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Injustice in Mobile Leisure: A Conceptual Exploration of Pokémon Go

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Abstract

In augmented reality, video games and the physical world converge as individuals participate in digital leisure overlaid on physical spaces. In Pokémon Go, game play in the physical world is impacted by constraints that limit access and play of marginalized groups. Global popularity of Pokémon Go created an opportunity to explore experiences of marginalized groups participating in augmented reality game play. Grey literature surrounding Pokémon Go is rich with accounts of constraints experienced by marginalized groups, particularly individuals self-identifying as White women, Black women, or Black men. Their experiences with Pokémon Go illustrate the need for social justice in digital leisure. Because the lifespan of mobile applications is limited, the gradual process from research to social change may be insufficient in addressing ever evolving digital platforms. Researchers need to strategically work with industry partners to identify needs for social justice during the planning and designing stages.

Keywords

augmented reality; constraints; social justice; women's leisure; race

Introduction

The release of Pokémon Go and the growing prevalence and popularity of mobile gaming brought to light accompanying concerns regarding equity in mobility and access. According to the Boy Genius Report (BGR), a rising tech blog, Pokémon Go became the top grossing application (app) within 13 hours of its July 6, 2016, release in the United States and quickly outranked popular games (e.g., Candy Crush, Clash Royale) and apps (e.g., Tinder) in active daily users (Siegal, 2016). However, concerns regarding the accessibility and safety of the game, particularly among individuals identifying as White women, Black women, or Black men, quickly emerged. In light of these concerns, the general ease of game play, and the

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worldwide demand for the game, Pokémon Go is a prime case for exploring issues of social justice in rapidly emerging digital leisure platforms, such as augmented reality gaming.

Mobile gaming encompasses both playing games or apps on mobile devices such as tablets or smartphones, and the designing, marketing, and selling of those games or apps (Chandler & Munday, 2016). Gaming technology first became mobile with the introduction of Tetris in 1994 (Chandler & Munda, 2016). Since then, the meteoric rise in sophisticated mobile technologies has introduced an even greater aspect of mobility and accessibility to digital leisure. Mobile technology has become an integral part of day-to-day life in the United States (Christensen, 2009), and consequently, digital leisure is more common among a greater number of people than in previous generations. Smartphones, used by more than half of mobile phone users in the United States (Pew Research Internet Project, 2014), have revolutionized mobile devices by supporting GPS functionality and other application services that facilitate digital leisure (Suh, Lee, & Park, 2012). Moreover, the ubiquity of mobile technology creates opportunities for gaming that may be more accessible to a larger number of people (Bryce & Rutter, 2003).

Augmented reality games (e.g., Pokémon Go) bridge the gap between video games and physical space by introducing a hybridized ecology where elements of both physical and digital spaces interact in a single environment (Crabtree & Rodden, 2008). In augmented reality, participants use their mobile device to overlay digital play onto physical spaces as viewed through their mobile device. Figure 1 shows augmented reality in the Pokémon Go interface with the game using geolocation to create a digital map with play overlaid on physical space. Figure 2 shows the in-game option to augment game play over the physical setting viewed through the mobile device camera.

Physical and digital environments have previously offered distinct leisure contexts for individuals to pursue unique types of leisure. With the mixing of these two environments, constraints to leisure may be experienced in one or both spaces, thus facilitating a need for further examination of inequalities in these hybridized spaces. Therefore, this paper serves as a conceptual exploration of injustice in mobile gaming using Pokémon Go as an example. We begin by defining augmented reality and introducing Pokémon Go. We provide a brief overview of historical and contemporary examples of social injustice in physical and digital leisure spaces as experienced by White women, Black men, and Black women. Finally, we conclude with a discussion of injustice at the union of physical and digital spaces (i.e. augmented reality) with supporting examples from White women, Black men, and Black women and their experiences with Pokémon Go.

Intersection of Physical and Digital Spaces: Augmented Reality

Augmented reality (AR) has been defined as, “the fusion of any digital information with physical world settings” (Adams, Gaved, Mor, & Thomas, 2013, p. 44). This fusion of physical and digital spaces often presents itself in the form of location based mobile games. Location based mobile games are a form of AR which allow a user to augment their immediate surrounding with information or data from an external source, such as a mobile device, most often a mobile phone. While playing an AR location-based mobile game, a

player will often experience an environment in both the virtual world and the real world simultaneously. For example, a player may point her device toward a building and the app on her device will add characters and features to the building that are not physically present. Unlike standard video games, which allows users to hide behind their screen and communicate through digital tools, AR requires users to travel through the world as themselves. The anonymity provided by typical video games is stripped away, and biases and stigmas experienced in everyday life re-emerge.

Augmented Reality: Pokémon Go

According to usage data collected from Survey Monkey Intelligence in a market research panel of over one million mobile users, Pokémon Go became the “biggest mobile game in U.S. history” only one week after its launch (Allan, 2016, para. 1). Following initial launch, the average player was characterized as a 25-year old White woman with a college degree and an average annual income of \$90,000 (Sonders, 2016). Following its initial surge in popularity, the game experienced a shift in demographics, and as of December 6, 2016, the average player was still a 25-year-old White woman, however, the player base increased in representation of less wealthy, older men (Sonders, 2016). Black Americans were slightly underrepresented (9%) in Pokémon Go compared to 2012 census data (12.3%, Sonders 2016).

Pokémon Go tasks its players with using AR to move through the real world collecting virtual Pokémon, animated fictional creatures, located all across the globe. Users can collect items at Pokéstops and attempt to control gyms, populated at cultural landmarks and other locations of significance in physical spaces (Bogle, 2016). While Pokémon Go may be one of the first AR games to amass success at a global level, it is built upon the shoulders of its direct predecessor, Ingress (Bogle, 2016).

Ingress is an AR game developed by Niantic Inc. (the developer of Pokémon Go) in 2012 (Tumbleson, 2016). Players interact throughout the real world with various portals located at cultural landmarks and places of significance. These portals were developed with players over four years and serve as the basis for the location of Pokéstops and gyms in Pokémon Go (Frank, 2016). In Ingress, players can apply for portal locations to be added to the game. Since Ingress’ beta launch in 2011, over 15 million portals have been submitted, with over 5 million approved (Frank, 2016). This crowdsourcing of locations, while effective, raises the question about who plays Ingress and how they compare to new types of users who may play Pokémon Go.

According to a survey administered to a convenience sample of 1,250 Ingress players, the player base was 70.0% cisgender men and 79.7% White with the majority of gameplay occurring in cities/urban areas (Winegarner, 2015). Because Pokémon Go is built on the spine of a game shaped by cisgender White men who self-selected locations as culturally significant, the significance of these real-world locations may not transfer to other groups and individuals, specifically, men/women of color and White women. In addition, women and men of color may not feel comfortable going to many of these locations, for fear of personal safety or harassment. Day (1999) demonstrated that middle class women perceive

varying levels of fear in public spaces depending on the perceived racial identity of the space, with White women and women of color fearing spaces with different perceived racial identities. These factors are likely to impact individuals seeking to participate in leisure and can be conceived of as constraints to participation.

Constraints and Pokémon Go

Traditional constraint models have suggested three major types of leisure constraints: intrapersonal, interpersonal, and structural (Crawford, Jackson, & Godbey, 1991). Each of these constraints has potential to impact individual participation and access to leisure, including AR digital leisure. Participation in AR could be influenced by one or more types of constraints from this model. For example, individual participation could be constrained by lack of knowledge about a game (intrapersonal), harassment from others when playing (interpersonal), and lack of play space in their neighborhood (structural). However, Crawford et al. (1991) argued that constraints are hierarchical and Godbey et al. (2010) extended the model by suggesting the components are integrated. Because many of the constraints faced by individuals playing Pokémon Go involve interactions with fellow players, game designers, or law enforcement, this paper focuses on interpersonal constraints while reminding readers that interpersonal constraints can rarely be isolated from the complex human experience of obstacles constraining leisure at multiple level. In addition, both cultural norms and an individual's cultural background are likely to impact individual experience of barriers to leisure—though the same set of constraints may be experienced differently by different people because of their varying social, historical, or cultural contexts (Godbey, Crawford, & Shen, 2010).

Constraints associated with social constructs often fall into the interpersonal category where social conceptions of gender and race limit the experiences of participants by enforcing social barriers and boundaries to leisure participation. Acceptable norms of race and gender are reinforced by individuals and groups with power and social sanctions (e.g., harassment, suspicion, exclusion, bullying) may be enacted in response to individuals who violate or resist these norms. Cultural norms for race and gender are deeply rooted in socio-cultural expectations that guide what leisure is considered appropriate and available for both individuals and groups. These norms and accompany sanctions for violating norms can influence how individuals and groups experience leisure spaces by constraining their access or pushing them to the margins of leisure spaces. Constraints are also experienced within a hierarchy of social privilege (Crawford et al., 1991). Research has demonstrated a close relationship between demographic variables (e.g., race, ethnicity, and gender) and the extent and prevalence of constraints a person experiences in leisure (Crawford et al., 1991). For example, in a national study of constraints to outdoor recreation, African Americans and Native Americans felt unwelcome and uncomfortable in natural spaces, and they, along with Asian Americans, Native Hawaiians, and women of all races, felt unsafe compared to their European American, men counterparts (Ghimire et al., 2014).

Constraints to participation extend beyond physical entry or access (i.e., structural constraints) and often encapsulate restrictions imposed by cultural norms of the dominant group and discomfort while participating. In a study of Black women, interpersonal barriers

to participating in physical activity included threats to safety such as verbal harassment, physical harm, and violence (Joseph, Ainsworth, Keller, & Dodgson, 2015). Nakamura (2007) posited that like their non-digital counterpart, the internet and games mirror the race-based stereotypes experienced in everyday reality. In leisure spaces where digital and physical realities meet, users may experience constraints extending from both spaces, creating a unique intersection of constraints to participation. In fact, popular media has documented that men of color and women of all races experience interpersonal constraints during their play of Pokémon Go (see Ahktar, 2016; Winegarner, 2016). Therefore, this paper will focus on interpersonal constraints, particularly those guided by the impact of social constructs of gender and race.

Injustice in leisure spaces occurs when constraints limit an individual's or group's participation in leisure and access to resulting benefits (Allison, 2000). Parry, Johnson, and Stewart (2014) suggest that because the world is ever changing, there is a space for the world to become more just and equitable via social justice. For this paper, we define social justice as an active process required to create equitable access to leisure spaces regardless of an individual's race, gender, or other identity factors. Emerging digital leisure provides new opportunities to understand how both previously observed and new forms of injustice can be addressed in order to create i accessible and safe leisure spaces for all groups.

The window of opportunity for post hoc social justice for newly launched mobile leisure apps is narrow. Reports indicate the average retention rates for mobile apps drop to 5% after just 45 days (Bolton, 2016) with Pokémon Go user rates peaking near 45 million two weeks after launch and then dropping by more than 10 million less than one month later (Kawa & Katz, 2016). Thus, potential social justice issues ought to be addressed primarily during the development and design stages of these games rather than during the short window of gameplay where unanticipated justice issues may occur. That said, Pokémon Go serves as a recent phenomenon exemplifying both accelerated, wide adoption and diverse experiences in participation and constraints, and may highlight issues that can be addressed as part of future game design. Therefore, the purpose of this paper is to explore how the rapid introduction of new mobile leisure is accompanied by leisure constraints, specifically for White women, Black men, and Black women, and to suggest innovative approaches to enacting social justice that can achieve impact in the brief lifespan of evolving digital leisure.

To do so, we use academic, peer-reviewed literature to explore the evolution of constraints to leisure participation and extend the discussion by incorporating personal accounts of individual marginalization from White women, Black men, and Black women playing Pokémon Go from grey literature. Although many groups may experience interpersonal barriers to participation in Pokémon Go, the authors focused on White women, Black men, and Black women as a parsimonious case study of a portion of marginalized populations in mobile gaming. These groups have experienced marginalization in both physical and digital leisure spaces, and this paper provides a space for extending previous research by examining marginalization in augmented reality gameplay. For the purposes of this paper, we followed the Prague definition of grey literature provided by the International Conference on Grey Literature (Schopfel, 2010) that defined grey literature as any quality documents produced in government, academics, or industry that are not produced by an entity with the purpose of

publishing. With the onset of new media, the definition of grey literature has been expanded to include blogs and other web-based, user generated content (GreyNet, n.d.). To identify grey literature reporting on Pokémon Go, we utilized multiple search engines and Boolean word pairings such as “Pokémon Go” or “Augmented Reality” with “Gender,” “Women,” “Race,” and “Black/African American.” Initial search results frequently linked to other news and social media-based reports on similar topics. This resulted in articles and accounts drawn from several news mediums including but not limited to podcasts (i.e., Slate’s XX Gabfest), online articles, and online discussion forums (i.e., Reddit). Much of the grey literature was reported through accounts of individual user experiences or reviews of multiple user experiences. We begin our review with a historical overview of the experiences of White women, then Black women, and finally Black men in leisure spaces. In the following section, we introduce marginalization first in physical leisure spaces, then digital leisure spaces, and finally, injustice at the intersection of physical and digital leisure spaces in augmented reality.

Marginalization in Non-Digital Contexts

Past examples of marginalization in leisure spaces demonstrate the historical need to enact social justice in leisure spaces. When new leisure is introduced or expanded, participants may find that access remains limited by new or changing barriers. Cases exemplifying barriers to White women, Black men, and Black women in non-digital spaces show a pattern that is mirrored in contemporary digital leisure.

White women

Until the 1980s, scholars generally approached women’s leisure with the assumption that their experiences were the same as men’s (Bella, 1986). Since then, feminist scholarship has explored how the “complex interrelationships and dimensions of women’s lives” (Henderson, 1990, p. 228) influence their leisure in the physical world. The impact of these multiple layers of constraints are cumulative and complex (Henderson, 1991), and scholars have argued that for women, constraints to leisure are more prolific than for men because those constraints extend to “broader power-based gender relations, as well as ideologies about femininity and appropriate gender roles” (Shaw, 1999, p. 275). Women’s leisure constraints have been categorized as antecedent and intervening (Henderson, Stalnaker, & Taylor, 1988). Specifically, sociocultural definitions of gender-appropriate leisure are pre-existing (or antecedent) factors that can influence leisure preferences, whereas rules or regulations prohibiting women (or other groups) from a leisure activity directly impact (or intervene in) a person’s ability to participate in leisure. These stereotypes and social ideologies—both forms of leisure constraints— can be challenged, and in fact, leisure is one way in which women can resist gender-based stereotypes (Henderson & Hickerson, 2007).

Black men

Black men in the United States have historically been underrepresented in a variety of leisure activities and spaces, and continue to face constraints that prevent them from accessing or enjoying quality leisure experiences and resources (Chona, Wolch, & Wilson, 2010; Kivel, Johnson, and Scraton, 2009; Moore et al., 2008). Eddy Harris (1997), for example, vividly

detailed his experiences with prejudice and discrimination as a Black man in the outdoors, a socially/historically designated 'White'/dangerous space. Lingering, collective memories of social injustices in wilderness areas (e.g., lynchings, slave labor) as well as contemporary challenges (e.g., threats from fellow, White outdoorsmen) discouraged outdoor leisure participation by Black men, particularly those interested in taking advantage of increasing structural access to these spaces (Harris, 1997). In his review of American history, Wiltse (2007) suggested that as structural barriers were removed and Black Americans began to feel more entitled to use and access public leisure spaces, false messages about the health, hygiene, and 'natural' behaviors/motives of Black men (e.g., predators) and women (e.g., hypersexual) were promulgated to systematically stratify leisure participation in these spaces based on one's race. These examples seem to suggest that even in the absence or removal of structural barriers, interpersonal barriers and unequal privilege remain and can be equally constraining.

Black women

Black women face much of the same sexism experienced by White women and racism experienced by Black men; however, their experiences in leisure spaces are shaped by their intersectional identities. Black women experience both invisibility and hypervisibility when participating in leisure spaces. Experiences of sexism and racism render Black women invisible as they are pushed to the margin in leisure spaces and even in feminist discourse regarding those spaces (Mowatt, French, & Malebranche, 2013). Furthermore, because Black women's bodies are stigmatized by stereotypes of hypersexuality and abnormality—examples of hypervisibility—they are often faced with exploitation and threats of violence that serve to limit their leisure experiences (Joseph et al., 2010, Mowatt et al., 2013). Evelyn White (1999) recounted her complex relationship with outdoors and nature as she identifies the outdoors as a space for both enjoying the natural setting and as a space mirroring violence perpetuated against Black Americans in both historical and contemporary incidents. In summary, approaching injustices in mobile gaming from an intersectional perspective allows us to examine the complex experiences of both privilege and marginalization resulting from various identities held by individual players.

Intersectionality

Interpersonal constraints are better understood when constructs like race and racism are studied in connection with other social identities (e.g., age, sex) or -isms (e.g., ageism, sexism; McDonald, 2010). Henderson and Gibson (2013) concluded a review of women, gender, and leisure by suggesting that the next step should be to move forward with an intersectional approach better equipped to question and explore the complexity of women. Intersectionality was first proposed to reveal the complex and interwoven processes of discrimination and exclusion created through privilege and power (Crenshaw, 1991). Citing Crenshaw's (1991) early work on intersectionality, McDonald (2010) noted, for instance, that Black women are doubly constrained as they negotiate their relation to both White women and Black men. The leisure context can serve as a space where people both experience multiple types of discrimination and resist that discrimination through their own embodiment of identities and participation in leisure (Watson & Scraton, 2013). In addition,

a number of studies have used a specific approach—multiple-hierarchy stratification perspective (MHS)—to examine the complexity of gender and how intersecting identities such as gender, age, race and socio-economic status (SES) interact to influence recreation participation (Floyd, Nicholas, Lee, Lee, & Scott, 2006; Shores, Scott, & Floyd, 2007). For example, using the MHS perspective, Floyd et al. (2006) found that women of color and individuals aged 65 and older were less likely to participate in angling activities. Given that the authors had controlled for income and education, they hypothesized that social and psychological factors (e.g., culture, perceived discrimination, or fear) were likely predictors of participation for these individuals. Similarly, Shores et al. (2007) found that older, low-SES, women experienced the greatest constraints (e.g., distance from parks, fear of being hurt) to outdoor recreation participation.

In addition to intersectionality, leisure scholars have explored how theories of Whiteness influence the provision of and participation in recreation activities and experiences. Silk (2007), explored how the reconstruction of urban space in Memphis, TN, exposed unequal power relations that favored White discourses and ideologies. For example, the authors noted how gentrification, police action and surveillance, and White-washed civil rights museums constrained the mobility and experience of children of color in urban leisure spaces, such that these spaces reinforced power inequalities and propagated notions that children of color were inherently dangerous or less than. Likewise, when investigating collective memory work and critical race ethnography as avenues for studying race and leisure, Kivel et al. (2009) concluded that White dominated discourses about Black Americans can position Black Americans as different from others in such a way that their marginalization is seen as ordinary and normal. Even in settings where civil rights and access to leisure pursuits have been expanded, historical constraints to leisure and recreation participation can persist and influence contemporary participation

As a contemporary example, Parsons et al. (2015) drew attention to the higher prevalence of unhealthy eating establishments (e.g., fast food restaurants) and so-called incivilities (e.g., poorer social conditions, lower quality recreation resources) surrounding parks in low-income, ethnically diverse areas when compared to higher income areas in Kansas City, Missouri. The authors specifically highlight the subtle and nuanced ways inequality and injustice are manifest in and around existing and newly developed, embodied leisure spaces/activities. Taken together, these examples illustrate how the social construction of race and interpersonal constraints due to historical injustice limit or inhibit participation in existing and emerging leisure spaces. These examples highlight the need for social justice to address situations where leisure participation is defaced or denied altogether.

Marginalization in Digital Leisure Spaces

Marginalization of White women, Black men, and Black women in leisure spaces extends beyond physical and into digital leisure with video games serving as a focal area for observing and examining the experiences of these groups. Emerging in the late twentieth century, video games have grown into a multi-billion-dollar industry. In 2015, of the 155 million Americans playing video games, the average user was 35 years old and the playing field was nearly an even split by gender with 56% men and 44% women (Entertainment

Software Association, 2015). Despite the strong presence of women throughout gaming, video games are often described as a space dominated by White men. Video games, in a similar fashion to films, demonstrate an over-representation of White, adult men and an under-representation of women and people of color (Williams, Martins, Consalvo, & Ivory, 2009).

Video game culture also has a history of overt sexual harassment and racism (Heron, Belford & Goker, 2014; Gray, 2012a). Gray (2012b) found that women and men of color were linguistically identified through voice-chat and harassed by other players, resulting in self-segregation by the harassed. Additionally, Gray (2012a) found similar linguistic outing of race among Black men. This linguistic outing, and ensuing racism resulted in either diffusion—the Black man would leave the game or the offending player would be banned by the session host—or a virtual race war involving a heated argument and racial slurs from both the instigator and the provoked player. This trend resulted in the normalization of racist behaviors and slurs during gameplay, as well as often placing the onus of dealing with the problem—either leaving the game or banning the offending player—on the provoked and marginalized individual.

In gaming culture, various prominent women gamers have been harassed by misogynistic internet-mobs, with the goal of forcing them out of gaming via leaking of personal information, including nude photographs and sexual history, as well as death and rape threats (Heron, Belford & Goker, 2014). The most public example of this harassment came in the form of Gamergate, a 2014 online movement resulting in continued harassment of women and minority video game developers (Massarani, 2017). Gamergate was originally framed as a hashtag ‘movement’ fighting for ethics in gaming journalism, but largely resulted in a campaign of targeted harassment of prominent women within video game culture (Massarani, 2017). Within video games, women are systemically sexualized and objectified at a grossly disproportionate rate to men, with characters representing men going into combat fully covered, and characters representing women often wearing little more than a bikini (Heron, Belford & Goker, 2014).

Multiple authors have identified linguistic profiling in online games as an issue for all women and for Black men (Gray, 2012a, 2012b; Richard, 2016). This profiling manifests in harassment, both in the realm of racial slurs and sexual advances or harassment. Players who were harassed or fear being harassed then work to hide their identity, as a person of color and/or a woman, from the other gamers by using different usernames or the muting microphones to avoid harassment (Richard, 2016). This marginalization results in limited participation in gaming by these affected groups. Gray (2012b) stated scholarship must move beyond a utopic view of online communities. The use of advanced technology (e.g., voice and video chat) unmask anonymous identities and opens gamers to oppression. This unmasking of player identity may be particularly salient for individuals with multiple marginalized identities as exhibited by the differential experiences expressed by White women and Black women during Gamergate. White women did not view their experiences in Xbox Live—an online, multiplayer gaming platform—as sexist; rather, they accepted it as a part of gaming in the “male universe” (Gray, 2012b, p. 424). White women’s excusal of sexism conflicted with Black women who did not want to subject themselves to oppression;

however, Black women were not given a voice in the forum and refused to join White women in accepting sexism as part of video gaming (Gray, 2012b).

In digital leisure—specifically gaming culture—gender-based constraints are also evident. These constraints are rooted in socially and culturally constructed stereotypes and expectations regarding gender appropriate behavior (Kleiber, Walker, & Mannell, 2010). Critical feminist scholarship examining gender in video game play and industry recognition of an untapped market instigated the girls' games movement. This movement worked to combat "the hidden gendered assumptions" (Cassell & Jenkins, 1998, p. 5) and socially and culturally learned behaviors (Castell & Bryson, 1999) underlying the design, play, and preference for computer and video games by gender. Jenkins (1998) cautioned that the movement ran the risk of "preserving, rather than transforming" culturally and historically defined "traditional feminine play cultures" (p. 345), and criticized the construction of gaming ghettos, which he attributed to gender-based game design and marketing. Casual games (e.g., Candy Crush and Bejeweled) may be one such example. Casual games are games that are popular in mainstream audiences "because of their pick-up-and-play nature and intuitive controls" (Vanderhoef, 2013, para. 1). Overall, digital leisure experiences including video games represent a continuing context for examination of gender-based constraints.

Individuals with marginalized intersectional identities (e.g., women of color) experience unique forms of marginalization when silenced or discriminated against by members of the dominant ingroup. For example, following Gamergate, a sexist controversy in the gaming industry, a forum was created for women Xbox Live users to discuss the issue and how to operate in the digital space during the controversy. When women of color used the forum to address issues of race, they were told that the forum was not a space for discussing race (Gray, 2016). Gray (2016) highlights this as a failure of mainstream feminists to fully embrace the racialized nature of oppression. In the midst of Gamergate, an attack on women, women of color were forced out of the forum and labeled as rude for bringing up the issue of race. The dismissal of women of color from a discussion of women's experiences in gaming highlights the importance of recognizing intersectionality in digital leisure spaces.

While internet and gaming culture have a strong presence of racist and sexist behaviors, the internet allows marginalized individuals a level of anonymity and suspension of reality not found in other forms of leisure. The digital leisure setting generally allows players to control what personal information they share, which may help them avoid cultural stereotypes and issues of racism and sexism experienced outside of gaming. For example, players may choose to play a video game using an avatar with a gender different than their own (Hussain & Griffiths, 2008). Additionally, in games where voice-chat is not utilized, it is less likely for other players to know a player's race, sexual orientation, or gender, unless the player discloses this personal information. When gaming and physical spaces meet, as in the case of augmented reality games, players are forced to engage in their environment without the veil of anonymity.

Marginalization in Augmented Reality

With augmented reality sitting at the crossroads of physical and digital leisure spaces, the potential for marginalization is worthy of examination. In spite of reports that women make up approximately half of all video game players (Entertainment Software Association, 2015), the perception that women are a minority is still highly prevalent (Shaw, 2014) and influences the leisure experiences of women gamers (Shaw, 2014; Winegarner, 2016). Indeed, players not resembling the presumptive White, heterosexual, man often experience harassment and maltreatment even in public online game play (Shaw, 2014). And for women of color in gaming spaces, failing “to conform to the white male norm” creates “intersecting oppressions” of sexism, racism, and nativism (Gray, 2012b, p. 411).

According to some, because Pokémon Go is an augmented reality game and game play occurs in the physical world, players are no longer anonymous, and therefore less likely to engage in bullying or harassment of other players, particularly women (Winegarner, 2016). Conversely, others argue that Pokémon Go, while eliminating the anonymity of the players, remains a complex representation of gender-based constraints manifested in the intersection of digital and public spaces. For example, women have reported experiencing sexual harassment such as catcalling while engaged in game play in public spaces (Winegarner, 2016). One woman shared her personal account of harassment from a stranger while engaging in Pokémon Go during her commute to work,

I stood in line on the platform with other commuters, several of whom had their phones out catching Pokémon. I had just captured a Dewgong and was having a small moment of internal celebration because it was my first time seeing one since downloading the app. In that moment of celebration, I did not notice the young guy peering over my shoulder until he asked if I wanted to work on my Breeder's badge with him. Confused, I told him that is not how that badge works, that it's just for hatching eggs, and there was no part of the game set up for breeding Pokémon. His reaction was immediate, visceral, and, well, disgusting. "If you weren't interested in me, you could just say it and not be a stuck-up bitch about it!" As he walked away muttering "bitch," I closed the app and haven't opened it since (Webb, 2016, para. 7–8).

Later as Webb processed her experience and reflected on the unexpected harassment, she recognized Pokémon Go provided a new sphere to perpetuate harassment already common in other domains, stating, “I realized that the harassment I experienced wasn't something necessarily new. It felt different because a new platform had arisen for these institutional problems to inhabit,” (2016, para. 9).

Mobile AR games such as Pokémon Go facilitate interaction of both digital and physical contexts, and provide “a premise for which to travel through familiar and unfamiliar spaces” (Gordon & de Souza e Silva, 2011, p. 67). While some players experienced these unfamiliar spaces in positive ways, others reported increased feelings of anxiety when in close proximity to other players (Gordon & de Souza e Silva, 2011). For women, the reality of other players in physical spaces where they engage with Pokémon Go can influence their digital leisure.

Women's experiences range from overt harassment, as exemplified previously in the account by Webb (2016), to uncomfortable or threatening. *The Mary Sue* contributor Maddy Myers (2016) described frequent interruptions from men when trying to play Pokémon Go. These uninvited advances made game space uncomfortable and pushed her away from engaging in spaces visibly occupied by men. She concluded with advice for fellow Pokémon Go players, "If you see another person playing this game...Don't follow them and stand too close trying to look at their screen. Don't tap their shoulder and ask them to take out their headphones and try to talk to them," (para. 26). Myers draws attention to how men occupy leisure spaces shared with women and even when not malicious, unwanted interactions can interfere with women's leisure. Myers (2016) article detailing her personal account was followed by other women sharing more examples of discomfort and harassment. One commenter reported,

A guy across the park could see me at the gym (its in the centre of the park and is relatively active) he and his friend saw me I heard them say something about Pokémon go and then he dropped his trousers where he was making direct eye contact with me and then he urinated. I left through the parks side entrance and was then followed by a young guy on a bike who was also playing Pokémon go. He may of just been not sure how to interact with me but I was shaken from the events in the park a few minutes before and he was following me closely and persistently, I lost him and made it home. [sic]

These stories of harassment and unwelcome interaction from strange men are joined by the account of Sam Riedel, who identifies as a transwoman. Riedel (2016) recalled an experience playing Pokémon Go, when a man took her phone, without invitation, attempting to explain a process in the game she was already familiar with. Riedel (2016) summarized her emotional reaction to this unwelcome interaction from this man,

I took my phone away and ended the exchange, beginning to shake with fear and anger. As a trans woman, I'm all too aware of how quickly interactions with men can turn dangerous. To cis people, getting afraid and angry when someone mansplains to me in public and starts poking at my phone might seem like an overreaction. But him jabbing at my phone was already violating my privacy, and grabbing it would have given him access to my wallet, which is part of my phone case—and with it, my driver's license, still marked with "M." Just showing that to bouncers makes me tremble; if this stranger had seen it, I have no idea what might have happened. Would I escape with some goggle-eyed "You're really a dude?" Or would I have to physically defend myself against a young man who felt deceived by my cunning ruse (i.e., wearing what makes me feel like a person)? Women, both trans and cis, have been attacked for less. (para. 5)

Reports of sexual harassment and assault, while infrequent, suggest that even though mobile augmented reality games may facilitate resistance to and negotiation of gender-based leisure constraints by extending access to play to individuals frequently underrepresented in gaming, some constraints persist. Taken together, these examples serve as a reminder that introduction of a new leisure platform does not eliminate perceived threats to safety that women frequently experience across various leisure spaces.

Major constraints to gameplay for Black Americans are tied to stigmatization and safety. Because the locations of Pokémon and Pokéstops are largely derived from the Niantic predecessor Ingress, they fall primarily in affluent, White neighborhoods (Stein, 2016). This distribution of locations is problematic for at least two reasons. First, it indirectly excludes or limits game-play by Black Americans who reside in rural or poorly resourced, low income, urban and suburban areas. While the game creators argue that the location data were crowd-sourced and are therefore reflective of user needs and preferences, they ignore the fact that the demographic characteristic of Ingress is predominately White and, therefore, not representative of all potential Pokémon Go users. This non-representation was highlighted by a D.C. based think tank, the Urban Institute, that noted, on average, there are 39 more Pokéstops in majority White neighborhoods when compared to majority Black American neighborhoods (Akhtar, 2016), a finding that illustrates the recurring issue of misrepresentation in the planning and production of leisure activities and spaces. This inequality in the early stages of leisure development draws attention to the need for social justice before participation begins. In her autoethnography, Bryant (2016) discusses how rarely Black women are employed in the tech industry. Using her experience as a woman of color in the industry, she questioned whether the industry is committed to the idea of diversity. With few women of color employed in the tech industry and mostly White men giving input for game design, it is unlikely that the perspectives of marginalized groups, especially those with multiple marginalized identities will be represented in the design process.

Second, game-play requires that Black men and women enter spaces that they have traditionally been excluded from (via stratification and gentrification) or avoided (via interpersonal constraints such as fear of marginalization or physical harm; Hudson, 2016). A number of Pokémon Go players who identify as Black men or women have spoken out about the challenges and dangers of gameplay associated with the disproportionate and unequal distribution of virtual landmarks in the real world. One of the most cited articles on the topic originated on Medium, an emergent, popular blogging platform (Akil, 2016). The article reflects the social reality that Black men and women are traditionally victims of increased police suspicion, stops, and subsequent violence; thus, leading to increased fear of police interaction during game play, especially when entering predominantly White neighborhoods. Akil (2016) suggested that by entering unfamiliar (White) neighborhoods as a Black man via gameplay, and participating in self-described odd gameplay behaviors (e.g., wandering public spaces while following direction from an mobile game), the probability of being targeted by police (or others) and being subject to police brutality is more likely. He highlighted the social injustice for Black Pokémon Go players by noting the privilege experienced by their fellow White players,

The premise of Pokemon GO asks me to put my life in danger if I chose to play it as it is intended and with enthusiasm. Let's just go ahead and add Pokemon GO to the extremely long list of things white people can do without fear of being killed, while Black people have to realistically be wary [sic] (Akil, 2016, para. 11).

Other players described their experiences of both perceived threat and encounters with law enforcement. Anthony Battey, a 25-year-old black man living in San Francisco, has had to

adjust his Pokémon Go gameplay – playing in the ‘right’ way, at the ‘right’ time, in the ‘right’ place – in order to allay his fears of being robbed, beaten, or approached by law enforcement without cause (Lang & Evangelista, 2016). Reflecting on his gameplay one night, he told a reporter at the San Francisco Chronicle, “I was out the other night and I saw a lot of cops and I thought, ‘You know what? Let me go ahead and take my black ass home,’” (Lang & Evangelista, 2016, para. 12). For this player, the combination of gameplay, law enforcement, race, and gender created a potential for adverse outcomes that outweighed the benefits of gameplay.

Broader issues of racism and injustice cross into the blurred boundaries of digital leisure when augmented play occurs in physical spaces. Twenty-three-year-old Faith Joseph Ekakitie, a collegiate student athlete, was interrupted during Pokémon Go gameplay when five police officers surrounded him, guns drawn, in public park. In a Facebook post written soon after the event Ekakitie recalled, “My pockets were checked, my backpack was opened up and searched carefully and I was asked to lift up my shirt while they searched my waistband” (Rice, 2016, para. 6). He continued,

From the police officers’ point of view, all they knew was that a bank had just been robbed less than 10 minutes ago...The suspect was a large, black male, wearing all black, with something on top of his head, and the suspect is armed. As they drive past an Iowa City park that was less than three minutes away from the bank that was just robbed, they notice a large, black man, dressed in all black, with black goggles on his head. (para. 7)

Upon reflection after the incident, Ekakitie understood the police officers’ motives and his resemblance to their intended target, and after being searched, he was released without question. However, in light of two recent shootings of young black men, he remarked, “Today was the first time that I’ve ever truly feared for my life,” (Rice, 2016, para. 3). It is clear that in Ekakitie’s experience, context matters. He may have been profiled by or encountered the police either way, however, given that the release of the game coincided with recent police shootings and fiery racial rhetoric across the country constraints for Black men accessing public spaces extended into augmented reality game play where digital leisure takes place in physical space.

The Black Lives Matter network, a national organization that emerged in an effort to reinforce the “validity of black life” (Cullors, Tometi, & Garza, n.d., para. 1) stated that Pokémon Go is “inherently racist” for no other reason than that a White man can play without fear (an indicator of privilege), and a Black man cannot (Alioto, 2016, para. 1). For Tee Franklin, a Black woman, playing Pokémon Go with her family in her own predominantly White neighborhood led to what she described as harassment from police officers (Franklin, 2016). In a series of tweets responding to another individual’s tweet about White people catching Pokémon while Black people catch bullets, Franklin responded by tweeting that she experiences both Pokémon Go play and harassment from police stating, “Listen. I experienced “both” worlds a few days ago. Walking & playing Pokemon Go [sic] & then being pulled over by cops.” Later she tweeted, “I’ve only played in the house (incense) since, I’m taking the first step to go to a Pokestop [sic] today & see how I feel.” She modified her Pokémon Go engagement by only playing from home and using an in-

game tool called incense, which requires additional purchase. These lingering interpersonal constraints (e.g., fear of harm from civilians or civil servants) experienced during game play provide evidence of the racial inequalities that persist in modern society and reinforce the need to consider social justice issues in the planning, design, and implementation of emerging digital leisure platforms. Considering social justice early in the design phase is particularly important in AR gaming where game play requires that one pass through physical spaces imbued with contentious social moorings.

Implications

Early adopters' experiences using Pokémon Go highlight the diverse outcomes that White women, Black men, and Black women may face in leisure even immediately following the introduction of a new digital game. Because AR creates a fusion between the digital world of video games and the physical and social world of everyday life, major social constructs are already in place that limit adoption of alternative personas or characteristics often permissible in other types of video games. As a result, AR creates a unique leisure space where digital and physical spaces converge and a unique need for enacting social justice is introduced. While some aspects of the game (i.e., limited avatar options) have been highlighted for failing to represent all races and body types (Cheong, 2016), it is in the physical context—augmented by the game—where social inequities persist, despite relatively unfettered access to innovative gaming technologies. Therefore, even when AR based leisure has major digital components, social justice focused work must consider constraints to participation in the physical world.

Because Pokémon Go was so widely adopted, it provided a unique case study for understanding the broad impact of AR-based leisure. Most apps and games will not achieve the rapid success experienced by Pokémon Go, however, designers should learn from the massively publicized emergence, evolution, and global adoption of Pokémon Go. For example, AR game designers can seek input and feedback from more diverse groups of gamers including women and men of color who may experience physical and social spaces differently than White men. Relying heavily on crowdsourcing from cis-gendered White men for game design perpetuates the stigma that gaming is a space primarily for White men.

Beyond the implications for game design, the experiences of White women, Black men, and Black women playing Pokémon Go highlight the need for an increased focus on safety in physical leisure spaces. The risk of entering unsafe spaces to play the game illustrates the inequity in leisure experiences. Both gender and race present risks to safety as Pokémon Go players make choices between entering foreign, sometimes risky spaces to continue play or limiting their play altogether. As digital technology increases the mobility of leisure, particularly through AR, the need for increased safety in public spaces becomes even more pressing. This globalized phenomenon can help create dialogue internationally regarding the need for improved public safety and equal access to leisure opportunities in the digital age of mobile leisure.

Recommendations

The influx in media coverage of user experience in Pokémon Go illustrates the rapid rise of certain digital leisure games. This quick turnaround from launch to attrition presents social justice researchers with a new challenge. To effectively impact social equity in some digital leisure spaces, researchers and advocates must enact social justice efforts before the launch of new apps and games. By connecting with designers during planning and beta phases of new games, social justice advocates (e.g., leisure scholars) and researchers (e.g., again, leisure scholars) can encourage the representation of marginalized groups early on in the process. This responsibility lies not only with researchers and advocates but with game designers. While this study relied heavily on self-reported constraints found in the grey literature, future research of AR gaming should target a broader range of participant and non-participant perspectives using more systematic data collection tools.

The pace of translation from basic research to enacted social justice likely cannot keep up with ever evolving digital leisure. Instead researchers and advocates, who, we argue, should be leisure scholars, will need to look for innovative ways to get involved earlier in the process. As this paper demonstrates, popular media and other informal sources (i.e., Reddit) track and report on the experiences of digital leisure users at a much faster rate than academia permits. As a result, monitoring non-scientific sources and identifying early trends will allow researchers and advocates to take action more quickly to identify social injustices and start a process of seeking justice for affected groups. Critical examination of grey literature may alert researchers to emerging digital leisure and impacted individuals or groups. When possible, researchers should capitalize on opportunities to empirically measure experiences of women and men of color in AR games to explore and test the experiences of marginalization reported in grey literature.

It is critical to note that this paper does not exhaustively review experiences of all groups who may face marginalization in augmented reality based leisure. Individuals with disabilities are likely to face a variety of types of constraints, including structural barriers (i.e., limited physical access) that able-bodied White women, Black men, and Black women are not apt to face. In addition, members of the LGBT community may experience discrimination and threats to safety when participating in augmented reality play. We encourage researchers to consider the unique and shared experiences of marginalized groups participating in digital leisure especially where the constraints of physical and digital worlds meet.

Finally, researchers can work with mobile game companies to examine user experiences and participation rates to gauge the presence of inequality. Available data on user experiences suggest some user experiences can be impacted by leisure constraints and social injustice; however, further research is needed to more comprehensively understand what portion of users have these experiences. Social justice researchers must work to identify instances where gaps in participation exist and seek ways to rectify these injustices through innovative and strategic collaboration with the mobile gaming industry.

By the time of this article's publication, Pokémon Go will no longer dominate the mobile gaming field, however, new and innovative technologies supporting augmented reality, such as Google Lens (Pierce, 2017) and Apple's ARKit (Apple, 2017), promise to keep augmented reality an important form of digital leisure going into the future. Experts estimate the augmented/virtual reality industry will grow from a \$5.2 billion industry in 2016 to more than \$160 billion by 2020 (IDC, 2016). This conceptual study suggests that injustices are likely to continue to accompany the spread of AR unless advocates, researchers, and designers work together to identify ways to address injustices. By working with those who are developing digital leisure, staying abreast of trends in non-academic literature, and increasing involvement in research of mobile leisure, researchers and advocates will be better equipped to enact social justice when tackling leisure constraints and inequality in a digital age.

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Figure 1.

Game play as viewed on the users' mobile device while the user moves through the physical world. The image on the left shows the map matched by GPS to the users position in physical space, and the image on the right shows the interface where users catch Pokémon during gameplay. (These images contain copyrighted material, © 2018 Pokémon. © 1995-2018 Nintendo/Creatures Inc./GAME FREAK inc.)

Figure 2. Pokémon Go with game play augmented by digital interface overlaid onto physical space.
(This image contains copyrighted material, © 2018 Pokémon, © 1995-2018 Nintendo/
Creatures Inc./GAME FREAK inc.)