First Impressions: Effects of Representation on Video Game Covers

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ABSTRACT
This study presents findings about perceptions and impacts of representation on video game covers. Our analysis contributes to a growing discourse on representation in games and media, to urge designers and researchers alike to consider how perceptions and feelings related to representation begin, and influence interaction, before gameplay starts. We analyzed 298 responses to a survey that asked how participants felt about representation on samples of digital covers from Steam's best-selling games from 2010-2015, and how those feelings affect their game consumption or purchases. Although our findings describe a consensus on a lack of adequate representation of characters of color, they identify significantly different perspectives, feelings, experiences, and practices related to games, covers, and representation between participants of color and white participants. Our analysis highlights how publishers must not only consider how they include diverse identities in games but *communicate* that inclusion beyond them.

Keywords
Representation in games, paratexts, user experience, player perspectives

INTRODUCTION
Despite an increasingly diverse player base (Duggan 2015a; Duggan 2015b; Lenhart et al. 2008; 2015), scholars have observed a consistent lack of diverse representation in digital games (Gardner & Tanenbaum 2018; Passmore et al. 2017; Williams et al. 2009), and considered how this broad lack can affect players—especially those of color (Gardner & Tanenbaum 2018; Passmore et al. 2018; Passmore & Mandryk 2018; Shaw 2014). For too many, "Gamer" still connotes white men (Chess 2017; Chess et al. 2017; Cote 2020; Kirkpatrick 2012; Kocurek 2015; Newman 2017; Shaw 2012), and Passmore et al. describe how the "underrepresentation of characters of color can be viewed as a signal to players of color that the content is not 'for them,'" (Passmore et al. 2017, 140). Conversely, Adrienne Shaw has argued how diverse representation, when it does occur, can allow players of all backgrounds to recognize that games can be a place for marginalized people (Shaw 2014; 2017). Game *covers* are a potential first place to see this possibility.

The idiom of judging books but their covers persists because so does our judgement. Game covers—whether physical or digital—are one *edge* or *limit* of game artifacts. They *present* game worlds from a place *between* players and gameplay. While much research has observed representation in games (Downs & Smith 2015; Gardner & Tanenbaum 2018; Higgin 2009; Kafai et al. 2008; 2010; Malkowski & Russworm 2017; Passmore et al. 2017; Shaw & Friesem 2016; Williams et al. 2009), or how that representation can affect the experiences of minoritized groups (Gardner & Tanenbaum 2018; Passmore et al. 2018; Passmore & Mandryk 2018; Shaw 2014), more analysis is needed of representation in the

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area of game paratexts such as covers (Behm-Morawitz 2017; Bogdanowicz 2018; Burgess et al. 2007; 2011). Several scholars have described how paratexts such as trailers, advertisements, and covers influence how games are perceived, played, and experienced (Behm-Morawitz 2017; Consalvo 2007; 2009; 2017; Dunne 2016; Fiadotau 2015; Gray 2010; 2018; Jones 2008; Lunenfeld 2000). However, how *representation* on covers is perceived by or influences diverse players is an underexplored area.

As the diversity of players is better acknowledged, it is essential to better understand how digital games signal their inclusion in the medium and surrounding communities. We apply previous research on representation *and* paratexts to examine the influence of the representation potential players may encounter even before accessing gameplay, and so too better understand the impact of covers.

Cover generally refers to the imagery adorning the surface of the packaging in which physical copies of games are sold. We use it also to refer to the images used to represent games in digital storefronts (e.g. Figure 1). Covers are an essential paratextual component that shape player expectations of digital games (Phan et al. 2015). Representation on these covers is a piece of that impression.

In this paper, we provide two primary insights from analyzing 298 responses to a survey about impressions of video game covers. Firstly, in complementary findings to those by scholars such as Passmore et al. (2018), we describe how all participants perceived the general diversity of sampled covers of top-selling games to be inadequate. Secondly, we describe how the impressions and experiences of white participants and participants of color differed significantly in relation to topics of self-representation and the value of representation on covers. Our primary contribution expands the empirical understanding of how a lack of diverse representation in games and on their covers disproportionately impacts people of color. More specifically, our findings can help designers and researchers alike better account for how player interaction begins before game software is purchased, installed, or accessed.

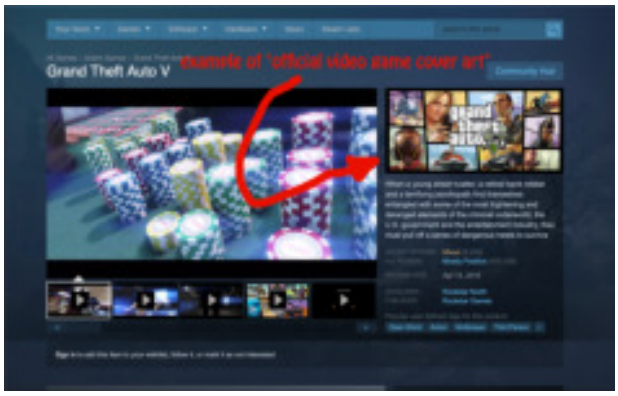

Figure 1: Example of what we identify as a digital "cover" within the Steam digital storefront.

RELATED WORK

Scholars have explored gendered and racial representation in video games from many perspectives (Burgess et al. 2007; Duggan 2015a; 2015b; Gardner & Tanenbaum 2018; Higgin 2009; Kafai et al. 2008; 2010; Lenhart et al. 2008; 2015; Malkowski & Russworm 2017; Near 2013; Passmore et al. 2017; Shaw & Friesem 2016; Williams et al. 2009). We position our work on impressions of representation in dialogue with scholars focused on paratexts, perceptions of representation in games and media, and race in human computer interaction (HCI) and design.

Paratext

Originally described in relation to books by literary theorist Gerard Genette (1997), paratext refers to a variety of *accompaniments* that shape our media consumption and interpretation. In Genette's original analysis, covers are *peritexts*, a sub-category of paratexts immediately attached to the text as opposed

to *epitexts*—paratexts beyond the physical artifact, such as advertisements. Due to the nature of digital games as software, classifying their physical or digital covers as either peri- or epitexts is difficult. However, game covers are certainly paratext.

Previous scholars have described how paratexts influence our experience of mediums other than books, such as movies and games (Consalvo 2007; 2009; 2017; Dunne 2016; Gray 2010; 2018; Lunenfeld 2000; Švelch 2016; 2017). Games scholar Mia Consalvo redefines paratext as "all of the elements surrounding a text that help structure it and give it meaning" (2007, 21), such as covers, instruction books, advertisements, trailers, guides, reviews, and fan productions. Consalvo describes how paratexts provide "capital" to players (2007; 2017). In this context, Consalvo uses capital to represent essential knowledge that influences how players and scholars alike understand—and *can* experience—games and gameplay (2017). Game covers help players gain capital about gameplay, narrative, or the characters they may take on.

Other scholars have examined interpretation, influence, meaning-making, immersion, and representation in games *through* paratexts (Behm-Morawitz 2017; Burgess et al. 2007; 2011; Consalvo 2007; 2009; 2017; Dunne 2014; 2016; Fiadotau 2015; Gardner & Tanenbaum 2021; Near 2013). Fiadotau investigates how game titles, descriptions, and readme files frame gameplay experiences and expectations (2013). Dunne and Gardner and Tanenbaum highlight the broader influence of peritext or "periludic" elements on digital gameplay access and experience (2014; 2016; and 2021). Burgess et al. describe negative representation and stereotyping on covers, in magazines, and across gaming paratexts (2007; 2011). Others have identified how stereotypes in these contexts can reproduce or prompt reductive inferences and expectations related to gendered or racial/ethnic categories (Dickerman et al. 2008; Kidd 2016; Mou & Peng 2009; Near 2013; Peck et al. 2011). Our work builds on these studies by highlighting how elements *around* gameplay influence player experience and expectations.

Our study is in especially close dialogue with—and stitches together—Near (2013), Oliva et al. (2018), and Burgess et al. (2007). Near and Burgess et al. study gendered representation on video game covers (2013; 2007). Near finds a positive correlation between the sexualization of female designated characters on "box art" and sales of 399 games released from 2005-2010 (2013). Near's findings suggest covers influence how players consume games in a quantitative and economic sense. Our findings suggest these relationships are more complex. Oliva et al. describe cultural and economic influences of covers for the 20 all-around best-selling games from 2010-2014 (2018). We examine adjacent themes in an analogous but distinct sample of images. Burgess et al. observe that men were four times as likely to appear than women—who were disproportionately sexualized—on 255 video game covers (2007). They evidence claims about the influence of gender stereotyping using content analysis and a scholarly interpretation of representation in a sample of covers. We instead analyze influence on potential players based on *their own* interpretations of representation in a sample of covers.

Perceptions of Representation

Several scholars quantify or describe poor representation in games (Behm-Morawitz 2017; Burgess et al. 2007; Gardner & Tanenbaum 2018; Passmore et al. 2017; Shaw & Friesem 2016; Williams et al. 2009). Fewer studies quantify or describe how players, especially those of color, view or value that representation. Similarly, while much research interprets racial or gendered representation in other media paratexts related to books, comics, TV and film (Bogdanowicz 2018; Cavalcante 2013; Coon 2005; Houston 2015; LaRosee 2016; Serra-Vilella 2018; Viljoen & Koenig-Visagie 2011), few studies focus on the perception or reception of these paratexts. With some exception (Lee 2020), studies that do often take a marketing focus to analyze how effectively posters—for example—influence a viewer's general attitude toward a movie (Stokmans 2015), or broadly defined affective responses (Baumgartner & Laghi 2012), neglecting impressions of critical race or gender-related issues.

Scholars such as Shaw (2017), Gardner and Tanenbaum (2018; 2021), Gardner and Hacker (2022), Reza et al. (2019; 2020; 2022), and Passmore et al. (2018) all leverage data about representation in games to examine its perception and influence, especially for players of color. Each argues diverse representation is as essential in games as it exists in society. As Shaw writes, "if representation in media

is a form of evidence for what forms of being in the world are possible, then it is important for everyone to see, not just for the people who might appear, on a surface level, to look like those characters" (2017). Shaw argues diverse representation helps people to know someone who looks like them *can exist* and to better acknowledge others' existence. Gardner and Tanenbaum examine how these themes play out probabilistically during character selection and creation (2018) and Gardner and Hacker describe the inequitable privileges of "one virtual body fits all" representation (2022). Reza et al. describe how "skins"—alternate visual appearances for characters—can influence diverse player experiences by locking self-representation behind a paywall (2019; 2020; 2022). We observe themes related to these studies with covers.

Our research questions and methods most closely align with Passmore et al.'s study of player perceptions of racial norms in games (2018) and Downs and Smith's study of sexuality on covers (2010). Using a large survey, Passmore et al. analyze how players of color and white players reported feeling about representation in games they play and highlight disparities in behaviors and satisfaction between player groups. They describe a "learned neutrality" expressed by participants of color in response to a lack of representation (2018)—similar to Shaw's use of "acceptance" in a related context (2014). Passmore et al. describe the "imbalanced and differential access to gaming's benefits based on race-ethnicity" they observed as a "privilege of immersion" (2018, 2). Downs and Smith examine gendered sexuality of characters on the covers of the 20 best-selling games of 2003 for the three most prominent platforms (2010). Our study uses the covers from the 20 best-selling games from 2010-2015 on the most prominent PC platform to center a survey of impressions of representation, and our analysis of how those impressions vary between—and influence the experience of—demographic groups.

Race in HCI and Design

Because the object of our analysis is part of the technical context within which digital games are embedded, rather than *in* them, we are in conversation with scholars who examine how broader socio-technological research and design are infused with concepts of race (Dombrowski et al. 2016; Fox et al. 2017; Gray 2020; Ogbonnaya-Ogburu et al. 2020; Race in HCI Collective 2021; Rankin & Irish 2020; Simons et al. 2020; Smith et al. 2020; To et al. 2021). For example, Ogbonnaya-Ogburu et al. lay essential groundwork for HCI researchers trying to incorporate or interrogate race in their analysis or designs (2020). We follow their lead and others in our consideration of race as a "categorization that is socially constructed, but that involves material and concrete consequences" (Ogbonnaya-Ogburu et al. 2020, 2). In our study, we rely on racial categories such as "Asian, Black or African American, Hispanic or Latinx, Native American, Pacific Islander, and White, [while recognizing] these categories are neither fixed nor exhaustive" (Ogbonnaya-Ogburu et al. 2020, 2). These categorizations are constructs loaded with histories of disproportionate power and autonomy in their application. Our research draws on and expands existing research on the interplay of race and interaction design, and more inclusive, critical practice.

Kishonna Gray similarly describes the need to better recognize the complexities of intersectional users when studying socio-technical systems, especially games (2020). Gray describes how "synthesizing methods from traditional disciplines [and a] more multidisciplinary/interdisciplinary approach [...are] necessary in connecting the various historical practices that influence contemporary realities" (2020, 193). Our study attempts to synthesize insights from the research of games, the systems and materials around games, and diverse perspectives to better examine the personal, critical, and conceptual facets of how diverse potential players experience and interact with these games.

METHODS

We analyzed 298 survey responses containing a combination of closed and open-ended questions. The survey focused on how represented participants felt different groups were on sampled game covers, how demographically represented by characters on those covers participants felt, participants' broader feelings about representation and video game covers, and the influence of these themes on their experience.

Our approach was organized around two high-level research questions:

- **RQ1**: How do potential players perceive the portrayal of different racial and/or ethnic groups on video game covers?
- **RQ2**: How does a lack of demographic self-representation on video game covers impact gaming experiences for underrepresented players?

Addressing every personal and cultural dimension of these questions is beyond the scope of this study, or likely any single study. However, we begin to address these questions by examining how a diverse participant pool reports perceiving—and feeling in response to—a sample of best-selling covers.

Survey Design

Our survey was organized into three sections. We relied heavily on Likert scales to evaluate how strongly participants agreed or disagreed with—or how positively or negatively they felt about—statements about themselves and sampled covers (Creswell & Creswell 2017; Joshi et al. 2015; Subedi 2016).

The first and final sections asked questions about participants. The first section asked baseline questions about demographic alignments such as age, race, and gaming habits. The final section asked questions about their feelings about representation on covers, how much that representation mattered to them, and how that representation might influence their willingness to buy and/or play digital games.

The second section of the survey asked questions about a series of compilations of the covers of the 20 best-selling games on Steam from 2010-2015 (e.g, Figure 2). In this section, we asked participants for their impressions of the quantity and quality of representation of non-white and white characters on cover compilations for each year, and how personally represented they felt by the characters on these covers. We are aware "non-white" collapses a diverse range of identities into a single group and centers whiteness. However, as we—and later participants—perceived few non-white characters on these covers (in line with previous scholarship) and to avoid question fatigue, we cast a wide demographic net. In addition, and in line with previous scholars who have highlighted the pluralities of ethnic identities and the different ways diverse people may interpret virtual bodies (Gardner & Tanenbaum 2018; Gray 2020; Rankin et al. 2006; Rankin & Irish 2020; Rankin & Na-eun 2019), and to avoid leading questions, we ourselves did not analyze the representation on these covers or define metrics for positive, negative, or adequate. That is, rather than us defining and assigning adequate—for example—to images and asking participants how strongly they agreed with us, our key data are participants' own interpretations of adequate representation, within the scope of our samples.

To validate our instrument, an initial version of the survey was shared with members of the iSchool Inclusion Institute (i3) community, a diverse and interdisciplinary group of scholars from across the United States, as well as peers at each researcher's home institution. Although this pilot stage did not eliminate all limitations with the instrument—as we address below—we were able to make small changes to improve clarity, structure, and potential.

Cover Art Images

We identified the top 20 best-selling games by units on Steam using Steam250 (retrieved August 2019). Steam is the largest digital games retailer, accounting for one-sixth of all 2017 game sales in the United States (Bailey 2018; ESA 2018). Steam250 uses the Steam API to calculate sales rankings. Figure 2 is one of the 6 compilations included in the survey. We initially chose early to mid 2010s partly to pick up where Near left off, and because the period would be neither too old to be relevant nor so new as to expect sales to fluctuate too much after data collection—nor too long a survey as to fatigue participants. Covering more recent years would likely provide additional insights into the perceived current state of the medium. However, our primary analysis is of participant impressions rather than the covers themselves, so the timeframe was sufficient and reliable enough a starting point for analyzing this under-examined phenomenon, and encouraging similar studies of more recent covers and games.

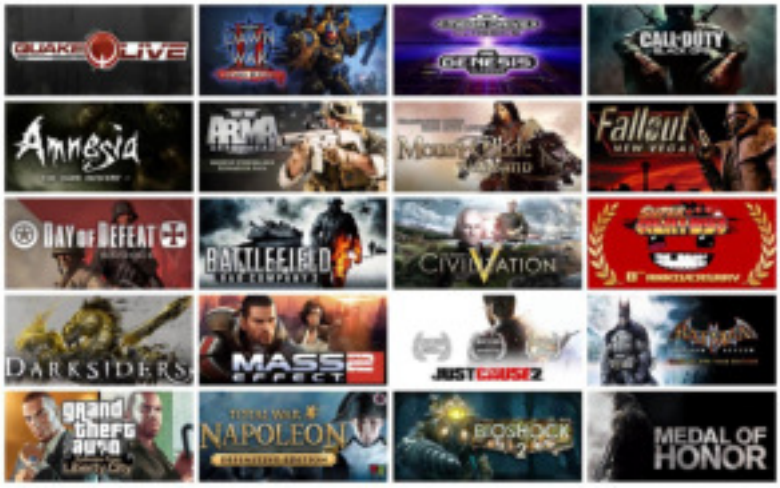

Figure 2: Created cover compilation of the top 20 best-selling video games on Steam in 2010, based on Steam250 data.

Recruitment

We distributed the survey on social media sites such as Facebook, Instagram, Snapchat, and GroupMe, starting with the research team's own networks. The six original research team members each occupy a unique intersection of demographic subject positions, have largely disconnected social spheres, and were based at six universities across the United States at time of data collection. To further increase participant diversity, we expanded to include specific communities centered on minoritized identities at our institutions or broader public social media groups such as "Gamers Latino" that had an even further reach. Researchers were not members of these groups beforehand. We relied on snowball sampling to expand recruitment.

To be eligible, participants needed to be at least 18 years old and have some exposure to games. Due to our sampling beginning in groups centered on university campuses in North America, the majority of participants were college-aged individuals, likely residing in North America.

Although participants skewed toward minoritized populations in a manner incongruent with the larger US population where our study originated, generalizability is not a primary goal of this study nor this sort of research. Impressions and interpretations should not be assumed or generalized solely by demographic membership. Still, our data provides stronger insights into groups that are less represented and improves our understanding of how experiences may differ across groups better than a population-aligned racial/ethnic distribution that would skew white might.

Data Analysis

We used descriptive and comparative statistics to identify basic trends in overall responses and between participant groups. We used integers 1 to 5 to stand in for responses on Likert scales to calculate averages and make comparisons, with 1 representing either "strongly disagree" or "extremely negative" and 5 representing "strongly agree" or "extremely positive," and 3 representing a neutral response. Statistics for the first and last sections were straightforward. Questions in the second section were repeated once per compilation of covers, so we calculated each participant's mean response to all six copies of a question, then compared the mean of mean responses between groups. We used Welch's t-test to identify significance between the responses of participants of color and white participants, because this test can best account for different group sizes (Welch 1947). Three participants who preferred not to state the racial/ethnic group as which they most identified were only included in analysis of total participants. As with our use of non-white, we recognize that using "participants of color" to describe a diverse range of demographic and individual identities partially erases the complexities of those who inhabit those identities. However, we chose to move forward with this designation because it created a comparison that mirrored the dichotomy validated by participant

responses between those who were observed present on covers and those who were not. We applied emergent, thematic coding to responses to an open-ended question in the final section (Saldaña 2015).

FINDINGS

Our findings are organized around trends in overall responses and comparisons between responses by participants of color and white participants. Our findings describe some ways the experience and perception of these two groups come together or significantly diverge on topics related to representation and the influence of game covers. These findings primarily rely on quantitative data from closed-ended questions, with some qualitative themes from an open-ended question.

Participant Demographics

We received 298 complete responses from participants over 18 years of age. The most represented racial category participants identified as was Asian (37.58%), followed by white (24.50%), and Bi/Multi-racial (14.09%). Table 1 contains a detailed breakdown of participant racial/ethnic demographics.

Because 83% of participants identified themselves as 18-24, with 11% of the remaining being under 30, we did not have a sufficient generational diversity to conduct deeper analysis related to age. In addition, while addressed in greater detail below, we regret not asking about gender—an omission that went unnoticed in pilot testing.

Racial/ethnic demographic	**n (%)**
n	298 (100%
Asian	112 (37.58%)
Bi/Multi-racial	42 (14.09%)
Black	21 (7.05%)
Hispanic or Latinx	21 (7.05%)
Middle Eastern	1 (0.34%)
Native American or Alaska Native	2 (0.67%)
South Asian	9 (3.02%)
South-East Asian	14 (4.70%)
White	73 (24.50%)
Prefer not to identify	3 (1%)

Table 1: Racial demographics of survey participants displayed in alphabetical order (response to Q2 in survey)

Quantity of Demographic Representation

For each cover compilation, we asked participants how strongly they agreed or disagreed that there was an *adequate amount* of representation of non-white and white characters. For non-white characters, the mean of all responses was 2.184, rounding to *disagree*. We did not find a significant difference between responses to this question by participants of color (M = 2.201, SD 0.919) and white participants (M= 2.084, SD= 0.889), $t(124.58) = 0.965$, $p = 0.336$. For white characters, the mean of all responses was 4.150, rounding to *agree*. We did not find a significant difference between responses to this question by participants of color (M = 4.148, SD = 0.707) and white participants (M = 4.176, SD = 0.792), $t(117.18) = -0.268$, $p = 0.789$. Table 2 includes mean responses to these questions by group.

Demographics	*Q6, 12, 18, 24, 30, 36: "I feel there is an adequate amount of representation of non-white characters on these video game covers"*	*Q7, 13, 19, 25, 31, 37: "I feel there is an adequate amount of representation of white characters on these video game covers"*
n	2.184	4.150
Asian	2.222	4.147
Bi-/Multi-racial	2.210	4.310
Black	1.841	3.937
Hispanic or Latinx	2.444	3.992
Middle Eastern	2.667	4.333
Native American or Alaska Native	4	4.333
South Asian	1.685	4.796
South-east Asian	2.226	3.762
Participants of color	2.201	4.148
White	2.084	4.176
Prefer not to state	3.333	3.667

Table 2: How all participants, individual demographics, participants of color grouped, and white participants agreed or disagreed—on average-–with how adequate representation of non-white characters and white characters was on presented compilations of covers

Figure 3 visualizes a baseline understanding of how participants perceived the state of representation on these covers for each year, contextualizing following findings. Because we observed no significant difference between groups, we simply charted the means of all responses. There was no major change in impressions over time.

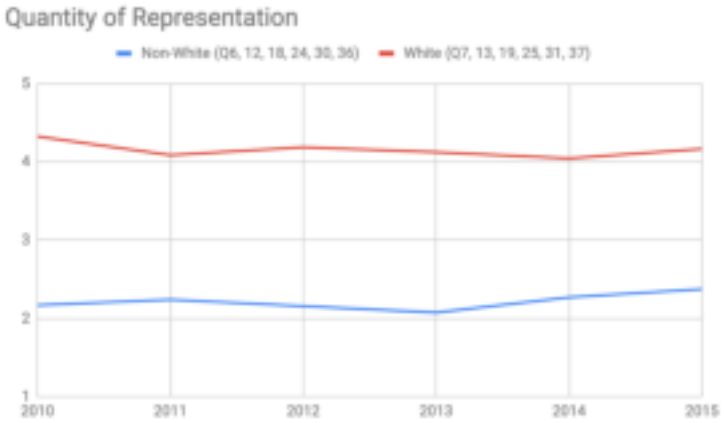

Figure 3: How much participants agree or disagree non-white or white representation is adequate on sampled covers by year.

Quality of Demographic Representation

For each cover compilation, we asked participants how *positively* or *negatively* they felt non-white and white characters were represented. For non-white characters, the mean of all responses was 2.770, rounding to *neither positive nor negative*. We did not find a significant difference between the responses to these questions by participants of color (M = 2.738, SD = 0.666) and white participants (M = 2.831, SD = 0.533), t(135.85) = -1.212, p = .227. For white characters, the mean of all responses was 3.698, rounding to *positive*. We did not find a significant difference between the responses to these questions by participants of color (M = 3.733, SD = 0.697) and white participants (M = 3.594, SD = 0.726), t(120.72) = 1.435, p = 0.154. See Table 3 for mean responses to these questions by group.

Demographics	***Q8, 14, 20, 26, 32, 38:*** *"I feel the representation of non-white people on these video game covers is generally"..."*	***Q9, 15, 21, 27, 33, 3"****: "I feel the representation of White people on these video game covers is generally".."*
n	2.770	3.698
Asian	2.728	3.704
Bi-/Multi-racial	2.885	3.889
Black	2.556	3.794
Hispanic or Latinx	2.619	3.516
Middle Eastern	3	4.833
Native American or Alaska Native	4.417	4.333
South Asian	2.481	3.852
South-east Asian	2.738	3.489
Participants of color	2.738	3.733
White	2.831	3.594
Prefer not to state	3.611	3.667

Table 3: How positive or negative total participants, individual demographics, participants of color as a group, and white participants reported—on average—feeling the representation of non-white characters was on presented covers

As with the previous questions, we visualized mean responses to these questions for each year to help round out a baseline understanding of how participants perceived representation on these covers and better contextualize following findings (Figure 4). Again, there was no major increase or decrease in impressions over time.

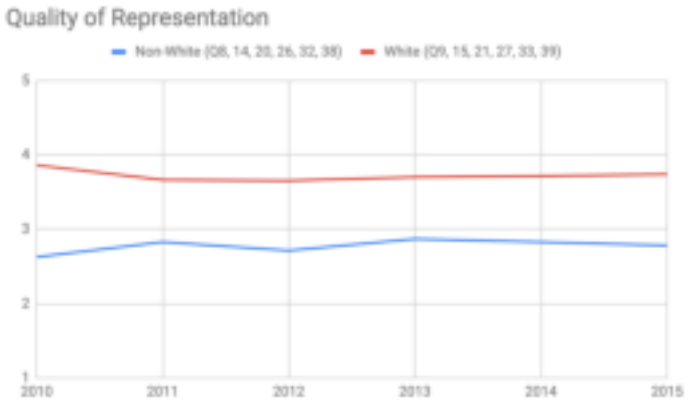

Figure 4: How positive or negative participants reported feeling non-white or white representation was on sampled covers by year.

Reported Feelings about Demographic Self-Representation

For each cover compilation, we asked participants two questions about how represented they felt by presented characters. The first question asked whether they felt represented by *at least* one character. The second asked whether they felt represented by *many*. In response to whether participants felt represented by at least one character, we saw a significant difference between responses to these questions by participants of color ($M = 2.064$, SD, 1.015) and white participants ($M = 3.740$, $SD = 1.183$), $t(115.37) = -10.861$, $p < 0.000$. The mean response of participants of color rounded to *disagree*, while the mean response of white participants rounded to *agree*. In response to whether participants felt represented by many characters, we again saw a significant difference between responses to these questions by participants of color ($M = 1.819$, $SD = 1.004$) and white participants ($M = 3.395$, $SD = 1.369$), $t(108.85) = 9.069$, $p < 0.000$. The mean response of participants of color predictably rounded to *disagree*, while the mean response of white participants rounded to *neither agree nor disagree*. Table 4 includes mean responses to these questions by group. However, we must acknowledge a caveat to these results regarding the wording of these questions, discussed in greater detail in limitations below.

Demographics	***Q10, 16, 22, 28, 34, 40:*** *"I feel that I am demographically represented by at least one individual in this compilation of video game covers"*	***Q11, 17, 23, 29, 35, 41:*** *"I feel that I am demographically represented by many individuals in this compilation of video game covers"*
N	2.483	2.213
Asian	2.140	1.853
Bi-/multi-racial	2.103	1.913
Black	1.817	1.627
Hispanic or Latinx	2.341	2.034
Middle Eastern	2.5	1.333
Native American or Alaska Native	3.5	3.5
South Asian	1.296	1.204
South-east Asian	1.548	1.429
Participants of color	2.064	1.819
White	3.740	3.395
Prefer not to state	2.889	2.556

Table 4: How total participants, individual demographics, participants of color as a group, and white participants agreed or disagreed—on average—with feeling represented by at least one individual on presented covers.

Influence of Covers

We asked three questions about how covers may influence participants. In the first section of our survey, we asked participants how strongly they agreed or disagreed with covers playing a role in their gaming experience and whether they paid attention to the content of covers. In the final section, after participants had answered questions about cover compilations (e.g., Figure 2), we asked how strongly they agreed or disagreed that it *mattered* when characters who share their race/ethnicity are portrayed on covers.

Responses to two of these questions were significantly different between groups. The mean of all responses about whether participants agreed covers played a role in participants gaming experience was 3.034, rounding to *neither agree nor disagree*. We did not see a statistically significant difference between responses to this question by participants of color ($M = 2.982$, $SD = 1.262$) and white participants ($M = 3.164$, $SD = 1.323$), $t(120.4) = -1.033$, $p = 0.304$. However, the mean responses of participants of color rounded *up* to *neither agree nor disagree*, while the mean response of white participants rounded *down*. Despite close averages, we did see a small significant difference between responses to whether participants agreed they pay attention to cover content by participants of color ($M = 3.680$, $SD = 1.138$) and white participants ($M = 3.356$, $SD = 1.195$), $t(120.3) = 2.034$, $p = 0.044$. This difference appears to be due in part to a greater asymmetry in in the distribution of responses by participants of color. The mean response of participants of color rounded to *agree*, while the mean response of white participants rounded to *neither agree nor disagree*. We also saw a significant difference between responses to whether participants agreed it *mattered* to them when a character portrayed on covers shared their ethnicity by participants of color ($M = 3.428$, $SD = 1.332$) and white participants ($M = 2.233$, $SD = 1.208$), $t(128.19) = 7.144$, $p < 0.000$. The mean response of participants of color rounded to *neither agree nor disagree*, while the mean response of white participants rounded to *disagree*. Table 5 includes mean responses to these questions by group.

Demographics	*Q4: "Video game covers like the one pictured above play a role in my gaming experience"*	*Q5: "I pay attention to the contents of video game covers like those in the image above"*	*Q42: "When a character who shares my ethnicity is portrayed on video game covers, it matters to me."*
N	3.034	3.601	3.124
Asian	2.938	3.830	3.5
Bi-/multiracial	3.214	3.595	3.452
Black	3.190	3.714	3.714
Hispanic or Latinx	2.905	3.143	2.810
Middle Eastern	3	4	4
Native American or Alaska Native	2	3	2.5
South Asian	2.778	3.889	3.778
South-east Asian	2.714	3.429	3.143
Participants of color	2.982	3.680	3.428
White	3.164	3.356	2.233
Prefer not to state	3.667	3.667	2.333

Table 5: How total participants, individual demographics, participants of color as a group, and white participants agreed or disagreed—on average—with whether video game covers played a role in their gaming experience, they pay attention to the content of covers, and like ethnic demographic representation matters.

Qualitative Themes

In the final section of our survey, we asked participants the entirely open-ended question (Q43): "What other feelings do you have regarding the representation on video game covers?" We received several responses beyond the scope of this paper having to do with the more general influence of covers as marketing material or a source for understanding game content, aligned with the findings of Near (2013) and Consalvo (2007; 2017). However, perhaps because participants were primed by answering repeated questions about representation, 63% of responses made explicit comments about representation on covers, with others containing related remarks. We only discuss these explicit comments, however. The four most common thematic codes we identified were: general lack, appeal to whiteness, dismissive, and stereotyping. No other code was observed in more than 10% of these explicit comments.

We coded 57% of explicit comments as remarking on a general lack of diversity in some way. For example, "I feel as though very few video game covers have adequate representation of POV that is not in a stereotypical role or environment." We also coded this response by a black identified participant with stereotyping, which we used to label any use of the word or remarks that suggested stereotypes in 14% of these comments. For example, a Bi-/Multi-racial identified participant remarked wanting "to be able to play a game as a black person [with a plot that] doesn't revolve around criminal activity." As our quantitative findings should suggest, participants of color were not alone in commenting on a general lack, with one white-identified participant saying, "Hard to say if a portrayal of a group is positive or negative when there is literally 0 portrayal of that group."

The 23% of explicit comments we coded with appeal to whiteness contained remarks about catering to whiteness in some way. For example, "Almost like the default is a white protagonist, and there's no room for PoC," or "white space marines sell games!"

Although we coded only 15% of explicit comments as dismissive for containing explicit devaluations of representation, it is a complex category. For example, two straightforward comments by white-identified participants: "It shouldnt matter what color the characters of games are as long as the content is interesting and entertaining" or "[game developers] should not feel like they have to make a PoC quota [...] Leave politics and SJW non-sense out of the gaming world." However, we also coded responses by participants of color as dismissive, such as "It doesn't really matter to me. Racial representation in a video game seems arbitrary to me." This comment by a South-East Asian identified participant seems to reiterate common market myths and is more dismissive of the possibility of representation than of diverse representation itself: "It's not much, but majority of player bases are white so from a marketing perspective it makes sense and is also fair." Another comment from an Asian identified participant seems to go beyond dismissal to demonstrate something akin to what Reza et al., describe as "quasi-acceptance," a form of resignation with reserved optimism for diversity (2022): "The

ethnicity of the characters does not matter that much to me. Obviously if I am able to find someone that represents me, I would feel more engaged."

LIMITATIONS AND OPPORTUNITIES

Our findings have two main limitations that also offer opportunities for future work. The first has to do with the presence or phrasing of survey questions and their alignment to our goals and RQs. Although our main goal was to analyze correlations to racial identities, we should still have asked participants about their gender. Though our current analysis still offers valuable insights about an under-observed and under-analyzed space, more intersectional data would provide more greater insights. Further, questions regarding ethnicity and race may have been less clear for participants than intended. Although we hoped to observe participants' views on racial representation, our questions only asked about "demographic representation," which may not have been interpreted as race by every participant. Open ended responses suggest most of our participants did interpret these questions this way and we were able to discover valuable relationships when comparing reported racial/ethnic identities. However, there are likely additional complexities we could not observe.

The second limitation involves the already mentioned grouping of all racial/ethnic demographics of color together in our analysis. This flattening of otherwise diverse identities risks erasing important, nuanced differences in the experiences of participants belonging to unique groups. However, even more specific groups cannot capture the variation of identities within them. As stated above, we ultimately decided this limitation was responsive to the state of the media we were observing and serves to highlight the hegemony of previously identified default representations (Gardner & Tanenbaum 2018; Passmore et al. 2017; Williams et al. 2009).

DISCUSSION

This study grew out of a recognition that, despite several examples of scholarly interpretations of representation on covers and related game paratexts, there appeared to be a lack of empirical examinations of how players—or potential players—felt about that representation. Our findings begin to expand larger conversations about how representation in games, paratexts, and player perception overlap by highlighting the player interpretations of representation on game covers and emphasizing the influence of a perceived lack of diverse representation. We hypothesized when we began that participants would perceive this general lack and it would influence their experience in some way, but that the perception and experiences of participants of color and white participants would differ somehow. These hypotheses were supported; the latter supported significantly.

Where participants were in consensus versus where their responses differed significantly tells an important story of their branching experiences. Participants of color and white participants reporting similar attitudes about the quantity and quality of representation of different groups reflects an aligned perspective on the insufficient *state* of this representation and its diversity. However, the significantly different reported responses about how participants of color and white participants experience this consistently perceived state of representation illustrates how the negative impacts that others have identified games can have for players of color begin *before* gameplay.

The responses to our survey emphasize a fundamental difference in how participants of color and white participants experience games *and* the role of covers. To reiterate, all participants, on average, agreed that representation of non-white characters was quantitatively and qualitatively inadequate when compared to white characters (Tables 2 and 3). Participants of color reported feeling significantly less represented by characters on covers compared to white participants (Table 4). Lastly, participants of color reported paying attention to covers and that it mattered to them when a character shared their ethnicity at significantly higher rates than white participants (Table 5). White participants reporting less attention to covers and covers not mattering, on average, seems to demonstrate Passmore et al.'s "privilege of immersion" (2018), even before buying these games or sitting down to play. That is, white participants do not need to pay attention as it is safe to assume their demographics will be present. Meanwhile, the role of covers is significantly more important to participants of color who are unlikely to see themselves on them by comparison.

Although the overall impression of the quality of representation of people of color was neutral, leaning slightly toward negative, the neutral response paired with the impression of quantitative lack suggests an incomplete picture. To paraphrase the insightful white participant above, it is hard to feel any sort of way about the quality of representation that isn't there. Further, although participants of color reported paying attention to covers—and demographic self-representation mattering—significantly more than white players, they did not report it mattering strongly. However, this sort of semi-neutral outcome potentially reinforces or suggests that Shaw's "acceptance" (2014), or Passmore et al.'s "learned neutrality" (2018) are at work well before accessing gameplay. These themes also speak to the second and third *dismissive* comments by participants of color above and several more we observed. Potential players of color choosing to judge digital games by their covers—as it were—based on lacking representation would mean playing very few games.

It is important to consider how representation in or around games can influence experiences prior to gameplay even beginning. Our findings suggest that the negative influence and psycho-social effects of poor representation on diverse players that scholars such as Passmore et al. identify may also affect potential players and even those who may neither purchase nor consume games. In the introduction, we describe how video game covers may serve as a first impression about video game content. The characters portrayed on these covers—especially in aggregate over time—communicate to potential players what forms of being are available for them to take on in games. Our study suggests the inadequate representation on video game covers may signal to players of color that there are fewer roles for them in games and that they are less welcome within surrounding gaming communities.

Passmore et al. suggest reconfiguring sites of privilege and exclusion in games to promote a more inclusive, welcoming community for historically underrepresented groups can in turn improve all players' experiences (2018). We suggest how game covers—physical or digital—need to be included in this reconfiguration of games and game design, as they represent an essential component of a game's physical or digital software presentation in physical or digital storefronts.

Covers are essential for critically reflecting on the impact of games and related media, and for attempting to improve inclusion within games and media. Covers are one way that publishers communicate their priorities and the content of their games. Alongside other forms of paratexts, more inclusive covers serve as an opportunity for publishers and the larger games industry to *signal* that a wider variety of identities, and potential players, are welcome in games and gaming communities

Developers and publishers working toward making more inclusive games must go beyond in-game content to effectively *communicate* to potential players any diversity they may include. Failing to represent diverse identities on covers, advertisements, and other paratexts risks failing to communicate these choices. The impressions of participants in our study suggest the covers of these top-selling games did not successfully communicate diverse representation to participants, independent of actual content.

CONCLUSION

This study extends existing scholarly findings on representation in games and game paratexts to include how potential players themselves perceive representation on popular game covers. Video games are a multi-billion-dollar industry and have immense cultural influence. Our research begins to show how the representational information on game covers can influence how different groups perceive and interact with digital games. We found significant differences in the perceptions and valuations of covers between participants of color and white participants who benefit from Passmore et al.'s "Privilege of Immersion" (2018), extending its reach beyond in-game content and experiences. Meanwhile, that all participants statistically agreed that the representation of non-white characters on these covers was *inadequate* suggests a demand for greater representation on these covers and *in* the games they present.

Game covers communicate game content to potential players. Their visuals influence consumers' and non-consumers' perception of how various ethnic groups may be in games, and the state of the broader games medium inhabited by these characters. Scholars have described how visuals can affect or improve our perceptions of "other" groups (McKinley et al. 2014), or help us to understand "who" is

possible (Shaw 2014; 2017). By becoming more aware of the sorts of themes we identify between covers and potential players, or the kind of "capital" these covers provide (Consalvo 2007; 2017), scholars and designers alike can be better positioned to address representational inequalities in games and their impacts on everyone.

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