casual gamer as one who plays mobile games when she is physically restricted to a geographical location (e.g., sitting in a meeting, waiting in the doctor's office, etc.) and she is looking for something to do to pass the time. In our exploratory study, the *killing time experience* reflects Black college women's desire to avoid boredom, using mobile games as a welcomed distraction to immediate circumstances (e.g., physically constrained but mentally available). Both player experiences represent plausible situations that any player may encounter at one time or another, highlighting the different nuances of casual gameplay.

#### **LIMITATIONS OF THE STUDY**

Because this study consisted of a markedly small number of Black women (n=69 for the online game questionnaires and n=8 for the focus group discussion), these findings are specific to this particular population of

Black college women and cannot be generalized to the larger population of Black women. To address this issue, we would need to engage a significantly larger population of Black women of diverse educational backgrounds, socioeconomic status, and gameplay experiences (those who identify as avid gamers and those who do not), using a variety of data collection methods to attain a more comprehensive view of Black women's gaming practices. Although the study emphasized Black college women's gaming behaviors, our findings suggest that pivotal events in a woman's lifespan correlate to their interest in gaming and frequency of gameplay [49]. Supplementary comparative game studies inclusive of both Black women and Black men of various ages are needed to determine the validity of such a premise. Furthermore, we only identified two types of casual gameplay experiences. However, additional game studies will define more reference points along the continuum of players' experiences. Finally, just as Black women represent a heterogeneous population, all Black women do not identify themselves as females. Gender identity (transgender, cis-gender, etc.) is a complex issue within the Black community; examining gender identity in the context of gaming adds another level of complexity, one that was not discussed in this game study. These issues will be addressed in future work.

## CONCLUSION

This paper represents the first steps towards understanding Black women's gaming behaviors and practices. Applying an intersectionality framework as a lens for understanding this specific population enabled us to create an inclusive game study that involved a diverse group of Black college women who shared their motivations for playing, and in some cases, not playing games. Using self-disclosure as a technique for establishing rapport, the first author probed participants' preferences for ubiquitous gameplay experiences, board games as a shared social activity and puzzle games to accommodate solo gameplay. For this particular group of Black college women, academic responsibilities, competing recreational interests, and preference for face-to-face social interactions contribute to infrequent gameplay. Thus, this specific group of Black college women are casual gamers, at best, playing mobile games on the go or to kill time.

Given that none of the participants reported incidents of racial or gender discrimination during gameplay, our findings suggest that casual gamers are more insulated from players' implicit biases and consequently, racial and gender discrimination because their gameplay experiences do not necessarily require social interactions with other players. Additionally, board

games serve as a social activity share with family members and friends. When considering positive experiences among the broad spectrum of players' experiences, we see the need to provide protection in more socially interactive games to ensure that these game genres also provide a positive gameplay experience for all players. Finally, we hope that the result of our research will engage the gaming community in discussions about what it means to be a woman of color who chooses to play games and how we can create a more inclusive gaming subculture.

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## REFERENCES

- [1] Anna Brown. 2017. Younger men play video games, but so do a diverse group of Americans. (September 2017). Retrieved April 9, 2018 from <http://pewrsr.ch/2xUYepm>
- [2] Entertainment Software Association. 2017. Essential Facts about the Computer and Video Game Industry: 2017 sales, demographic and usage data.
- [3] Maeve Duggan. 2015. Gaming and Gamers. *Pew Research Center Internet, Science & Tech.* (December, 2015). Retrieved April 9, 2018 from <http://pewrsr.ch/1Za2yjr>
- [4] Adrienne Shaw. 2012. Do you identify as a gamer? Gender, race, sexuality, and gamer identity. *New Media & Society* 14, 1: 28-44. <https://doi.org/10.1177/1461444811410394>
- [5] Adrienne Shaw. 2013. On not becoming gamers: Moving beyond the constructed audience. *Ada: A Journal of Gender, New Media, and Technology* 2. <http://doi.org/10.7264/N33N21B3>
- [6] Nina Huntemann. 2013. Introduction: Feminist Discourses in Games/Game Studies. *Ada: A Journal of Gender, New Media, and Technology* 2.
- [7] Justine Cassell and Henry Jenkins. 1998. Chess for girls? Feminism and computer games. In *From Barbie to Mortal Kombat: Gender and computer games*, Justine Cassell and Henry Jenkins (ed.). MIT Press, Cambridge, MA, 2-45.
- [8] Reijmersdal Eva A. Van, Jeroen Jansz, Oscar Peters and Noort Guda Van. 2013. Why girls go pink: Game character identification and game-players' motivations. *Computers in Human Behavior* 29, 6: 2640-2649. <https://doi.org/10.1016/j.chb.2013.06.046>
- [9] Bendilin Spurr. 2012. Eulogy for 'Beat up Anita Sarkeesian.' *Newgrounds*. Retrieved April 9, 2018 from <http://www.newgrounds.com/portal/view/598591>
- [10] Kirk Hamilton. 2012. Competitive gamer's inflammatory comments spark sexual harassment debate. *Kotaku*. Retrieved April 9, 2018 from <https://kotaku.com/5889066/competitive-gamers-inflammatory-comments-spark-sexual-harassment-debate>
- [11] Mia Consalvo. 2012. Confronting toxic gamer culture: a challenge for feminist game studies scholars. *Ada: A Journal of Gender, New Media & Technology* 1. <http://doi.org/10.7264/N33X84KH> Leigh Alexander. 2012. In the sexism discussion, let's look at game culture. *Gamasutra*. Retrieved April 9, 2018 from

- [http://gamasutra.com/view/news/174145/Opinion\\_In\\_the\\_sex\\_ism\\_discussion\\_lets\\_look\\_at\\_game\\_culture.php](http://gamasutra.com/view/news/174145/Opinion_In_the_sex_ism_discussion_lets_look_at_game_culture.php).
- [12] Leigh Alexander. 2012. In the sexism discussion, let's look at game culture. *Gamasutra*. Retrieved April 9, 2018 from [http://gamasutra.com/view/news/174145/Opinion\\_In\\_the\\_sex\\_ism\\_discussion\\_lets\\_look\\_at\\_game\\_culture.php](http://gamasutra.com/view/news/174145/Opinion_In_the_sex_ism_discussion_lets_look_at_game_culture.php).
  - [13] Katie Williams. 2012. I can be just as capable. Let me. *Kotaku*. Retrieved April 9, 2018 from <http://www.kotaku.com.au/2012/06/513794/>.
  - [14] Jennifer Jenson and Castell de. 2016. Gamer-hate and the "problem" of women. In *Diversifying Barbie and Mortal Kombat: Intersectional Perspectives and Inclusive Designs in Gaming*, Yasmin B. Kafai, Gabriela T. Richard, and Brendesha M. Tynes (ed.). ETC Press, Pittsburgh, PA, 186.
  - [15] Nick Yee. 2006. The demographics, motivations, and derived experiences of users of massively multi-user online graphical environments. *Presence: Teleoperators and Virtual Environments* 15, 3: 309-329. <https://doi.org/10.1162/pres.15.3.309>
  - [16] Nick Yee. 2008. Maps of digital desires: Exploring the topography of gender and play in online games. In *Beyond Barbie and Mortal Kombat: New perspectives on gender and gaming*, Yasmin B. Kafai, Heeter Carrie, Denner Jill, and Y. Sun Jennifer (ed.). The MIT Press, 83-96.
  - [17] Dmitri Williams, Nick Yee and Scott E. Caplan. 2008. Who plays, how much, and why? Debunking the stereotypical gamer profile. *Journal of computer-mediated communication* 13, 4: 993-1018. <https://doi.org/10.1111/j.1083-6101.2008.00428.x>
  - [18] Gabriela T. Richard. 2016. At the Intersections of Play. In *Diversifying Barbie and Mortal Kombat: Intersectional Perspectives and Inclusive Designs in Gaming*, Yasmin B. Kafai, Gabriela T. Richard, and Brendesha M. Tynes (ed.). ETC Press, Pittsburgh, PA, 71-91.
  - [19] Jennifer Malkowski and Treaandrea M. Russworm. 2017. *Gaming Representation: Race, gender and sexuality in video games*. Indiana University Press.
  - [20] Lisa Nakamura. 2016. "Putting Our Hearts Into It." In *Diversifying Barbie and Mortal Kombat: Intersectional Perspectives and Inclusive Designs in Gaming*, Yasmin B. Kafai, Gabriela T. Richard, and Brendesha M. Tynes (ed.). ETC Press, Pittsburgh, PA, 35-47.
  - [21] Yasmin B. Kafai, Gabriela T. Richard and Brendesha M. Tynes. 2016. *Diversifying Barbie and Mortal Kombat: Intersectional perspectives and inclusive designs in gaming*. ETC Press.
  - [22] Yasmin B. Kafai, Heeter Carrie, Denner Jill, and Y. Sun Jennifer. 2008. *Beyond Barbie and Mortal Kombat: New perspectives on gender and gaming*. The MIT Press.
  - [23] Katherine Castiello Jones, Joya Misra and K. McCurley. 2013. Intersectionality in sociology. *Sociologists for Women*.
  - [24] Kimberle Crenshaw. 2018. Demarginalizing the Intersection of Race and Sex: A Black feminist critique of antidiscrimination doctrine, feminist theory, and antiracist politics [1989]. In *Feminist Legal Theory: Foundations*, Kelly Weisberg D. (ed.). Temple University Press, Philadelphia, PA, 383-395.
  - [25] Patricia Hill Collins. 1986. Learning from the outsider within: The sociological significance of Black feminist thought. *Social problems* 33, 6: s14-s32. <https://doi.org/10.2307/800672>
  - [26] Sandra G. Harding. 2004. *The feminist standpoint theory reader: Intellectual and political controversies*. Psychology Press.
  - [27] David Leonard. 2006. Not a hater, just keepin'it real: The importance of race-and gender-based game studies. *Games and Culture* 1, 1: 83-88. <https://doi.org/10.1177/1555412005281910>
  - [28] David Leonard. 2009. Young, black (& brown) and don't give a fuck: Virtual gangstas in the era of state violence. *Cultural Studies? Critical Methodologies* 9, 2: 248-272. <https://doi.org/10.1177/1532708608325938>
  - [29] Patricia Hill Collins and Sirma Bilge. 2016. *Intersectionality*. Polity Press.
  - [30] Sheena Erete, Aarti Israni and Tawanna Dillahunt. 2018. An intersectional approach to designing in the margins. *Interactions* Vol 25 Issue 3 May-June 2018, 66-69. <https://doi.org/10.1145/31943449>
  - [31] Orit Shaer, Lauren Westendorf, Nicholas A. Knouf, and Claudia Pederson. 2017. Understanding gaming perceptions and experiences in a women's college community. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* (CHI '17), 1544-1577. <http://doi.org/10.1145/3025453.3025623>
  - [32] Soraya Murray. 2017. The Rubble and the Ruin: race, gender and sites of inglorious conflict in spec ops: the line. In *Gaming Representation: Race, gender and sexuality in video games*, Jennifer Malkowski and Treaandrea M. Russworm (ed.). Indiana University Press, Bloomington, IN, 147-163.
  - [33] Treaandrea M. Russworm. 2017. Dystopian Blackness and the Limits of Racial Empathy in The Walking Dead and The Last of Us. In *Gaming Representation: Race, gender and sexuality in video games*, Jennifer Malkowski and Treaandrea M. Russworm (ed.). Indiana University Press, Bloomington, IN, 109-128.
  - [34] Betsy DiSalvo, Sarita Yardi, Mark Guzdial, Tom McKlin, Charles Meadows, Kenneth Perry and Amy Bruckman. 2011. African American males constructing computing identity. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI '11), 2967-2970.
  - [35] Cale J. Passmore, Max V. Birk, and Regan L. Mandryk. 2018. The privilege of immersion: Racial and ethnic experiences, perceptions, and beliefs in digital gaming. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems* (CHI '18), 383. <http://doi.org/10.1145/3173574.3173957>
  - [36] Wayne Brekhus. 1998. A sociology of the unmarked: Redirecting our focus. *Sociological Theory* 16, 1: 34-51. <https://doi.org/10.1111/0735-2751.00041>
  - [37] Shaowen Bardzell. 2010. Feminist HCI: taking stock and outlining an agenda for design. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI '10), 1301-1310. <http://doi.org/10.1145/1753326.1753521>
  - [38] Shaowen Bardzell, Jeffrey Bardzell, Jodi Forlizzi, John Zimmerman, and John Antanitis. 2012. Critical design and critical theory: the challenge of designing for provocation. In *Proceedings of the Designing Interactive Systems Conference* (DIS '12), 288-297. <http://doi.org/10.1145/2317956.2318001>
  - [39] Ari W. Schlesinger, Keith Edwards and Rebecca E. Grinter. 2017. Intersectional HCI: engaging identity through gender, race, and class. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* (CHI '17), 5412-5427. <http://doi.org/10.1145/3025453.3025766>
  - [40] Anna Everett and Craig Watkins. 2008. The Power of Play: The portrayal and performance of race in video games. In *The Ecology of Games: Connecting youth, games, and learning*, Katie Salen (ed.). MIT Press, Cambridge, MA, 141-166. <http://doi.org/10.1162/dmal.9780262693646.141>
  - [41] André Brock. 2011. "When Keeping it Real Goes Wrong": Resident Evil 5, Racial Representation, and Gamers. *Games and Culture* 6, 5: 429-452. <https://doi.org/10.1177/1555412011402676>

- [42] Yolanda A. Rankin. 2016. Diversity by design: Designing inclusive language learning video games. In *Conference Proceedings for ACM SIGCHI 2015 Case Studies* (CHI '15).
- [43] Sinem Siyahhan and Elisabeth Gee. 2016. Understanding gaming and gender within the everyday lives of Mexican-American family homes. In *Diversifying Barbie and Mortal Kombat: Intersectional perspectives and inclusive designs in gaming*, Yasmin B. Kafai, Gabriela T. Richard, and Brendesha M. Tynes (ed). ETC Press, Pittsburgh, PA, 92-104.
- [44] Kishonna L. Gray. 2016. Solidarity is for white women in gaming. In *Diversifying Barbie and Mortal Kombat: Intersectional perspectives and inclusive designs in gaming*, Yasmin B. Kafai, Gabriela T. Richard, and Brendesha M. Tynes (ed). ETC Press, Pittsburgh, PA, 59-70.
- [45] Cale J. Passmore and Regan L. Mandryk. 2018. An about face: Diverse representation in games. In *Proceedings of the 2018 Annual Symposium on Computer-Human Interaction in Play* (CHI' 18), 365-380.
- [46] Leslie McCall. 2005. The complexity of intersectionality. *Signs: Journal of Women in Culture and Society* 30, 3: 1771-1800.
- [47] Mihaly Csikszentmihalyi. 1977. *Beyond boredom and anxiety: The experience of play in work and games*. Jossey-Bass Publishers, San Francisco, CA.
- [48] Braxton Soderman. 2017. No Time to Dream: Killing time, casual games, and gender. In *Gaming Representation: Race, gender and sexuality in video games*, Jennifer Malkowski and Treaandrea M. Russworm (ed.). Indiana University Press, Bloomington, IN, 38-53.
- [49] Shira Chess. 2017. *Ready Player Two: women gamers and designed identity*. University of Minnesota Press.
- [50] Betsy DiSalvo, Kevin Crowley and Roy Norwood. 2008. Learning in context: Digital games and young black men. *Games and Culture* 3, 2: 131-141. <https://doi.org/10.1177/1555412008314130>
- [51] Betsy DiSalvo. 2016. Gaming Masculinity. In *Diversifying Barbie and Mortal Kombat: Intersectional Perspectives and Inclusive Designs in Gaming*, Yasmin B. Kafai, Gabriela T. Richard, and Brendesha M. Tynes (ed.). ETC Press, Pittsburgh, PA, 105-117.
- [52] Jonathan McIntosh. 2014. Playing with privilege: The invisible benefits of gaming while male. *Polygon*. Retrieved April 12, 2018 from <https://www.polygon.com/2014/4/23/5640678/playing-with-privilege-the-invisible-benefits-of-gaming-while-male>
- [53] Games Newzoo. 2017. Global Games Market Report: An overview of trends and insights. Retrieved April 9, 2018 from <https://newzoo.com/solutions/standard/market-forecasts/global-games-market-report/>
- [54] Jussi Kuittinen, Annakaisa Kultima, Johannes Niemelä, and Janne Paavilainen. 2007. Casual games discussion. In *Proceedings of the 2007 Conference on Future Play*, 105-112. <https://doi.org/10.1145/1328202.1328221>