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CHAPTER 1.

KEYNOTES

BO RUBERG, KURT MELCHER, AND KIMBERLY VOLL

DIVERSITY AND ESPORTS: VIDEO GAME CULTURE, COLLEGIATE PLAY, AND LIVE STREAMING

Bo Ruberg, Ph.D., University of California, Irvine

Esports and related topics like video game live streaming are important and exciting areas of practice and research today. However, esports still faces a number of considerable challenges in the realm of diversity and inclusion. This talk will address current problems and possible ways forward with a focus on three areas: "toxic" video game culture and its impact on esports, questions of diversity in collegiate esports, and how diversity issues play out in video game live streaming. The talk will build from the considerable body of existing scholarship on esports, providing an overview of work in this area. It will also draw from Dr. Ruberg's experience working with the Esports Arena at UCI, as well as their role as the PI for the Inclusive Streaming Initiative, an ongoing research group that addresses issues of harassment and inclusion in video game live streaming.

UNIVERSITY ESPORTS GOVERNANCE AND LEADERSHIP

Kurt Melcher, Robert Morris University-Illinois Esports

Varsity collegiate esports programs have grown at an explosive rate over the past years. Based on demand and growing interest in esports on college campuses across the country, institutions seek direction beyond game rules and schedules to find an appropriate fit. What are the potential advantages and costs associated with traditional university governance inclusion in the collegiate esports ecosystem?

PLAYER DYNAMICS: THE FUTURE OF PLAYING TOGETHER

Kimberly Voll, Ph.D., Stray Bombay Company

Multiplayer games are now a global, cultural institution. Yet the social and cultural implications for game development have seen little focus. As a result we have ill-informed practices and a myth of "this is just how games are". But there's actually a lot we can do when equipped with a deeper understanding of how and why player dynamics emerge. As an industry it is up to us to foster healthy interactions and inclusion in our games. To get there we first must invest in understanding the root causes of player misbehaviour. And second we must invest in a more social approach to game development. This talk will explore these issues in depth, why it's hard and what we can do, with a call-to-action for the next decade. It's time for a revolution.

CHAPTER 2.

FANDOM CULTURE AND IDENTITY IN ESPORTS

MARIA J. ANDERSON-COTO, CHRISTINE TOMLINSON, JULIAN COLLADO, AND KURT SQUIRE

ABSTRACT

Esports offer a new and unique opportunity for fans. Not only can fans watch professional players, but they can experience the game directly as players themselves. In this paper, we explore esports fan identity at the intersection of viewer and player in Overwatch, League of Legends and FIFA forums, considering a spectrum and influence of geek to sports orientation. We explore differences and similarities between these esports fandoms in regard to expression of knowledge, identification with professional players, and the search for legitimacy. These groups generally use knowledge and skill to demonstrate legitimacy, as a form of (sub)cultural capital. Fans display concerns about where they fit in regard to both traditional sports and other esports. However, whereas in traditional sports, outgroups are defined as membership in rival teams, in esports, outgroup status is conferred to casuals. Esports fandom is tribal in the sense that it is a method for fans to display tribal affiliation as "real" game players against the newer, lower level players.

INTRODUCTION

Esports, an emerging and growing market, reaches a digital and international young audience, with a viewership surpassing traditional sports viewership (Lynch, 2017; Scholz, 2019). Generally understood as competitive gaming, esports has varying definitions across academia at the intersection of games, sports, and mass entertainment (Reitman et al, 2019). Although video games are often associated with geek identity and culture (Shaw, 2010), the influence from sports poses new questions about the intersection of spaces, identity, and culture in this fandom, which has sparked recent debates about considering esports a sport (Reitman et al, 2019). In this paper, we explore esports fan's identities based on their interests and discussions. Understanding that different games attract different audiences, we use three games that offer varying degrees of traditional sports models and fantasy-based elements: *FIFA*, *Overwatch (OW)*, and *League of Legends* (*LoL*). First, we use *FIFA* as a more direct comparison to traditional sports. The game content and marketing are based around actual players in soccer, and would be expected to reflect a traditional sports fandom because of its origins and the lack of fantasy elements involved. Second, we use OW as an intermediary structuring activity. While the game itself involves fictional characters and fantasy elements, the league structured in a way that mirrors the expectations of traditional sports. Third, we use *LoL* as a game closer to geek culture and further removed from traditional sports models. The game is heavily based in fantasy, and the organizational patterns diverge most strongly from traditional models of sports.

BACKGROUND

Digital games present a dual nature as both cultural artifacts and culture. Digital games are artifacts that can be analyzed as media properties, but also as cultural spaces that are enacted by

participants (Hand & Moore, 2006; Steinkuehler, 2006; Shaw 2010). Game communities and available identities emerge and evolve in response to existing socio-cultural frameworks, whether they be existing game communities, media franchises, or friend groups; even seemingly coherent game cultures are comprised of multiple, often competing subcultures and communities, which in turn have a variety of conventions, values, and practices specific to each one (Mäyrä, 2006, Squire & Steinkuehler, 2006; Taylor, 2012). Gamers create and relate to digital communities through both material and symbolic artifacts, producing a "membership" and uniting people in virtual spaces. (Hand & Moore, 2006). As Squire (2002) notes, fan groups produce, "complex social structures that mediate the game playing experience", where social factors and contexts help to shape both meaning and identity. This is evident in language (Mäyrä, 2006; Hendricks & Wrinkler, 2014), values, interactions, and practices adopted and developed by groups and individuals (Mäyrä, 2006; Steinkuehler, 2006). People constantly negotiate multiple identities depending on the space and the social context (Hendricks and Winkler, 2006). In games, this occurs through geeky expressions, such as cosplay (Hill, 2017), identifying with in-game avatars or groups (Looy, 2015; Taylor, 2006), and using jargon and geek references in their discourse (Mäyrä, 2006; Hendricks & Wrinkler, 2014).

Skill and knowledge are also important pieces of identity for geeks, lending to a sense of pride, enjoyment, credibility, and the creation of social community (Taylor, 2012; Taylor, 2009). For esports specifically, fans can borrow from both digital and sports cultures (Taylor, 2012). While sports video games are largely compared to traditional sports, they have typically been isolated from broader gaming culture (Shaw, 2010). However, esports professional players use other sports to help them express and locate their activity as well as gaining legitimacy (Taylor, 2012). Even though esports is fundamentally different

because it's computer-mediated (Hamari & Sjöblom, 2017), sports organizations are also aware of the rise of esports, forcing them to compete against it, or invest in it (Scholz, 2019). There is some support for the latter option, as esports fans' consumption behaviors sometimes overlap with traditional sports consumption behaviors, and fans have expressed fandom in similar ways, with the primary differences being that they consume much more voraciously (Brown, Billings, Murphy, & Puesan, 2018), even though the nature of the technology-mediated game influences the consumption motives (Hamari, & Sjöblom, 2017). Similarities in audience behaviors become more evident through factors such as viewership, casting (Sell, 2015), sponsorship (Scholz, 2019), rooting for a team and identifying with athletes (Absten, 2011). Esports fans exhibit both geeky and more sports-oriented expressions. Scholars have recently turned to forums to understand esport fan identity construction, particularly in terms of boundary-making and behaviors of inclusion/exclusion (Xue, Newman, & Du, 2019).

RESEARCH QUESTIONS

1. What characteristics do online esports fandoms (FIFA, LoL, and OW) exhibit?
2. How are identities constructed within online esports fandoms (FIFA, LoL, and OW)?

METHODS

For this research, we used qualitative methods to understand esports fandom through the assessment of fan behaviors, levels of participation and expression. Data was collected from 6 Reddit forums from OW, LoL, and FIFA (Table 1). Publicly available online forums have been a valuable medium for studying fan identity, allowing a direct access to fans' discussions as they occur naturally, without pressures exerted from research settings (E.g. Whiteman, 2009). We explored

Reddit forums associated with esports choosing the top two forums in terms of audience and content for FIFA, OW and LoL. We developed a list of 16 keywords to facilitate analysis: favorite, prefer, cosplay, playoff, final, fan art, match, jersey, season, (pro) player, ranking, caster, fantasy team, and fantasy league. For data extraction, we only considered the first 100 posts after applying Reddit's filters of "top" and "in the past year" to maximize engagement and relevance in a fast paced and changing community. We required a minimum of 5 posts per keyword with non-zero upvotes and a minimum of 5 comments. We analyzed a maximum of 10 posts per keyword. From each post, we coded the contents, upvotes, number of comments and top 10 comments. Comments were anonymized and their respective sub comments were noted if relevant. Afterwards, the dataset was processed by qualitative coding and thematic analysis, ultimately revealing similarities and differences in trends. All the quotes present in this paper are paraphrased to preserve the privacy of the forum users.

Reddit Forum Name	Subscribers	Active Users at Any Given Time	Posts Collected
CompetitiveOverwatch	218,000	2,500	135
OverwatchLeague	51,000	100	122
lolesports	10,800	10	70
leagueoflegends	3,000,000	15,000	141
FIFA	250,000	10,000	26
SeriousFIFA	8,500	10	6

Table 1. Forums analyzed.

RESULTS: FAN IDENTITY AND EXPRESSION

Performance of knowledge

Knowledge expression is a key aspect of fan's discourse, and players displayed expertise across multiple areas of the game, often employing expertise as an exclusionary tactic to denote in group/ out group status. It is evidenced through discussions of strategy, game and character analysis, the game meta[1], and

1. "Meta" refers to the combination of characters that are strategically used to optimize team composition.

professional players' capabilities given the game format, through jargon-heavy discourse, which allows for boundary creation. In *OW* forums, fans often note their own rank and skill level as a form of credibility and social positioning. Fans will also suggest that if viewers do not have knowledge or direct experience with the game, they should not be watching esports matches at all. Earned game knowledge gives them a starting point for discussion and also proves to other users that they *really know* what is happening in the game. Thus, fans bring to forums a sense that they can discuss aspects of professional play, albeit from a less amateur standpoint. For example:

> Technically dive should be able to combat Orisa bunker, but Winston is the biggest victim of the Reaper buff[2] and the DPS power creep, his diving partner DVa was nerfed[3], and armor also got nerfed.

Similarly, knowledge in LoL is commonly displayed through analyst-level discussions about rankings, roster changes, and predictions about the game. For example, forum users make a detailed review of the World Championship's best plays, player's choices, character use, and factors that might influence the players. Fans assume basic knowledge of the game and tend to focus on more complex concepts support their argument including previous matches, historical analysis, coach's opinions, and other sources such as interviews. Knowing the history and using external sources gives fans credibility in this specific community.

Beyond analysis, knowledge is used to forge a boundary between "casuals" versus "fans". Casuals are usually described as lacking knowledge about the game, being confused, or not caring about the game as much as the fans do. This is especially true for the Overwatch and FIFA forums. Fans sense that

2. "Buff" describes an increase of power, usually in a character's abilities.
3. "Nerf" describes a decrease of power, usually in a character's abilities.

developers make decisions to try to bring in more casual viewers or players to support more revenue, viewing this as disrespectful to the core audience and even causing resentment amongst them. While this is not expressed by every user, the feeling is common and tends to get a lot of support. This extends to assessments of company decisions, almost as if fans had insider knowledge. For example, in FIFA:

> EA is mocking the entire community of competitive gaming by using FIFA, media, and professional soccer players to legitimize and advertise the game to the general public so that they can make more money.

Knowledge is the gatekeeping of the community, where the "others" are the casual players. It gives a sense of identity and belonging and is negotiated as part of the credibility of the fans. Thus, fans perform in the space by proving their knowledge, evidenced through a heavy presence of jargon, display of skill, their own gameplay and rank as point of personal legitimacy.

Identification with others

Fans relate to multiple actors and stakeholders inside esports with leagues, teams and players the most mentioned. In LoL fans identify with all actors, but mostly teams. When referring to professional players, fans mostly comment on skill, win rate, and performance in a roster or league. The expression of their preference is not discrete or clear, and these three layers commonly come up deeply interrelated in the same discussion,. This discussion gives a perception of a bigger community, giving multiple chances for camaraderie and debate, as well as showing a deep understanding of how the structure works.

> I'm a Fnatic fan, and I genuinely want them to start with a rookie and make another Caps. I love PoE but he can find another team. EU shouldn't lose its essence for growing talents. r/lolesports

However, most of the attention goes to professional players. The

video game itself serves as a medium through which fans relate to pro players. Fans use their own experience to analyze plays, suggest changes, criticize or root for players, and sympathize with issues experienced due to buffing/nerfing and bugs. Another way of relating to the players is through sharing frustration and failure. For example, in Overwatch, fans understand the frustration with the current meta and the despair caused by sudden nerfs, buffs or even crashes in the games. In FIFA, fans discuss tournaments in which pro players suffer at the hands of glitches and even console shutdowns. Fans seem to specifically denounce the failures as the responsibility of the developers and organizers, reinforcing the blame and resentment mentioned before. However, FIFA's pro player's skill and status are constantly questioned based on performance, the game's monetization, and the presence of "bugs" or any other feature in the game that might give them an advantage and don't reflect their skill. Another way of relating is through the influence or impact the player has done in the community. For example in FIFA, ZwebackHD is admired based on his positive attitude and high quality content.

Pro players are seen as skilled celebrities, but at the same time are seen as relatable, and have an active, central part of the community's discussions. Fans may be able to conduct armchair analysis, but direct experience and high ranking in the game lends a layer of credibility and confidence for these users. This offers a unique identification position for viewers that is separate from traditional sports.

Legitimacy

The legitimacy of esports as a sport remains questionable in the literature as well as for fans. Users of the forums tend to try to locate themselves in a spectrum of legitimacy with frequent comparisons to traditional sports. In LoL forums, comparisons

to sports are meant to be validating and fans assume LoL is a sport:

> This year is so weird. In soccer, Germany gets eliminated. In hockey, the Capitals win the Stanely Cup, and in League (…) GenG out in Groups and KT eliminated in Quarters.

In FIFA, fans compare the fidelity of the game to the physical soccer. The comments are divided between criticisms of the lack of realism, and the idea that since it is a video game it doesn't necessarily have to adhere to reality. In OW, on the other hand, when a fan questions a decision made by the league or video game company, other users often come in with a comparison to traditional sports. However, it can also be used to critique various decisions made by the league. For example, in OW:

> He is being paid to do a job. Baseball has preseason games two days before opening day. This is actually normal, to have preseason matches right up until the real season starts.

Regarding the legitimacy inside the esports world, while LoL does not express any doubts on being a esport, OW and LoL express some uncertainty. In FIFA, issues that come up in esports matches such as glitches and bugs, as well as the reaction from the commentators "patching over" those errors, stir a debate of whether the game is an esport or not. Fans commonly react to these perceived issues with sarcasm, comparing it to other esports where these errors "don't happen". Another point that has been highlighted is how the presence of AI de-legitimizes professional play since it's not seen in any other esport. For example,

> Fifa could be a good esports game, but they should focus on pro clubs…10 players on both sides controlled by the AI doesn't make sense. Make it similar to CS:GO.

Within this discussion of identity, forum users struggle to find

their position in the broader scope of both traditional sports and esports.

DISCUSSION

Because video games frequently have patches, bugs, and crashes, they necessarily present a challenge to legitimization. Patching and adjustments to character abilities cause the game to feel like it is in constant transformation, evidenced in the comments about buffs and nerfs. This means that fans and players of esports, unlike those in traditional sports, need to be adaptable since the game itself evolves quite rapidly. However, not all changes are welcome and is evidenced by increasing frustration in the discussions. Bugs and crashes also frustrate fans and create an atmosphere of doubt by questioning the seriousness of the game (developer). The developer is perceived as "compromising the game" by focusing on the monetization to attract casual viewers instead of improving the game. Bugs and crashes also affect the perception of skill. Since knowledge and skills are the foundations of credibility in this community, changes in the game are seen as a "contamination" of the professional player's skill.

Another challenge raised regarding the legitimization is the presence of Artificial intelligence (AI) as part of the team itself. In OW and LoL, the presence of AI, such as the minions in the "jungle" is external to the players themselves and not questioned in any moment. However, the fact that teammates are controlled AI deeply affects the legitimacy of FIFA. Are human players the only ones admissible to play in esports? Or would a better AI be acceptable in the eyes of the fans? Future work on AI's perceptions in esports, such as the case of FIFA and Starcraft would open a parth for these questions and a deeper analysis.

Esports fans also struggle to locate their position and identity as a fandom in the context of the broader scope of both traditional sports and esports. Even though esports is a hypercompetive

atmosphere (Taylor, 2012), unlike traditional sports, there is no set "other" – no historical rival team to hate or define oneself against. Across games, esports fans define themselves against novice players, or casual players. Whereas in traditional sports, players affiliate by geographical region or teams (Absten, 2011), esports fans transcend geographical barriers, and feel free to support any teams they want, justifying with their own knowledge and performance or just personal preference.

CONCLUSION

Esports fans' identities are complex and are influenced by the intersections presented by situational and social contexts. Fans use knowledge, mostly based on personal experience and skill, as community gatekeeping (Taylor, 2012). From diving into deep, jargon-heavy discussions to distancing themselves from "casuals", they use knowledge to gain legitimacy (Taylor 2012; Taylor, 2009). As such, esports are a natural extension of earlier ethnographies of game players that argued for game play as a culture of expertise (Squire, 2008). Fans are also are able to identify with the team, leagues, and players by means of the style of play, characters, meta, and game strategy (Taylor, 2012). Esports adds to earlier conceptions of games a new meta-game, where players compete to display knowledge of game play almost as a way to prove their affiliation. Finally, fans struggle to locate their position as a fandom in the context of the broader scope of both traditional sports and esports, where the "other" is not a rival or region, but rather, less skilled casual players. There is not a cohesive community or culture in esports, but rather sub-cultures developed among fans of each game. Furthermore, the nature of these digital subcultures allow esports to surpass geographical boundaries.

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CHAPTER 3.

PANEL: HIGH SCHOOL ESPORTS STATE OF THE UNION

SAMANTHA ANTON AND JAMES O'HAGAN

Samantha Anton serves as Chief Operating Officer for the North America Scholastic Esports Federation, who is working to ensure all students possess the knowledge and skills needed to be society's game changers: educated, productive, and empathetic individuals. The Federation's core values are intertwined through all aspects of education and play: learning, opportunity, community, diversity, and respect.

NASEF develops and provides educational opportunities through esports, competitive team-based video gaming. Opportunities include middle school and high school curriculum, including English Language Arts and Career Technical Education, organized league play, project-based challenges, and support in community development. Student opportunities extend beyond gameplay to learning and challenges in the business, artistic, and entrepreneurial aspects of the esports ecosystem.

James O'Hagan is a leader in connecting and promoting esports

in education. He has had a role in starting and growing esports teams in two large urban school districts. He actively promotes esports as being a medium to something more for students beyond the games. His podcast, The Academy of Esports delves into topics surrounding esports and education and connecting into powerful ideas to increase student agency, motivation, and college and career pathways. James is a doctoral candidate at Northern Illinois University in the field of instructional technology and an active rugby player.

The High School Esports State of the Union panel reviewed the traceable history of high school esports, the impact of organized play, and the launch of the #esportsEDU community. The panel rounded off with a review of the current state of high school esports.

CHAPTER 4.

FROM ARTIFACT TO AUTO CHESS

VALVE'S GROWING ECOLOGY DOTA 2 ESPORTS

STEPHANIE BOLUK AND PATRICK LEMIEUX

ABSTRACT

How do you play Dota Auto Chess (刀塔自走棋)? First purchase chess pieces shaped like familiar Dota 2 heroes from randomized packs of five drawn from a common pool shared with eight other players. Then place your pieces, or chesses (棋), on an eight-by-eight grid where they attack and defend against other players' boards in a round robin tower defense tournament. Like poker or mahjong, strengthen your tableaux by finding three of a kind and synergizing between suits (and, like bridge or Dominion, be careful to keep track of what your competitors are collecting!) Finally, craft randomly dropped items along a MineCraft-type tech tree and reinvest compound interest back into your bank to strengthen a StarCraft-style macroeconomy for late game. A mod of a remake of a mod, Drodo Studio's (巨鸟多多工作室) Auto Chess is a digital calvinball that mashes up computer and board game genres to create something unexpected: a metagame that remixes the meanings and mechanics of Dota 2 to reveal new forms of play. One of the most popular new videogames of 2019, Auto Chess and its many spin offs by Valve, Riot, and Tencent are currently outperforming its direct (and more widely funded and advertised) competitor, Richard Garfield and Valve's digital card game Artifact (Warr 2019).

Introduction

The metagame is both a fundamental element of play and a mercurial game phenomena that eludes the grasp of any single game designer or company. Richard Garfield is one of the earliest game designers to implement theories of the metagame as a game design philosophy (Garfield 2000a; 2000b; Elias et al. 2012) in collectable card games from *Magic: The Gathering, Netrunner,* and *Keyforge* to *Artifact,* a digital card game based on *Dota 2* and co-designed with Valve. For their part, Valve is one of the first companies to aggressively design their business model around the metagame as seen in the incorporation of player-created mods like *Counter-Strike, Team Fortress 2,* and *Dota 2*. In their book length study of metagaming, Stephanie Boluk and Patrick LeMieux (2017, 261) demonstrate that Valve has made a living not by designing games, but co-opting the metagame: "Very few of [the company's] innovations center around the creation of original, inhouse IP; instead, they have developed a business model based on colonizing, expropriating, and assimilating metagames into a framework of benevolent capitalism." And yet, despite the perfect storm of savvy metagamers attempting to develop, as Will Partin (2019) has argued, "a machine for capturing metagames," it is *Auto-Chess* and not *Artifact* that carved a space for itself within the complex ecology of *Dota 2*'s meta media mix.

Auto Chess and Metagaming

This talk will frame the emergence of *Auto Chess*—a custom mod for people "too old to play *Dota*" (Wockeez) funded by a "wildcat currency" (Castronova)—in relation to the longer history of metagaming. Starting with Nigel Howard's (1971) game theories and Heinz Von Foerster's (1972; Clark 2012) cybernetic experiments in the early 1970s and moving through Frank Lantz and Eric Zimmerman's (2006) as well as Local No. 12's (2010) metagame designs of the 1990s and 2000s, we will look at

the broader history of the concept and practices of metagaming before turning to *Artifact* and *Auto Chess.* In *Rules of Play*, Zimmerman and Katie Salen Tekinbaş (2004, 284) argue "most of any given game's meta-game is beyond the reach of the game designer, for it emerges from play communities and their larger social worlds." Ironically, the near-simultaneous release of *Artifact* on November 28, 2018 and *Auto Chess* on January 3, 2019 serves as a perverse object lesson in how fickle the metagame can be.

Ultimately, *Artifact* and *Auto Chess* signal a broader shift in both Valve's geopolitical metagame in China and the further platformatization of *Dota 2.* Beyond sequels and spinoffs, Valve repurposes the technical infrastructures of *Dota 2*—from character models and animations to the Source 2 engine and esports tournaments—for *Artifact* and *Autochess.* And while one game currently has about 100 players a day and a million dollar tournament that will never happen, the other has millions of players, cross platform compatibility for the first time in the company's history, and multiple tournaments approaching within its first year.

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CHAPTER 5.

CONTINUING THE CONVERSATION

LEVERAGING PLATFORMS FOR MARGINZALIZED VOICES IN ESPORTS

ALEXANDRA CATÁ

ABSTRACT

Romnie (2019) identified 6 main barriers for minorities to enter into esports as competitors, and Romnie encourages women's tournaments as a way for players to get exposure to teams in a safe environment; however, tournaments are intended to be a first step, and what comes next is more difficult and nuanced to identify. One potential avenue is to use various social media platforms to advocate for minorities who compete and work in esports.

This paper presents a preliminary study examining how Twitter and podcasts are used to advocate for inclusion, community, and support for those pursuing a career in esports. I will focus on how two groups use Twitter to promote their organizations and examine a podcast featuring competitive female/non-binary Hearthstone players. Based on preliminary findings, I compare and contrast the differences in the two platforms and hypothesize that podcasts offer a unique and focused avenue for advocacy.

Introduction

As games media and games studies has shifted focus to issues of representation in the games industry and in esports, women's

esports tournaments are more important than ever. As Romnie (2019) describes, there are six barriers to entry for women into esports: gatekeeping through stereotyping; general harassment in public gaming spaces; fear of tokenism at tournaments; harassment through Twitch chat while competing; women being seen as risky investments by team leadership and owners; and a lack of role models, which leads to fewer women entering into competitions. Romnie also states that players of color (POCs), LGBTQ+, and gamers with disabilities face similar barriers as well. As a first step to help break these barriers, she encourages women's competitions as a way to provide a safe and comfortable environment that also showcases their talent and potential.

But because women's tournaments are a first step, what comes next? In this paper, I present preliminary research that shows social media platforms are a possible next step for player promotion, inclusion, and community that helps provide networking and support, as well as continuing to promote player skills and value. Specifically, I examine the Twitter profiles for Black Girl Gamers and Women of Esports and perform a word analysis for a year's worth of tweets to determine common themes between the groups.

Then, I examine the *Hearthstone* podcast Coin Concede episode "B8: Women in Gaming" as a second platform for visibility and engagement. The women and non-binary people featured in this podcast are all serious competitors, and one is a dedicated broadcaster in the *Hearthstone* esports community. Lastly, I compare similar terms from the podcast to the Twitter data to identify commonalities and differences between the ways the two platforms advocate for women, POCs, and gender non-conforming people in esports. My goal with this research is to present new avenues for research to help continue the conversation of how to break down barriers for minorities in esports.

Literature Review

Twitter is well researched for various interactions online, so in this review I focus on knowledge sharing and social capital. Cao et al (2015) argue that "social media, functioning as social networking tools as well as informal KMS [knowledge management systems], reflects the relational, collaborative nature required by knowledge integration" (p.352). Additionally, "shared language is found to be the strongest predictor of knowledge integration in our research, followed by trust" (p.352). This supports the importance of perceptions of community on social media platforms. The previous study compliments Panahi et al's (2015) study on the generation of tacit knowledge in social media. Tacit knowledge is defined as "knowledge that is highly personal and difficult to articulate completely" (p.3). They found that social media enables people to find explicit knowledge quickly, which then opens spaces for tacit knowledge sharing: "the more people encounter new explicit information on social media the more new tacit knowledge they may create" (p.9).

While studies on podcasts mostly focus on their uses as educational tools, there are a few studies that discuss knowledge sharing, community, and advocacy through the platform. Byszewski et al. (2017) discuss how a podcast on a career in geriatric medicine raised notable interest for the field especially when listeners were "unsubscribed", and that "[the podcast] can serve as a novel multimedia approach" (p.5). Another study on podcasts found that "respondents broadly perceive the act of listening to the MIHH [Mental Illness Happy Hour] podcast as being responsible for positive attitude changes towards the presence and treatment of MI [Mental Illness] in both others and the self" (Nathan, 2018, p.19). Both of these studies support the reasoning that podcasts, though not considered to be traditional social media platforms, can also have the same tacit

knowledge sharing, shared vocabulary, and trust amongst podcast hosts and listeners.

Preliminary Study and Methods

First, I will briefly describe each group that I studied, and then describe my research methods and limitations.

Groups of Study

Black Girl Gamers is an "online platform-based community that aims to positively promote diversity and affect change within the gaming industry." In addition to their Twitter presence, the have a Twitch stream and speak at conference panels and other events. Recently they participated in the XO Academy: A Fighting Game Bootcamp, a 4-week program event focused on fighting game esports and women in the Fighting Game Community (FCG). Both Black Girl Gamers and XO Academy are affiliates of esports advocacy group AnyKey.

Women of Esports (WoE) "empowers women in the esports industry through our global community and mentorship program." The group has over 450 members and a mentorship program that provides guidance and support to female/non-binary esports athletes. They also have a private discord channel for members.

Coin Concede: A *Hearthstone* Podcast was founded in 2015 and discusses "news in the scene, tournament results and highlights, and Decksplanations breakdowns covering topics both general and specific." Notably, the podcast was founded by Cora "Songbird" Georgiou, who is the first, and highly successful, female *Hearthstone* esports broadcaster. The episode I examine for this study is "B8: Women in Gaming", featuring female/non-binary esports competitors and casters Edelweiss, Teebs, Nicholena, and SongbirdCora.

WSOE (World Showdown of Esports) hosts various types of

esports tournaments. In December 2018 and in March 2019 WSOE hosted two all-female/non-binary *Hearthstone* tournaments. I originally included this group as part of the Twitter study but ended up omitting the data because I incorrectly thought the podcast episode was in direct response to the tournament. I do reference the WSOE data in the Discussion, which is why I mention them here.

Methods

Using Crimson Hexagon, I pulled a year's worth of tweets from Twitter from July 7, 2018 to July 7 2019. I then exported the data and created an Excel spreadsheet where I could study the word frequencies and occurrences across the groups. I did not scrub the raw data of stop words or variations of the same word–i.e., gaming, game–but I did take these idiosyncrasies into account when analyzing the data. Then, I listened and downloaded the podcast and ran the MP3 file through a transcript program. The program outputted a text file of the transcript and I used Antconc to create a term occurrence list and compare it to the Twitter terms.

First, I identified the terms that all three groups had in common (WSOE was included in this part of the study). Next, I looked at the top 50 occurrences for at least two groups. Then, I looked at the podcast data separately. Since this was a much smaller data set (2 hours), I felt it was important to examine this data on its own.

After examining the data sets, I realized the podcast had some common terms with WSOE, but they were much lower on WSOE's occurrence list, so it was not enough to make a significant impact in the analysis. At that point, I decided to omit the WSOE data from the study.

The main limitation of the study is that the study is very small and only captures a year's worth of data for the Twitter groups.

While this is a small sample size, it was enough data for the preliminary study.

Preliminary Findings

First, I will discuss the Twitter word analysis, which will then lead into the term analysis for the podcast.

Twitter Term Analysis

Terms that all three groups use (Top 3 Terms) are gender related (women, female), socially oriented (community, chat), support based (thank, feel, amazing), or play related (playing games).

Word	Black Girl Gamers Word Frequency	Women of Esports Word Frequency	Coin Concede Word Frequency	Total Occurrences
women	70	556	97	723
gaming	149	10	13	172
community	29	93	27	149
games	42	62	22	126
work	19	67	10	96
woman	23	26	38	87
play	14	9	64	87
female	12	49	25	86
thank	42	19	17	78
feel	16	9	38	63
playing	7	7	48	62
great	11	24	13	48
event	15	12	13	40
best	12	14	13	39
everyone	16	12	10	38
chat	13	7	17	37
understand	13	7	9	29
amazing	18	163	3	184

Figure 1: Terms used by all 3 groups

For the top 50 term occurrences that were used by at least 2 groups (Top 50+2), Black Girl Gamers and Women of Esports had almost all the most dual occurrences of specific terms.

Word	Black Girl Gamers Word Frequency	Women of Esports Word Frequency	Coin Concede Word Frequency	Total Occurrences
please	10	192	0	202
🤼	172	16	0	188
today	21	121	0	142
😂	118	8	0	126
people	70	49	0	119
support	28	88	0	116
level	0	92	12	104
industry	29	72	0	101
💙	11	83	0	94
game	76	11	0	87
stream	47	0	36	83
players	0	8	70	78
new	13	63	0	76
better	58	9	0	67
join	20	47	0	67
help	16	50	0	66
need	49	16	0	65
happy	25	38	0	63
right	34	29	0	63
love	29	31	0	60
good	39	14	0	53

Figure 2: Top 50 Occurrence Terms used at least 2 groups

The top 20 term occurrences for the podcast are a mix of gender terms (woman, non-binary, female) and competition related terms (tournaments, league, competitive (16 occurrences), compete (15 occurrences)).

Word	Coin Concede Word Frequency
women	97
players	70
play	64
hearthstone	64
time	57
playing	48
woman	38
feel	38
stream	36
tournaments	36
game	33
issues	28
community	27
female	25
games	22
league	20
non binary	20

Figure 3: Top 20 Occurrence Terms used by Podcast

Discussion

The highest frequency of terms for Black Girl Gamers and Women of Esports tended to focus on sentiments of

encouragement, support, and positive reinforcement: "industry", "help", "support", "community", "amazing". The Coin Concede Podcast was the only group to specifically focus on esports related terms, such as "compete" and "tournament" and was the only group to mention "non-binary". All three groups mentioned gender related terms, such as "women" and "female", as well as terms related to Twitch, such as "chat" and stream".

The Twitter groups, Black Girl Gamers and Women of Esports, appear to be more focused on community involvement and general support, whereas the Coin Concede podcast was specifically focused on female/non-binary experiences in competitive *Hearthstone*. The Twitter findings supports Cao et al's (2015) study, which also showed that users choose to engage with knowledge on social media platforms before information sharing can occur (p.352). This indicates that for both groups, the Twitter presence may be used for different purposes than the core mission for each group. Black Girl Gamers frequently tweets memes, articles, cosplay posts, etc., and is focused on social and community interactions, rather than focusing solely on the events and conferences they attend. Women of Esports is similar in that the account focuses on promoting their organization socially, rather than emphasizing the mentorship, which is at the core of their website.

The podcast supports ideas of knowledge sharing, shared vocabulary, and trust in various ways. There were many topics and issues specific to *Hearthstone* that would confuse listeners not familiar with the esports scene. For example, the driving motivator for the special episode was in reaction to only one woman getting an invitational spot intended for community members and influencers (out of 48 total spots), despite many women and non-binary influencers present in the Hearthstone esports community. Listeners who follow Hearthstone esports will be familiar with this invitational and the controversy on Twitter that followed. Through a shared vocabulary, the guests

demonstrated their expertise and shared barriers specific to the game, such as difficulty finding practice playgroups, a common practice among competitive Hearthstone players. The podcast uniquely allows the tacit knowledge of these people to come together and deliver it to a specific audience who are already invested in Hearthstone esports. This allows for a targeted way of advocating for women/non-binary people in a specific context. I was unable to gauge the reactions to the podcast, but the host, Ridiculous Hat, mentioned the guests brought up problems, barriers, and issues that he, as a cis, white, male, never considered. I hypothesize that reactions and emails in response to the podcast from the same demographic would support these sentiments. This would support Nathan and Byszewski et al's findings on the positive influence podcasts can have on listeners.

While I omitted WSOE from the main study, I do want to bring up an interesting finding I discovered after analyzing the initial Twitter data. Despite WSOE hosting two all-women/non-binary tournaments in the data timeframe, the terms "women" and "female" are not used by WSOE at all. This signals what Romine and the guests on Coin Concede discuss as a primary goal for inclusion of minorities in esports: to be treated equally as competitors. Through WSOE marketing the tournament as a competitive invitational event without mentioning that it's an exclusive women/non-binary tournament brings justification to the fact that these people are serious competitors. Additionally, the WSOE5 tournament featured exhibition matches from some of Hearthstone's most popular competitive figures, such as Amnesiac, and top casting talent with Frodan and Firebat. Due to the Hearthstone celebrities at this tournament, I infer that this led to the tournament being featured in the Blizzard Launcher for all PC Hearthstone players to see before opening the game. By not emphasizing the fact that it was a women's tournament and supporting the event with other popular

community figures, the tournament overall was presented as a serious competitive event.

Conclusion

In this preliminary study, I determined that Black Girl Gamers and Women of Esports uses Twitter as a platform for social and community engagement. The Coin Concede podcast offered a concentrated and contextual platform for knowledge sharing, supported by a shared language and the trust of the listeners. This allowed the podcast to call attention to the expertise and skillful women/non-binary players in Hearthstone esports. Both platforms are effective at outreach, but their audiences and goals differ between the platforms.

To continue this research, I would like to focus on *Hearthstone* podcasts and survey all the major podcasts to determine if/how they discuss issues of gender and marginalization within the Hearthstone esports community and the responses they receive from listeners when they do discuss these issues. While Twitter was a good starting point for this study, as a platform, Twitter is well researched and documented as having a wide influence on social issues.

For future research, I recommend pursuing more publications on how podcasting can reach and advocate for marginalized groups in gaming communities. Podcasts in gaming communities are a unique form of content creation, and differ from traditional, highly polished and produced forms of podcasting. Many gaming podcasts are streamed on Twitch and offer live interactions and reactions from chat, in addition to reaching to a very specific audience. I believe there is an interesting potential for podcasting to be an interesting avenue for advocacy within specific gaming communities, as I found through this preliminary study.

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CHAPTER 6.

PANEL: COLLEGE ESPORTS PROGRAMS AND HOW TO BUILD THEM

BRIAN MARCOTTE, KURT MELCHER, HEATH PRICE, JUSTIN THOMAS, AND KATHY CHIANG

ABSTRACT

Institution-supported college esports programs have been around since 2014, but student-led initiatives began as early as 2009. Hundreds more colleges and universities are also exploring esports at various levels — from student organizations to recreational sports to full-fledged varsity programs. There are so many different flavors of esports programs that it can be a challenge to figure out the best solution for each school. On this panel, we've gathered leaders of programs from around the country and from various types of programs to share their experiences — how they got started (or how they're planning to) and lessons learned along the way.

The panel focused on three areas of esports program creation and development: how to get started, how to adapt to or influence campus culture, and how esports can be used to improve the lives of students, faculty, and people broadly. Panelists discovered several common trends among their approaches and program visions: there was a desire and need to create well-rounded esports programs focused on not just

the competitive success of their players, but also on academics, social emotional learning, and professional development; they had found unexpected allies throughout the various teams on their campuses and discovered the need for many disciplines to get involved with the design and implementation of their facilities and initiatives; students had already established communities for gaming on campus that served as inspiration, if not direct counsel, for campus leadership; and they spoke to the motivation to address issues with representation and behavior when it came to gaming and online spaces. Overall, there was a sense of awe and joy for how large esports has grown, especially now at the collegiate level, and hope for games to continue engaging and improving the lives of students worldwide.

Panelists

Kurt Melcher is the Executive Director of Esports at Intersport and Robert Morris University in Chicago, IL. Through his efforts, RMU became the first university to recognize esports as part of the athletic department and offer athletic scholarships to gamers, helping to legitimize the world of collegiate esports. An athletic administrator and coach for over 15 years, Melcher recognized the core educational elements involved in traditional sports and believes the same hold true for esports. Recently the NCAA (National Collegiate Athletic Association) selected Intersport to lead the research and ideation surrounding the association's potential role in collegiate esports. Melcher's visionary program has been highlighted in a number of prominent news sources including The New York Times, The Wall Street Journal, Washington Post, Time magazine, The Chicago Tribune, Chicago Magazine, ESPN, NPR, HBO Real Sports and in the documentary film All Work All Play.

Heath Price has grown up around higher education, having spent over 10-years at two flagship research universities – LSU and the University of Kentucky (UK). Additionally, he had the opportunity to work in the private sector as a partner to many

institutions across the United States. In his current role at the University of Kentucky, Heath serves as the Associate CIO in ITS. Most recently he has been a core member of a cross-functional campus team at UK that is charged with building a comprehensive and thought approach to engaging gaming and Esports through the University-environment. UK believes that esports is a new touchpoint for UK to establish sense of campus community and belonging. They desire to be a leader in building a foundation of esports that focuses on positive gaming attributes, respecting people, intentional reach out to interested parties regardless of race, gender, etc. from the start by tying message directly to UK's emphasis on a strong sense of belonging. Esports can connect across majors for co-curricular learning and experiential/internship opportunities; can help UK drive high school and international student recruitment and connections once these students reach the UK campus; and can be a focused touch-point for efforts at UK around Health and Mental Wellness. The University of Kentucky also hopes to use their position – working in partnership with leaders in this field – to explore challenges associated with the growth of this industry, such as gender and racial equity.

CHAPTER 7.

THE CHALLENGE OF COLLEGIATE ESPORTS INSTITUTIONALIZATION REQUIRES PARTNERSHIPS BETWEEN STUDENTS AND UNIVERSITIES

SAMANTHA CLOSE AND QUENTIN GRIFFIN

ABSTRACT

Universities are missing the chance to develop truly innovative, participatory esports spaces and cultures–the only thing that can combat the challenges they face. We performed semi-structured interviews with professionals from universities developing esports programs and broader institutions (such as TESPA and athletic conferences) attempting to guide and govern collegiate esports development. Our findings suggest that theoretical discussions about whether esports are a "real" sport or not are also playing out on an administrative level, esports programs' diffusion is crucially impacted by key actors in the universities with subcultural knowledge, and that toxic gamer culture is a serious obstacle to esports growth. Esports are at a crucial point in their institutionalization—recognized as important but not clearly understood or settled. This moment is a chance to fully realize the potential of participatory culture in

mainstream institutions, but it can only be realized through partnership between students, faculty, staff, and administration.

Introduction

In 2015, ESPN 2 aired the championship round of the collegiate Heroes of the Storm national competition, organized and put on by the game's publisher Blizzard. As this was one of the first high-profile sports outlets to cover esports in a major way, the two-hour broadcast inspired a flurry of reactions online, from excitement to disgust to confusion (Makuch, 16:21:19 UTC). As regular ESPN sports reporter and host Michelle Beadle put it when praising the announcers on Twitter, "I don't have a damn clue what I'm watching, but they won't let me leave." This mix of confusion and understanding, not knowing what is going on but knowing that it is deeply important and exciting to others, is an apt description for American colleges and universities' embrace of esports.

In this sections that follow, we briefly review the on-going academic conversations around esports as a sport, the diffusion of innovation through institutions, and subcultural youth organizing. This provides essential background for analyzing our interviews with collegiate esports professionals at varying schools and organizations. We ultimately argue that colleges and universities are missing the chance to develop truly innovative, participatory esports spaces and cultures–the only thing that can combat the challenges they face in managing toxic gamer subcultures.

Literature Review

This analysis draws together three distinct bodies of literature and academic theory. First, studies of video games and esports have long argued over whether esports could (or indeed should) be understood as a "sport" in the traditional sense. Traditional sports are highly integrated into collegiate institutions and

structures from their very early development, and so this existential question–are esports sports?–has very practical importance. Second, as a cultural practice based on video games, esports fall under the heading of "new" media and innovative technologies. The question of how innovation diffuses throughout society and culture has long been of interest to both organizational communication as well as media and cultural studies, if from largely different perspectives. Third, as a subcultural youth practice that is rapidly becoming mainstream in the global digital age, there are many parallels with the development of media fandom and other youth subcultures. The remainder of this section will explain the relevant central theories in each of these disciplines before concluding with an explanation of why it is essential to draw these connections between different theoretical traditions in different disciplines in order to understand collegiate esports.

The fastest way to start an argument (or produce heartfelt groans) in most any subculture is to ask if something new "counts" or not–it may be pretty, but is it Art? For an academic example of this debate in relation to esports, the journal Sport, Ethics and Philosophy hosts dueling articles with titles from "eSport Gaming: The Rise of a New Sports Practice" to "E-sports are Not Sports" to "Embodiment and fundamental motor skills in eSports" (Hilvoorde & Pot, 2016; Parry, 2019; Rosell Llorens, 2017) As these titles and the references in articles like "Virtual(ly) Athletes: Where eSports Fit Within the Definition of 'Sport'" suggest, a main area of contention is how physical and embodied esports are, whether they require physical training to create hegemonic, elite bodies or encourage the exact opposite, such as weight gain, eye strain, and sedentary lifestyles (Jenny, Manning, Keiper, & Olrich, 2017).

In esports, the question has particular resonance in relation to masculinity and access to resources. Popular culture often pits stereotypical "nerds" (i.e. players of video games) against

stereotypical "jocks" (i.e. players of traditional sports) (Jenkins, 1992; Kendall, 1999; Pascoe, 2007; Wilson, 2002). Traditional athletes are often associated with hegemonic masculine ideals, excluding women as well as people who identify with more subordinated or oppressed masculinities from participation in sport (Anderson, 2011; R. Connell, 2008; R. W. Connell & Messerschmidt, 2005; Kidd, 2013; Pascoe, 2007). Esports challenges these historic cultural formations by asserting that some video game players (nerds) are in fact athletes (jocks) and deserving of the same cultural respect and practical resources that jocks traditionally receive.

We do not have a position on whether esports "count" as traditional sports or not. Rather, we argue that this debate's existence heavily impacts esports' collegiate institutionalization by directing where esports programs should be located, who should lead (and fund) them, and raising concerns about how esports might impact campus culture and reputation, particularly on the level of gender.

As a cultural practice premised on new media technologies, the spread of collegiate esports can be usefully understood through the diffusion of innovation theory. Rogers (2003) codified this theory in 1962 and created an influential model arguing that different categories of individuals and institutions will begin to use innovations at different times in the innovation's life cycle, contrasting groups like "early adopters" and "late majority." Mintrom (1997, p. 739) added to this model, arguing that policy entrepreneurs, "political actors who promote policy ideas," are essential catalysts for an innovation to make it onto the agenda of a large institution in the first place, no matter what category it falls into. Policy entrepreneurs remain essential catalysts for diffusion to proceed, rather than losing momentum or getting lost in the shuffle of a busy organization. Although Mintrom (1997) focused on governments, contemporary colleges and universities are also large, complex organizations whose

governance involves both executive leaders and deliberative bodies, such as a faculty council.

Diffusion of innovation theory has also been critiqued. For instance, it assumes a relatively homogeneous adoption population who act rationally, which is rarely found in the field (Lundblad, 2003; Lyytinen & Damsgaard, 2001; MacVaugh & Schiavone, 2010). It also focuses on the diffusion of a single innovative technology, such as a television set or a particular pesticide, rather than a complex cultural and technological process. Lyytinen and Damsgaard (2001) argue that researchers interested in the diffusion of a complex and networked technology, like esports, develop localized theories at the site and with multiple levels of analysis. MacVaugh and Schiavone (2010) recommend that researchers pay careful attention to the social and cultural features of the adoption population, rather than focusing on the technological innovation itself.

At this point in 2019, an esports team or club existing at a university is not exactly an innovation. But official, institutional support for esports from that university very much still is. For example, Ruth Watkins, President of the University of Utah, tweeted her congratulations to the Utah Overwatch team for making it to the ESPN Collegiate Esports Championship final. Those replying to and re-tweeting Watkins overwhelmingly expressed their joy that the college president noticed and acknowledged the team, writing things like "Grateful to have such support!! #GoUtes" For most any organization but esports, this would be a bizarre response: of course the university administration would be supportive of an official student team doing well on the national stage.

What makes esports arguably different is its status as a complex subculture. It is still often perceived as niche despite increasingly widespread participation, with audience counts for major tournaments often exceeding those for traditional sports.

These audiences are largely composed of youth, particularly male teenagers and young adults. This is a large part of what makes esports attractive to colleges (and marketers), but it means there is a significant gap in communication and mutual understanding between people involved with esports and senior university figures, from administration to faculty to staff. A similar gap has been observed in other participatory youth cultures, such as media fandom, leading to strange situations where young people feel they learn more about important skills, such as writing or coding, outside school than inside it (Itō, 2010; Jenkins, 2006, 2008; Jenkins, Itō, & boyd, 2015). Young people increasingly mobilize their subcultural networks and interests to impact the world around them, be it through political action or a different channel (Cohen, 2010; Jenkins, Shresthova, Gamber-Thompson, Kligler-Vilenchik, & Arely Zimmerman, 2016).

Another helpful comparison case is the international spread of Japanese manga, often considered a nerdy or geeky subcultural interest in the West despite manga's broad audience in Japan and other East Asian countries. Brienza (2016) analyzes that process of exchange and domestication from an anthropological perspective. Like Mintrom (1997), she emphasizes the importance of work done by key individuals within the organizations. Brienza (Brienza, 2016, p. 76) identified a spectrum of policy entrepreneur-esque mindsets, from Evangelists, who identified strongly with the subculture, to Opportunists, who saw the energy and potential for business success around it, to Specialists, who have experience in the relevant industry as well as a personal identification and love for the product.

Methodology

We conducted semi-structured interviews with seven professionals involved with collegiate esports. The interviewees'

affiliations and positions varied: some were associated with a specific college or small set of colleges, others were employed by larger collegiate organizations, both esports-focused and not. To protect the privacy of our participants, we will refer to them using these general designations.

The interviews were conducted virtually through Zoom and lasted forty-five minutes to an hour on average. With the participants' permission, we audio-recorded and then transcribed the interviews for coding. Some example structuring questions were 1) How participants first heard of esports in a professional setting, 2) What challenges they came across in their work with collegiate esports, and 3) If you could imagine the perfect collegiate esports program, what would it look like at an organizational level.

Findings and Discussion

Collegiate esports generally begin from both the bottom-up and the top-down. Students are usually the first on a campus to organize, often gathering together based on their shared game of interest; for example, Apple College Overwatch or Banana College Mascot-ies League of Legends Club. Some of these student-run organizations include teams, which play unofficially against teams from other schools or within the same university. Conversely, in the Big East conference, the top-down discussions began with the university Presidents. Students' grassroots enthusiasm is significant in the Presidents taking notice and proceeding, but the connection between administration and students is generally indirect and often extremely limited. This is truly a shame, as it limits esports' potential to be an example of organizing differently. The strong student-led organizational structures and interest from high levels of collegiate administration could, ideally, cohere into a community-oriented and equality-minded program in the participatory culture tradition. Instead, it gives credence to

Brienza's (2016, p. 9) argument that innovative cultural forms "ultimately cannot challenge durable relations of inequality because it succeeds only by traveling through those very same hierarchical structures".

The Presidents typically task their athletics directors and departments with incorporating esports. Interviewees were split about whether esports fit in athletics or not. For example, one Student Services professional based at a single college argued that it has much more in common with club sports or debate teams, while another asserted just as strongly that "it just needs to be under athletics." In this on-going debate, the athletics directors and departments are generally skeptical and not at all interested in building esports programs. As one staff member who oversees esports at a few different colleges put it, "the athletics department's interest only goes so far as the Big East attachment and name." This sometimes results in esports being largely housed elsewhere in the university, such as Student Affairs or a particular academic college like Engineering or Media and Design. A professional with one of the collegiate esports governing bodies told us that almost every single person he works with on esports at their university has a different job title and organizational home.

What this makes clear is that policy entrepreneurs are incredibly important to the collegiate institutionalization of esports. Programs organized from the top-down by unenthusiastic athletics directors tend to gravitate towards whoever has subcultural gaming knowledge, similar to Brienza's Evangelist, or who has just enough to understand the basics of esports while seeing its potential, similar to an Opportunist. Ironically, this is almost never the students who created the pre-existing organizational structure. The tasks of managing university resources and making the financial allocations required to help support esports growth, as well as "student unreliability," pushed campus leadership to administration, staff, or faculty members.

All of these points are complicated and nuanced by our final finding. Interviewees from both colleges themselves and the esports governing bodies referenced the challenge of combating toxic culture within esports and cultivating a welcoming, inclusive space–particularly for female students, people of color, and new gamers. Despite the wide variety of organizational structures and leadership, a student affairs professional explained, "pervasive toxicity consistently appeared across institutions." Much of these problematic interactions occur on the student-to-student level in platforms like Discord chats or other social media and digital communication. The top-down organizational structures that has evolved has difficulty negotiating these environments, understanding the lingo and norms. As that structure absorbs or supplants student-run clubs, the students lose authority (and reward) for moderating these spaces or developing cultural norms of respect and competition.

There is no "definitive code of conduct" or "governing ethics" that is agreed upon across games, schools, and locales–or even within them. School missions also impact esports in a unique way. While traditional sports certainly can be violent or harmful, this is not widely acknowledged or seen as a problem (outside of sports studies). The impression that games can be addicting or encourage violence, on the other hand, is remarkably stubborn in its persistence. Colleges with religious or social justice missions, in particular, sometimes ban M-rated games or particular controversial titles from their gaming lounges and esports centers.

Conclusion

We argue that rather than duplicating or absorbing the student-run esports organizations on campus, professionals in the collegiate scene should explore partnering with and supporting them. In fact, while most (though certainly not all) esports players and fans are male, female students disproportionately

take on the leadership of esports clubs and student-run organizations like TESPA chapters. Recognizing such leadership roles, to which we would add shoutcasting, game analysis, coaching, and community moderation, to be as essential as the competitive players is the next step forward.

The collegiate esports scene is unlikely to assume the same pipeline role that it holds in traditional sports. Professional esports competitors often become so at the same age they would traditionally attend college, and the time demands of professional esports and college are not compatible. But what it can be is a space that mirrors the complex world into which students are entering after graduation and in which colleges and universities exist. It can be a space that demonstrates how equitable, equality-minded organizational structures and cultures evolve.

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CHAPTER 8.

LEAGUE OF LEGENDS

AN ADVANCEMENT OF LAVIAN COMMUNITIES OF PRACTICE

ANDREW COCHRAN

ABSTRACT

Communities of practice have been described by Lave and Wenger (1991) as a group of individuals working together to achieve a common goal through engaging and learning from each other. Lave and Wenger discuss that Legitimate Peripheral Participation (LPP) is crucial for people involved on the outside of a community. In 1991, Lave and Wenger did not have access to the internet (as it is today) and the interconnectedness that can be achieved through it. With the ability to access so many different levels of mastery through varying media (Teles, 1993), Lave and Wenger's original description of communities of practice and LPP seem lacking. This paper proposes that while League of Legends is an excellent example of Lave and Wenger's communities of practice, there is potential for League of Legends and most gaming communities to represent something more complex and interconnected than a traditional view of communities of practice.

Introduction to Communities of Practice and League of Legends

League of Legends is a perfect example of Lave and Wenger's proper communities of practice, akin to the quartermasters, tailors, and midwives (for more on this see Lave and Wenger, 1991 chapter 3). Communities of practice as described by Lave

and Wenger (1991) discuss how individuals who are relative novices to an activity can be Legitimate Peripheral Participants (LPPs) who work with more experienced others in order to work their way through various levels of a community to reach centrality to that particular community. For example, Lave and Wenger discuss the Vai and Gola tailors. These tailors follow an apprenticeship model that has new tailors start with finishing work (final sewing, final measurements, fine details, etc.). As they continue to master each stage of tailoring, they finally become ready to cut their own fabric to begin to make a suit (being able to cut fabric correctly is crucial to providing a customer with a correctly fitted suit). This community of tailors needed to be observed in Liberia in order to understand how they functioned and how their apprenticeship model was different from how many others learn in a work environment.

With the advancement of technology and the internet, and new accessibility into the details of various communities can be observed and studied without a need for physical travel. There are several differences between gaming communities and the traditional communities as described by Lave and Wenger. For the purposes of this paper the game League of Legends will be discussed as a different type of community of practice. One difference League of Legends has compared to Via Gola tailors is that novices are introduced to the full game and need to learn very quickly how to play and cooperate with a team. The game and the objective stay the same throughout, but the strategy, teamwork, meta-game knowledge, and understanding of matchups between champions and team compositions is what is fostered and enhanced throughout the players' experience with the game and community. In this type of online community, the cognitive apprenticeship (Collins, Brown, & Newman, 1989) is a global one that involves many apprentices and many mentors working together at every level of expertise to increase each other's understanding and ability (Teles, 1993).

Lave and Wenger (1991) also discussed in their book cases where apprenticeships and communities of practice do not always work out. Butchers were an example of this given by Lave and Wenger. The structure was the same, where they start by doing finishing work and then worked their way back to eventually cutting different parts of the animal. But the novice did not have a clear view or understanding of the entire process. Because of the nature of esports and people who play League of Legends as a career (i.e., full time youtubers, twitch streamers, and competitive team players) broadcasting online for free, there are many opportunities for people who are relative novices to the game to witness what playing at a professional level is like. Just like any other apprenticeship or community of practice, the same amount of dedication needs to be established for the individual. As a person progresses (either by forming and finding a team to grow with early or touting their prowess as a solo player) they begin to understand the inner workings and higher order functions of the game and how to win more effectively and more often.

League of Legends as a Model Community of Practice

There is a community in League of Legends that does not exist in any other major sport (or traditional community of practice) among novices, professionals, and everyone in-between. At any given point, there are several dozen professional players streaming League of Legends through twitch.tv. Twitch.tv is a platform that allows anyone to watch and talk to (via chat) the people who are streaming and is usually how professional players make most of their income, so they stream every day. For example, League of Legends streamer doublelift regularly streams several hours a day many days a week for an average of 12,000-15,000 constant viewers with peaks up to 35,000 (twitch.tv/doublelift). These viewers can interact with the streamer and anyone else in the chat which is constantly active while the player is streaming. These communities can watch for

enjoyment, to get better at the game by listening to advice from the streamer, or other higher skilled players in the chat. This is just one example of how League of Legends players have seemingly unlimited access to the entire process of someone becoming a professional and can watch, if they desire, streamers at every rung in the skill ladder that exists in League of Legends. Perhaps one reason why League of Legends is such a successful game and has grown continuously as an esport, is because this type of access is unheard of in any other professional sport. A true community of practice (Lave & Wenger, 1991) exists within League of Legends that gives the players and viewers every opportunity to learn the game at every level.

In my analogy to Lave's community of practice, people who play League of Legends early on with the intent to become a professional may be considered the newcomers learning from those who have been playing the game longer than they have with the same intent to become professional players. They are the apprentices of the game. Learning from the more experienced others (via spectating or meta-gaming), especially in the role that the person wants to specialize in, is important for the growth of the individual in their role. As the player matures and grows in the game, with persistence, they will climb in the ranked section of the League of Legends online gaming community. Once a player reaches master or grandmaster (the highest ranks in the game), they may begin to play with other players that they work well with or who share a similar style or attitude toward the game. The team then has opportunities to play in the grandmaster series where the winner each year gets a chance to play against the bottom team in the League Championship Series (LCS). If the grandmaster team wins, they are awarded the ability to play in the LCS and are officially considered a professional League of Legends team. This is how the system can be described to foster a community of practice.

League of Legends Braided and Nested Communities

Until this point the argument has been made that League of Legends is an excellent example of Lave and Wenger's (1991) communities of practice. People playing League of Legends are certainly a part of that type of community, but that is not the only community that the League of Legends players are involved in. Their level of involvement in that community is directly related to that players goals at any given time. Because goals change situation to situation, their centrality to any community is fluid. This idea of fluid community involvement is an elaboration of Young, DePalma, and Garrett's (2002) description of the ontological descent of intentions. Simply put, the ontological descent of intentions contains all the intentions that an individual may have in any given goal state. As goals change, intentions within that ontological descent change as well. A classic example are when biological intentions begin to supersede intentions to continue playing a video game (eating, sleeping, etc.). Similarly, people are involved in many different communities that can considered to be braided among each other and affect each other. These braided communities of practice take the ontological descent of an individual in pursuit of multiple goals and applies them to the community that the individual may be engaged in at any given point in time. All the communities, that an individual is at varying levels of centrality to, have goals for one's action and perception within them. Therefore, one's intentionality for doing an activity may change day-to-day or moment-to-moment depending on which goal one adopts on a particular occasion. Each of these communities also includes constraints and rules that one would be required to follow in order to remain a member of those communities (Wenger, 2010).

An example of these fluid or braided communities of practice could be a League of Legends player who was also a traditional sports player. This is a simplified explanation, but one could

expect several overlapping characteristics of these two communities. Examples of overlap could be working with teammates, using strategy to beat the opposing team, and using prospective perception (Gibson, 1986; Hodges, 2009; Shaw & Turvey, 1999; Wagman, 2012) to understand what the other team might be doing or strategizing. One would also expect that there are key differences in each of these communities. For instance, an esports team may have less of an emphasis on physical fitness than a traditional sports team (although many are beginning to make physical fitness mandatory it is not to the level of traditional sports). Traditional sports are usually involved in larger body movements whereas esports are almost exclusively concerned with finger, hand, and wrist movements. These communities (and most communities that individuals are involved in) have invariance (Clancey, 1997; Gibson, 1986) among them that can be perceived by the agent engaging in the communities. It is beneficial for the individual, as a member of all those communities, to perceive the invariance and potentially contribute new information and commonalities to centrally influence the communities (if that action aligns with the individual's goals and intentions). At a professional level (centrality for professional League of Legends play), players are always looking for ways to attain an edge against the competition. Not only are individuals involved in communities that are braided, but they are also involved in communities that are nested within larger communities.

It is perhaps difficult to understand an idea of what a nested community may look like when referencing Lave and Wenger's (1991) traditional examples of communities of practice. However, when discussing the vast community of an online game such as League of Legends it becomes less taxing. There is the entire League of Legends community which can be thought of as the largest community among which other smaller communities are nested within. Everything involved with

League of Legends and the people involved in it at any level of centrality fall within this community. This is where (in the discussion of a traditional community of practice) the discussion would stop. To do this would be a disservice to the complexity that is involved in the League of Legends community. Within League of Legends there are a myriad of other micro-communities each with their one peripheries and centralities. A few examples of these micro-communities are coaches, casters, casual players, and professional players (to name a few). Each of these micro-communities can be thought of as having their own periphery or centrality to the larger League of Legends community. The level of centrality (within the smaller communities and the smaller communities nested within the larger) would depend on the rules and history that are being constantly defined by the communities (Wenger, 2010). An example of nested communities could be an individual reaching a professional level of play.

What Does This Mean for the League of Legends Community

Once players have reached a level of professional play, their LCS team becomes its own community of practice, where their goal to win the game may become more important, along with working as a team to accomplish that goal. One would think that the community of practice for a professional League of Legends team would be just the five players. However, players work with coaches, casters, alternates, and other professional players (from different teams), viewers on their twitch streams, and others to discuss strategy and changes in the meta game (changes to the map structure, large changes to champions, bug fixes etc.). Even though there are only five players on a team, the true community of practice consists of many more individuals, all of whom use their unique expertise to bolster their chances to win each individual game. The involvement in a micro-community within League of Legends can be thought of as a dynamic system where each individual works in coordinated

action with each other to perform a task they were incapable of completing on their own (Kugler, Shaw, Vicente, & Kinsella-Shaw, 1991; Renshaw, Davids, Shuttleworth, & Chow, 2009; Turvey & Carello, 1986; Young et al., 2002). A professional player may also be involved in a community of other professionals that play the same role on their teams or use a play style most effectively. Many professional players are also heavily invested in their twitch streams (a large amount of their income).

While many professional players juggle all these smaller communities, they need to be aware of how they are all connected. The obvious connection is the game itself. It is crucial for people involved in multiple smaller communities within the League of Legends community to understand their centrality to the gestalt League of Legends community. People at the center of a community have a much larger influence on the rules and histories of that community (Wenger, 2010). Due to the centrality and influence, decisions that are made based on involvement in central micro-communities will ripple (to varying degrees) into micro-communities on the periphery nested in the League of Legends community.

When discussing a community of several million people it is difficult for those at the center of the community to make decisions that will be beneficial to everyone and every micro-community at varying levels of centrality. Therefore, being involved in a constant feedback loop from people on the periphery is crucial. It is evident that those at the center of the League of Legends community are constantly changing how the game works to provide a healthy ecosystem regarding gameplay. When something is overpowered or unfair it is quickly patched and returned to homeostasis. Regarding culture (which anecdotally many have referred to as toxic at times) it is the responsibility of those who are central to the community to create and uphold the rules and expectations from the

community members that are required to be followed for continued involvement.

Lave and Wenger (1991) have discussed situated learning and communities of practice in incredible detail, but what has been missing from the literature is this explicit idea that communities can develop within other communities and begin to become involved (peripherally or centrally) as a coordinated system of coaction involved in the larger League of Legends community in a way that each individual within the community would be incapable of on their own. These ideas about how people are situated within their nested communities within the Larger League of Legends community could change how we discuss attitudes, culture, and involvement within these communities and others.

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CHAPTER 9.

PANEL: ENHANCING COMPETITIVE SUCCESS THROUGH HOLISTIC PLAYER SUPPORT

MILO DODSON, HAYLESH PATEL, AND HILLARY PHAN

ABSTRACT

A common trend among esports teams is focusing on immediate results and short-term success. This can lead to unhealthy environments and lifestyles. In this presentation, UCI Esports support staff will share their strategies on elevating performance through focusing on long-term wellness of esports athletes, supporting students in physical and mental health, academics, and career and life skills.

Panelists

Dr. Milo Dodson acts as the team psychologist. He meets with each team biweekly, guiding them through discussions on conflict resolution principles, player burnout, and mental preparation. He works with players to develop healthy habits surrounding competition, constant high-stress environments, and conflict.

Haylesh Patel serves as the exercise physiologist. He runs the fitness programs for players and staff, complete with pre and

post evaluations. He provides personalized exercise and dietary plans, ergonomic consultation, as well as presentations on healthy living.

Hillary Phan focuses on player academics and professional goals. She aids players in time management and balancing their academic workload, connecting them with necessary resources like tutors or the career center. She checks-in with players on their college and career plans, critiquing resumes and advising on job applications.

CHAPTER 10.

SO YOU WANT TO TEACH AN ESPORTS CLASS? LESSONS AND STRATEGIES FROM THE FRONT LINES

PHILL ALEXANDER

ABSTRACT

This piece, which is a written version of what was delivered as an extemporaneous talk from notes, offers an overview of how Miami University launched the first (as far as anyone has found records, anyway) academic course on esports and built from that moment in 2016 to now. The campus now offers a seven class, 18 credit hour graduate and undergraduate certificate in Esports Management and is looking to introduce both undergraduate and graduate specialization tracks within their Interactive Media Studies degree and Games and Simulation degree programs in 2020 and beyond. The piece closes with a set of ten practical pieces of advice to anyone looking to develop esports coursework based on Dr. Alexander's experiences over the last three years.

Introduction

In September of 2016, a semester that now seems long, long ago, I offered what we believe was the first academic course on

esports history, organizational structure and culture. I team taught that class with a student, Stelanie Tsirilis, who used the experience as her senior project. Stelanie was a big part of the esports movement at Miami; she was the president of our esports club for two years, and in addition to working with me on this course, she was the student who initiated the effort that created our varsity esports program. Our varsity program also started in 2016, with myself and Dr. Glenn Platt serving as the founding directors, with Tsirlis as our student director, and with at that time three varsity teams: Hearthstone, Overwatch and League of Legends.

I'm not sure Stelanie and I realized where we were positioned in that moment as relative pioneers in the space. We were building the sixth varsity esports program in the country, the first at a school with division one sports, and we were also teaching a class that had no precedent, offering what would be the first class of its kind. As a games professor, I was no stranger to creating new coursework, but working with something as ever-evolving and as student-owned as esports, I wanted us to work carefully. Luckily for me Stelanie was embedded in esports culture, so any ethos I lacked she could provide.

How That First Class Worked

That first esports class, IMS 390e- The Study of Esports, was meant to be an overview of all things esports. Looking back, the class looks as if it has aged far more than it actually has. Overwatch was "new," and there was no Fortnite. The class focused on the idea that if we could build a useful academic lens to observe esports by combining three key concepts: understanding games (genres) + understanding of game cultures (scenes) + understanding of the business around those games.

That resulted in a course that looked like this:

- Anchoring everything in the existing history (some of

which was being made as we taught the first class)

- Playing a game every week (for 12 weeks of the 14 week class)
- Observing the online scenes of those games as we went
- Studying and critiquing the business models of the game producers as well as the organizations involved in the professional scene (teams, tournament organizers, etc.)

Each student was tasked with researching a professional player, a professional team, and then developing an individualized research project which they designed in consultion with Stelanie and me. The projects ranged from detailed overviews of a specific game's competitive history to developing plans of action to elevate local scenes and organize existing tournaments.

Where That Went

Stelanie graduated in 2016 (in December, right after the course ended). She went on to work for a couple of years with Blizzard on the Overwatch Esports team and now works for 343 Industries. Her leaving meant that I needed to re-think now to develop ethos, but I also had a group of students who were clamboring for a class in game streaming/Twitch as well as a backlog of students who wanted the original class. It was at that point that Dr. Glenn Platt—the chair of our program—and myself started working on what is now our graduate and undergraduate certificate in Esports Management. It consists of six classes and two practicum experiences that map like this:

- First Semester (fall)
    - Esports Ecosystems (the class described above)
    - Esports Broadcasting
    - Esports Event Management

- Winter term (between semesters): Practicum (working with a professional team or organization for 2-3 weeks)
- Second Semester (spring)
    - The Business of Esports
    - Esports Branding and Community Engagement
    - Current Topics in Esports
- Summer: Practicum II: Organizing and Executing an Esports Event

All of those courses include work with industry partners, and the completed, ready-to-roll in February of 2020 version will offer content online through a partnership with Twitch.tv. The first semester of courses are in a second pilot at this point, having been offered last spring and this fall.

Important Things to Know About Teaching Esports

When I delivered this as a talk, I interpersed stories with these key points. To attempt to maintain coherence in written form, however, I'm going to attempt to run through the list without any major digressions, leaving my other comments for the conclusion. Based on teaching esports at a research minded university with a reputation for teaching excellence, here are ten pieces of advice that should help you as you consider building an esports curriculum (or even a just a single class).

Make sure you aren't presenting this as a class on how to play Esports

This will likely be the first thing that any administrator fears, but it will also be a thing you'll want to make sure you head off before you even get to the point of putting up fliers to attract students. You shouldn't try to create a class that would take as its primary task making students better competitive gamers, and you don't want the students to think that's what is happening. Now I did find that many students in the class also got better at

their favorite games through studying them carefully and better understanding the resources that existed, but this is a class that uses games the way a literature class uses Moby Dick or Hamlet. The idea of the class is to develop skills while looking at the esports landscape.

Don't ignore the importance of playing games to learn, and relatedly, don't let your own desire to be scholarly give the students culture shock

In contrast to the first point, you will want to stress that students need to play the games that you're teaching them about. You also want to make sure that you recognize that in almost all cases, there will be a student or more in the room that are vastly superior to you in playing the game itself. Allow them to be experts and allow the students to balance the academic activity of studying the game with some (not too much, of course) time just discussing their enjoyment of the game or lack of enjoyment. Those of us who research games have to be careful not to let our desire to be game nerds to essentially colonize the game space. I remember saying "heuristic" when talking about my research of World of Warcraft and watching eyes glaze over and roll. Remember you're in their world. Show it the respect we want them to show our classrooms (e.g. "don't be a melvin").

Realize that if you're an academic, even if you've published on esports, you do not know the games well enough to offer this class without help.

Two points to illustrate this one. The first is that I'm a published author who has done extensive research on World of Warcraft (WoW). That's my ethos card to get into the discussion. Years ago, as a graduate student, I raided almost 20 hours a week with a progression guild that was good enough that fans knew who we were. But that was a long time ago. I'm not even versed on current WoW, let alone on other major games. I was also teaching this class when Fortnite hit, and within a matter of a week or so, the "biggest" game in the world was something that

I'd only seen in a few tentative beta moments. And I'll admit it. I dismissed Fortnite because of the building mechanic which I thought the gamers I knew would resist. I was so wrong on that one.

Esports classes work best if the focus is split among looking at games/genres/competition, looking at business/organizations/events, and looking at jobs/opportunities

These hit those three major concepts I mentioned earlier. Students need to understand the games, how they're played, and what they can do to contribute. Dividing the class experiences into moments where the focus is on how the game works, how competition works, and how the students can apply their skills to the esports world is by far the most successful approach I've found to draw in every student and to maximize what the students can learn and digest in a 14 week session.

A key element of teaching about Esports is engaging the culture around Esports head-on. You will need to do smart diversity and inclusion work

One of the other hats that I wear as an academic—and as a mixed-blood Cherokee—is talking about diversity and inclusion. The esports space needs to have this discussion, and it's something we have to foreground. Gamers, through no fault of their own, have been conditioned to not think about diversity in game spaces unless there is a disruptive moment that surfaces it, but the population of gamers has become truly diverse. In order to avoid making some feel invisible, and to counteract the stereotype of the "gamer," we have to do careful, astute work with issues like gender, race, sexuality, ability, religion, etc.

While your classes will need to "live" in a certain place on your campus, you should do everything you can to make your classes interdisciplinary

This is where I have the benefit of my program. I work in a program that is already multi-disciplinary and has faculty in every major division on our campus. Having those relationships

has helped me to develop coursework and to make sure that the expertise that is needed is available when needed. You'll want to build this kind of network around esports on your campus. From media production to anthropology, from writing programs to art programs, various expertise are needed to create and maintain the esports industry. The same is true of classes.

This is true of all games classes, but you will have to establish to students that you will be playing games to learn. It's okay if they don't like them. It's not okay for them to not engage

I mentioned Moby Dick before, so I'll return to it as an example here. My degrees are in writing/rhetoric, which means I come from English departments. I've taught classes that assigned novels and poetry as homework. Students didn't like those pieces in many cases, but they still had to read and respond. It can be difficult to create this same culture in a games class, but it is critical. Students will "hate" certain games for one reason or another. It's important to allow them that feeling, of course, but they still have to play and discuss and participate. Making sure to set this up from the start as playing-to-learn (even if the student loves the game) will be extremely helpful when a moment comes where a student or a set of students hate a particular game. Just remind them day one that they might not want to read the books in their other classes but they do. This is the same thing with games.

Leverage the Esports activity on your campus to augment the class(es). If your campus has an active club or a varsity program, those are valuable resources

I mentioned that our varsity program started at the same time that we built the first class here at Miami. I mentioned that because the whole unit of "esports at Miami" is one thing in my mind: our clubs, our varsity program, our academic efforts and research. We need experts on games for classes. There are few better experts than a captain on a competitive team. We need

groups for the students to study, to visit with, to game with. The club offers that. The level of expertise in esports on most campuses is staggering, but it's talent that is mostly hidden if you don't do the legwork to find the people who have it. Find them and use them. They'll come in handy when there's a brand new game that you have no clue how to talk about intelligently. A group of students on your campus are already figuring out the meta and strategizing.

Be ready to sell the potential jobs/experience that other programs on your campus could find in the Esports space. Most other programs just won't know, and you can create partnerships easily

If you find yourself in the position we have at Miami, you'll discover that you have a whole host of faculty and students willing to get involved with what you're doing, but you need to build yourself up as an evangelist for Esports. It's not that anyone will be opposed to it—that's actually fairly rare—but many of your colleagues will be disconnected enough from esports that they simply don't know what skills are needed in the industry. The faculty in your communication department, for example, might not have thought about streaming in the same way they have television production. The people in your writing program might not realize how much volume there is to social media for esports. Your Sports Management program might not have thought about the team stuctures being so similar to athletics. There is something esports related that works with almost every academic discipline. Be ready to explain that and you'll recruit helpers to your cause quicker than you can imagine.

Use the nature of Esports to your advantage. Guest speakers via streaming, discussions via Reddit and Discord, the ability to experience tournaments online… these are all ways to anchor your class in the overall ecosystem

This was one of the most difficult points for us at Miami at first. When you hear (or read) Miami, you probably think of Florida,

but we're actually in landlocked southern Ohio. It's a great place to live, but it's not a region that has a strong professional esports presence. But we also don't need that, really, to be able to offer high quality esports instruction. This is an industry that is used to daily use of Discord and Twitch. Physical space only matters if you feel like you need to see a person in the room. It's easy to talk to, play with, watch competition, etc. remotely. Use that to your advantage. You'll find that you can bring in a large number of high quality guest speakers for a very low budget if you're using video teleconferencing.

Some Closing Thoughts

As I look at what we've built at Miami, it's obvious to me that esports education is going to be a key part of the next decade of course development. What is important for all of us is that we remember that there's a balance to make between making this something that feels too much like it's "playing games" but also doesn't assert so much of our existing academic methodology onto esports that we risk damaging something that is a vibrant part of the student landscape. The way we do that is by constantly balancing student agency. If you have a student who is amazing at streaming, let that student lead a few of the class meetings on how to utilize OBS, the most popular streaming software. If you have an Overwatch player who is good enough to play against pros, let that player talk to the class about the game.

Because esports as an industry touches so many of the things we teach students to do and involves so many of the careers our students want to have upon graduation, it's fertile ground for powerful learning. We have a chance to do amazing things. I hope that my notes from being one of the first on the scene has helped you to think about how all this should work. If you have questions or comments, I welcome correspondence at phill.alexander@miamioh.edu

CHAPTER 11.

EARLY TELEVISION VIDEO GAME TOURNAMENTS AS SPORTS SPECTACLES

TERO KERTTULA

ABSTRACT

This article looks at two televised video game tournaments from the 1980's from the viewpoint of sports spectacle. Through the analysis of the television episodes and comparison to modern eSports-scene, the aim is to see, if there were similarities or differences between sports broadcasting and video game broadcasting at the time. The article suggests that because of visual choices made in sports broadcasting, the video game tournaments adapted this style coincidentally, which might have affected the style of eSports-broadcasting later.

Introduction

Competing in video games in a popular sport these days. Online streams and even some television shows create a spectacular atmosphere around these tournaments and the best players are now celebrities. Electronic sports (eSports) events are broadcasted widely over the internet and television. Watching others play has been a big part of video game culture since the arcade ages. As James Newman noted, gathering around an

arcade machine and cheering on the people playing was an important part of the whole arcade experience (Newman 2004).

Many of the online streams through services such as Twitch gather broad audiences globally, reaching amounts of individual viewers topping even some physical sports events. According to Activate, a consulting company focused of technology, there are currently over 250 million individual eSports-viewers. Activate also predicts that if the growth in the amount of viewers stays stable, then by 2021 a single eSports final can reach over 80 million individual viewers, which would be more than in for example professional basketball and baseball. By that time, Activate estimates that the total amount of individual eSports-viewers should double to 500 million viewers ("Esports to Compete with Traditional Sports," 2019).

In this article, I will look at two 1980's televised video game tournaments from the viewpoint of the spectacle. The two tournaments discussed are *That's Incredible! Video Game Invitational* and *Incredible Sunday Nintendo Challenge*. Through these two episodes, I will look at the purpose and formation of a spectacle in a televised video game tournament and compare the analysis to modern day eSports-spectacles. Through this, I am aiming to find how the video game spectacles compare to sports spectacles and how the spectacle has evolved throughout the years.

The Sports Spectacle and Video Games

There are multiple ways of creating audiovisual spectacles and many different viewpoints on how to look and interpret them. Based on Guy Debord's view of the spectacle in his book *Society of Spectacle* (1967), Douglas Kellner builds on Debord's views, arguing that especially media spectacles dramatize and highlight some phenomena and values of the contemporary time. Via this, the sports spectacle serves as a form of commercialization and a promoter of nationalism (Kellner 2003, 2–3; 66–70). Marcella

Szablewicz researched Chinese eSports-scene based on Kellner's opinion of spectacles, looking at the live event from the viewpoint of audience and politics. Szablewicz argues that in China, competitive gaming is in a way a promoter of nationalism and ideology through the audience. The spectacle in this case is merely a façade. (Szablewicz 2015, 260–262; 269–271). Rory Summerley also notes, that there are similarities between the institutionalization between traditional sports and eSports in the sense how both aim to propagate their sports through big events, rulesets and philosophy (Summerley 2019).

By looking at the coeval sports research with the shows discussed in this paper, it is evident that there are also some similarities with the presentation of the shows and sports broadcasting of the 1980's. As Robert Gruneau wrote, the action in sports broadcast must be immediate and take the television audience to the event, as if they were there. This involves many different choices regarding what to show and what camera angles and lighting to use (Gruneau 1989, 134–135). With these choices, it is possible to capture the drama within one single match in a distinctive way that differentiates the television viewing experience from being at the audience. The choices made are artistic and very dependable on the director of the broadcast (Morris & Nydahl, 1985).

Spectating play has followed video game culture, according to Sjöblom & Hamari (2017), through LAN-parties to watching modern online streams (Sjöblom & Hamari 2017, 986). Cheung and Huang (2011) found from their interview data about spectating Starcraft that the viewers appreciated the clarity of action, with clear indications in the screen of how the game was playing out and who was at the moment winning the game. This allowed the interviewees to understand the game flow and feel suspense during the game, even though some of them had never even played the game themselves (Cheung & Huang 2011, 768–769).

Allegedly, the first "Video Game World Championships" took place at 1982 at Twin Galaxies Arcade located at Ottumwa, Iowa. The co-founder of U.S. National Video Game Team and the owner of the Twin Galaxies arcade, *Walter Day*, had already gotten some notable media attention with the high score lists in the arcade. Days' connections to the media resulted in an arcade-themed article and photoshoot in the *Life* magazine and in February 1983, a feature live arcade competition in That's Incredible (Patterson 2017; Taylor 2012, 4). The show shortly covered the original tournament before moving on to the actual competition. The episode was not the first time the show features live action arcade gaming, as there was a Ms. Pac-Man tournament a year before. The "Olympic finals" however, got more attention later (McGinley 2009; Smith 2013).

The episode starts with a recap from the Twin Galaxies tournament. The three hosts of the show each at a time narrate something about the tournament, whether it be the location, the games, or the structure of the tournament. After the introduction, the hosts introduce the three contestants and the structure of the competition while at the same time introducing the games. The players competed in five different games: *Cosmos* (Century Electronics, 1981), *BurgerTime* (Data East, 1982), *Millipede* (Atari, 1982), *Donkey Kong Jr.* (Nintendo, 1982) and *Buck Rogers* (Sega, 1982). Each of the game had a point goal, which the players needed to meet in order to progress to the next game. After getting enough points in the last game, the final objective was to run through a ribbon on stage for the victory. In the television set, we find three units of each arcade cabinet – 15 cabinets in total. Each player has a designated arcade machine to play with, as well as an arrow-pointed route from cabinet to another. The goal line is right in the middle of the stage, therefore completing the racetrack of the competition. The episode focuses more on the competition than the games. What mistakes the other two players might have made, is very

unclear to the audience. Even though there are large portions of the games shown, the competitive element takes over the visual narrative.

That's Incredible came to the end of its run almost precisely a year after the big live tournament. However, producer Alan Landsburg wanted to have another go with the format a couple of years later. The show, Incredible Sunday (1988-1989) again featured a live video game competition in one of the episodes. Whereas in the Video Game World Championships the prize was to get to the finals that aired on live television, in 1988 the stakes were a bit higher. The U.S. National Video Game Team®, founded in 1983, was on a lookout for new players and the winner earned a spot on the team. (Patterson 2017). This time the players competed in only three Nintendo Entertainment System – games, *Super Mario Bros. 2* (Nintendo, 1988), *Ice Hockey* (Nintendo, 1988) and *Rad* Race (Nintendo, 1987). The choice of games is peculiar, as Atari, just a year earlier, officially endorsed the The U.S. National Video Game Team. The team members even appeared in children's prime time television advertising the Atari 7800 console, which was set out to compete with Nintendo NES and Sega Master System (Patterson 2017). One reason for the show to opt for Nintendo over Atari could have been the install base of the consoles at the time of the tournament. By the end of 1987, the NES had sold roughly about 4.1 million units, whereas Atari had moved only 1,6 million consoles in the same time (Matthews 2009; Majaski 1988). Apparently, Nintendo moved over 7 million NES consoles in North America in 1988, as the console became so popular during the holiday season of 1987, that the stores were bought empty of the NES's (Suominen 2015, 79). This makes the marketing and commercialized point of view evident in the tournament.

Again, the competition took inspiration from the world of sport, as the main objective was to reach a given point in the game as

fast as possible. In Super Mario Bros. 2, the objective was to complete the given level faster than the others did. In Ice Hockey, the players needed to score three goals against a computer opponent and in Rad Racer complete the given level faster than the competition. This time just finishing the game was enough, as there was no final ribbon to run through. This is especially interesting when comparing the competition format to other video game tournaments in the 1980's. Competing for high score in a given game was the usual task, but most of the time, there was only one game to compete in – in fact, the whole tournament usually revolved around just one game, like the Space Invaders Competition or the Pac-Man Championships in Finland (Suominen, Saarikoski & Reunanen 2018).

This brings up an important notion: playing just one game for high score would not probably have given the same excitement than playing several in a row. For television audience, a fast-paced race for win probably seemed like a more entertaining choice of format. In addition, having multiple games played in the show was clearly more profitable for marketing and advertising. From the viewpoint of the spectacle, this creates quite the contradiction: the games presented are new and something that the producers and the game companies wanted to promote through these special episodes, but the performance of playing steals the show. The choices made in the presentation are therefore quite alike to sports broadcasting, as the event and the competitors are taken into visual account much like in a traditional sports broadcasting. The games are the sport and the player are the athletes. In comparison, the Todd Holland –movie The Wizard (Chrisholm & Topolsky, 1989) features multiple Nintendo Entertainment System – games from the late 1980's throughout the film, as well as different Nintendo accessories. The final tournament in the movie, the Video Armageddon, that takes place in the Universal Studios Theme Park, is visually presented much alike the two aforementioned televised

tournaments, but also the Nintendo World Championships in 1990. The actual tournament was not televised, so therefore the movie promoted not only the NES-games and –accessories, but in a way the tournament itself.

By the time Incredible Sunday was out, there were only a handful of other shows airing in other parts of the world. Therefore the only ways to see live action video gaming in television – disregarding commercials – were these shows and the separately sold VHS-tapes made by the video game companies or for example the U.S. National Video Game Team. In the 1980's North American video game industry was still at the same time steadily growing and in the later years of the decade recovering from a big depression. It is quite peculiar that the That's Incredible! Video Game Invitational was held earlier the same year the "Great Video Game Crash" occurred – this especially noting how the crash of the industry affected direly even the arcades. As the timeline shows, the episode aired at February 21. 1983, whereas New York Times reported about the crash October 17. of the same year (Kleinfeld 1983). As the next tournament in Incredible Sunday aired at fall 1988 (Patterson 2017), the video games were rapidly making their comeback in North America. As the special episode was among the first ones to air in the show, it is likely that Alan Landsburg wanted to catch the attention of the younger audience right off the bat, therefore promoting the show itself.

The similarities between the episodes and sports broadcasting of the 1980's are not coincidental. According to Borowy & Jin (2013), as the competitive arcade gaming was on the rise in the 1980's, the arcade operators and media took a lot of influence from the world of sports (Borowy & Jin 2013, 2261). From the viewpoint of sports, the technology required to create an adequate audiovisual sports spectacle was not available until the 1970's (Whannel 2009, 208). This came through lighter and eventually cheaper camera-sets developed in those decades and

the invention of mobile radio microphones (Dwyer 2019, 143). However, if we look at Kellners' views of how a sports spectacle is strongly commercialized and nationalized, the early tournaments do not contribute to this as much as competitive gaming today. The spectacle of the tournaments do work as a marketing channel for the games, but because of the visual choices taken from the sports broadcasts, the performance rises above the commercialism. This is not the case with The Wizard though, as the product placement is also visually very evident. This, returning to Robert Gruneau[1], is because in a live event the audience has to feel that they are at the location. The artistic choices made in movies and commercials does not need to tie to the audience in a same way.

It is unclear why official tournaments were absent from television in the 1990's. When it came to video games in television, the 1990's were dominated by play-by-phone –games, different magazine shows and game shows (Kerttula 2019). Most notable shows featuring competitive elements were *Famiko Daisakusen* (Japan 1986–1988)*, Famiko Dai Shuugou* (Japan 1988-1990), *Games Master* (Great Britain 1992-1998), *Video and Arcade Top 10* (Canada 1991-2006) and *A*mazing* (Australia 1994-1998). Meanwhile video gaming competitions were still very much alive. Examples range from *Finnish National Computer Gaming Championships* 1994 & 1995 (Suominen, Saarikoski & Reunanen 2018) to *Evolution Championship Series*, which began in 1996 (Crecente 2008). In comparison to the old live action representations, the 1990's shows promoted both the games and the performance. In the competitions, the games played were repeated episode after another and the prizes were games, consoles and other kinds of promotional video game –related stuff.

Competitive gaming started to appear in television only at late

1. See second paragraph of The Sports Spectacle and Video Games section

1990's and early 2000's. In Finland, there was a brief show called *OverDose* (MoonTV 2002) and in The United States, *Arena* (G4tv, 2002-2006). Arena features many aspects that are present also in sports broadcasts. The interviews, staging, after-match talks and such are a big part of broadcasting style today in both electronic and traditional sports. The gameplay in Arena is presented very much as it was presented in the 1980's, but this time there are several players included in the imagery. However, this time around, the teams have names and the players' names are their online nicknames, rather than their real names. In addition, nationalism is now a big thing in competitive gaming. By looking at the best teams in Counter-Strike and Rocket League, it is clear that the teams represent a country or a continent. In even smaller scale, some teams represent a city, which is obvious in for example the Finnish Esports League. These days the cities or countries the teams represent are also a part of the spectacle. In Dreamhack Stockholm 2018, the local team, *Ninjas in Pyjamas*, were always announced to the stage in a spectacular fashion, where the announcer emphasized that the team was from Stockholm, or the "boys from our home city".

Conclusion

It is obvious that these shows played a notable role not only in the history of video game industry and marketing, but also in the early stages of video gaming culture and even competitive gaming. What really differentiates the shows from 1980's-1990's and the contemporary shows, is the focus of the spectacle. While before the video games were meant to be the spectacle and from the commercial point of view, usually the object being advertised, in modern days the spectacle has shifted the focus more on the performance. The commercialism revolves around the equipment. Asus, Acer, Razer and other big gaming-related accessory brands, sponsor the events. The players – or rather athletes – are part of the spectacle and promote these

accessories through their performance. There is also some product placement inside the games.

It is arguable whether these early shows affected the presentation of the modern eSports-broadcasts or not, but there is clear indication that sports broadcasting affected the presentation given in the shows. The form of the competition has changed towards modern days and the spectacle with the nationalism and commercialism being more and more a part of it has changed as well, but in the end, the players and the sport are the reason why the eSports-audience counts in millions today. It might have not been the initial case in the 1980's, but it surely became so once the competition began.

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CHAPTER 12.

LIVING BY THE CODE

DRAFTING AND ENACTING COMMUNITY GUIDELINES FOR A MORE INCLUSIVE ESPORTS ENVIRONMENT

MATT KNUTSON, AMANDA L. L. CULLEN, AND EVAN CONAWAY

ABSTRACT

This paper addresses the role a code of conduct plays in making collegiate esports a more inclusive space. It argues for careful reflection on such a code of conduct in the all-too-often contested space of esports. It then describes the process of one collegiate institution's esports program to form a guidelines committee. This committee, of which the authors are participants, served to advise arena staff members in how to contour the program's code of conduct to fit the needs of its diverse student body. The paper then describes the resources this committee produced and lays out the process by which the committee's work might be replicated in other contexts.

Introduction

The aspiration to make esports a more inclusive space has a nearly universal appeal among major stakeholders. Teams, sponsors, tournament organizers, publishers, and live streaming platforms all want increased viewership and broader appeal. Moreover, high schools and colleges with esports clubs and/or teams want their students to flourish in a welcoming space free from identity-based judgment. Esports is a site at which policy

quite publicly meets practice. Diversity statements drafted by academic administrations commonly state that all students are welcomed to participate in campus activities without harassment; in esports, these statements are then put to the test, often on camera, and under the scrutiny of players, audiences, developers, and sponsors.

This paper discusses the authors' efforts, in an interdisciplinary collaboration between university esports staff and on-campus academics, to refine the language of their institution's code of conduct for campus esports players, shoutcasters, and community members. The committee that formed to help refine this language also created training materials to demonstrate how university esports settings can maintain an inclusive and welcoming space while enacting preventative measures to stem disruptive and exclusionary behaviors before they happen. This paper describes the committee's composition, the scope of its work, the products of its labors, areas for future work, and the applicability of its results to other settings. We present a method for examining and crafting inclusive language in esports policies and documents that can be adapted and applied to a variety of esports contexts.

Background

Gaming generally and esports specifically are contested spaces in which identity-based harassment is all too familiar. As Consalvo (2012), Ruberg & Shaw (2017), Murray (2018), and others have noted, gaming culture is rife with identity-based harassment over anonymous public fora, including voice and text chat during gameplay. Additionally, gaming culture is punctuated by flashpoints of harassment campaigns against perceived "outsiders" to hegemonic game culture, especially in the spheres of video game development and journalism, as well as for other spokespeople for diversity. The cases of Anita Sarkeesian, Mattie Bryce, Zoe Quinn, and Brianna Wu, who

among many others were targeted for harassment and violence by video game players, testify to this. The experiences of these women, as analyzed by Cross (2016) and Gray, Buyukozturk, & Hill (2017), speak to the range of real and symbolic violence that players will enact on others in attempts to keep games culture exclusive to particular kinds of players.

With respect to esports and its history in particular, Kocurek (2015) has documented gender-based discrimination in competitive gaming since the 1980s, and Taylor (2012) discusses at some length the ways in which gender is performed in esports. In particular, Taylor noted that female and genderqueer players in esports encounter heightened harassment and scrutiny at all levels of play, from novice to professional. In her latest book *Watch Me Play* (2018), which in part sprung out from her work in esports, Taylor addresses identity-based harassment in live streaming and esports, remarking that women, people of color, and queer players in both spheres are expected to accept harassment as part of their existence in games culture. In this, Taylor echoes Gray's (2012) argument that the racist label of "deviant" has been not only placed on black gamers but accepted by many of those gamers themselves. Although there is a growing trend within the games industry (including esports) to take public stances on the need for more diverse content and participants in games, Gray, Voorhees, & Vossen (2018) assert that these efforts are nonetheless entangled with entrenched values that resist diversity, and therefore concentrated efforts at all levels are needed to foster ideals of inclusivity that are not immediately contradicted by unexamined everyday practices.

As public-facing venues in which institutional policy addresses wider cultures with histories of identity-based exclusion, and as sites of great financial interest for industry members, collegiate esports shoulder the weight of heightened expectations to offer a corrective to issues of harassment in and around competitive gaming. One opportunity to make such a corrective is to

incorporate inclusive language into collegiate esport policies and guidelines. In the context of the authors' involvement, our keen interest is in the university esports program's code of conduct, which outlines how commitments to inclusion and multiculturalism are put into practice, as well as what consequences may arise from failing to meet those commitments. Inclusion, or fostering a sense of belonging and respect for individuals regardless of background, is essential for efforts to increase diversity and create better outcomes for individuals who want to be involved in games generally and esports specifically. In their literature review of codes of ethics and codes of conduct for the nursing profession with respect to how these codes communicate values of inclusiveness, Schmidt, MacWilliams, & Neal-Boylan (2016) outline how codes of conduct are essential for demonstrating expectations for how individuals should treat others with different backgrounds. Their review shows that a code of conduct which lacks carefully crafted inclusive language encourages the types of symbolic violence referenced above that has plagued games culture. Incorporating inclusive language into codes of conduct is one way that esports programs can build a framework for connecting the university's stated interest in diversity with the everyday practices that are necessary to achieve this goal.

Committee Formation

On the university campus where the authors work, the esports program staff encountered disruptive incidents at their facility that prompted staff to reassess their policies regarding exclusionary behaviors around esports.[1] Staff members in the

1. One such incident involved a student shouting threats and expletives at online opponents while using the esports program's facilities. Student staff members were initially reluctant to intervene when the disruptive behavior did not abate on its own. After this incident, senior program staff were motivated to reexamine the language of the code of conduct, how to communicate that code to students using the program's facilities, and training methods for staff members to anticipate similar incidents in the future.

program convened a committee to consider the issues at play, and one intervention the committee chose to pursue was to revise the language of the program's code of conduct for esports players and community members. This code would apply to players representing the school in competition (both on and off scholarship), shoutcasters commentating on the games, arena staff, anyone using the broadcasting station in the arena, and people playing games on the computers and consoles set up in the facilities. In addition to esports program staff, this committee was comprised of researchers from multidisciplinary backgrounds, including social sciences, humanities, and information science. The committee worked collaboratively to discuss how to refine the code to be as inclusive as possible in order to meet the needs and interests of a diverse student body.[2] The interdisciplinary composition of the committee in and of itself brought together many perspectives drawing from different areas of research related to gaming and social practices, resulting in close attention to exact phrasing and careful consideration and debate over potential consequences of different wordings. Over the course of the next year, the committee met in person and over digital platforms to coordinate its efforts, communicate ideas, and delegate responsibilities.

Scope and Work

The committee began with three charges in response to the esports program's needs: help refine the code of conduct, communicate that code more effectively, and put into place a means of arbitrating possible breaches of that code in cases in which the terms of the code may not easily apply. Researchers on the committee tapped peers working in game studies to

2. As of 2017, our institution serves an undergraduate population that is more than 85% nonwhite. As a public university, our institution has a particular interest in serving a student body as reflective as possible of the racial, religious, and ethnic diversity of people in the state, as well as in respecting the diverse genders and sexual orientations of its students.

collaborate together and add their expertise. Work on the language of the code of conduct began immediately with the first meeting: committee members and program staff discussed what sorts of expectations the code of conduct should outline and to whom its guidelines should apply. Following the first meeting, committee members independently worked on a shared digital document to mark it up, leave comments, and discuss the merits of certain choices of words (see Figure 1).

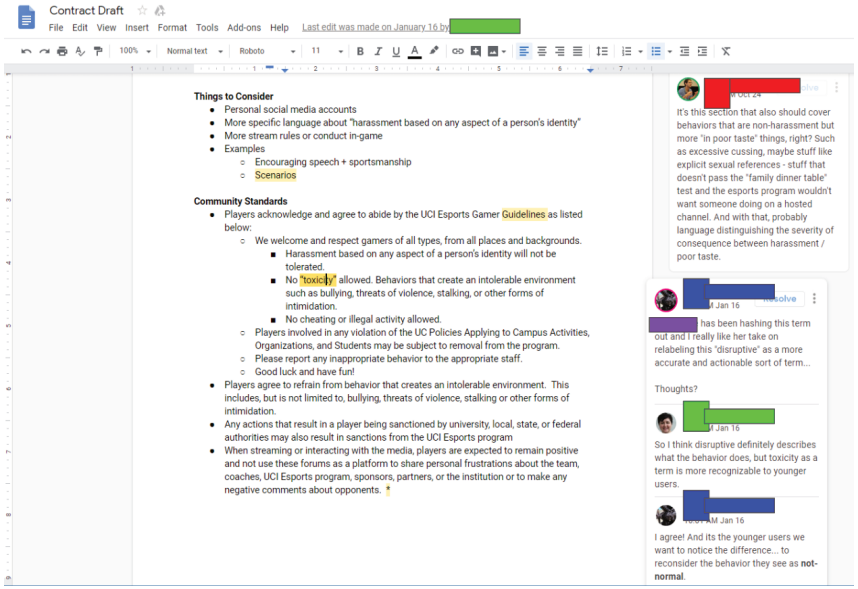

Figure 1: Discussion of language on collaborative document

Committee members pulled from a number of resources to support their views on how the code should best be phrased and how best to serve a diverse student body. These resources include AnyKey's "Live Streaming Moderation Best Practices for Event Organizers" white paper; the North America Scholastic Esports Federation ("NASEF") Code of Conduct; the Queer Games Conference ("QGCon") Inclusivity statement; and UC Irvine's Green Dot Bystander Intervention materials; among other resources. In the committee's view, these resources represent the best practices of nonprofits, academic

organizations, and esports professionals to create and maintain inclusive spaces where disruptive behavior is mitigated and addressed. Like the interdisciplinary nature of the committee's composition, these resources offered multiple perspectives on how to address disruptive behavior, the contexts in which it might occur, and the range of recommended responses to specific instances of it.

One impact of the committee's work was to clarify the meaning of "toxicity," which had previously gone unexplained in the code of conduct. With the committee's input, the term was explained as actions which negatively impact the social environment such as "bullying, threats of violence, stalking, or other forms of intimidation." Disambiguation of the language of the code of conduct was, in the committee's view, critical for clarifying expectations of participation in the space and to help others be aware of infractions while discourage passive bystanding. Players who use facility computers are required to review the code of conduct, which is now posted in multiple locations in the facility as well as online.

Over the course of the next few months, committee members drafted a "wiki" site as a resource for on-campus esports players and community members, with the intent of making this wiki publicly available for other interested institutions in the future. In their analysis of organizational wiki use, Stocker, Richter, Hoefler, and Tochtermann (2012) determined that utilizing a wiki makes current and future work easier, helps a group improve their processes, and facilitates knowledge sharing both internally and externally. However, organizational wiki usage must also account for its potential usage, need for managerial support, and clear communication strategies between creators (Stocker et al. 2012, p. 317). In the case of our wiki, committee members volunteered to author specific pages that would be cross-referenced with each other to discuss such topics as responsible social media etiquette and best practices for using

the arena's communal streaming computer (see Figure 2). The committee will recruit additional members from across campus and rely on the resources of the esports arena to maintain the wiki in perpetuity.


Broadcast Station

The [redacted] features a streaming computer available to use for clubs that hold events in the arena, for people doing research, for pedagogical uses such as online office hours, or other purposes aligned with [redacted]. Those interested in streaming from this desk should read through this page and contact arena staff to discuss one's purpose for using it and what room there might be in the streaming schedule.

The streaming computer is located by the console area in the arena. For streamer convenience, the station features multiple monitors, a spacious desk, a sound board that can accommodate multiple simultaneous commentators, and a professional backdrop.

Contents [hide]

1 Uses of the Streaming Computer
  1.1 Competitive league coverage
  1.2 Events
  1.3 Research
  1.4 Pedagogy
  1.5 Arena content creation
  1.6 Other uses aligned with [redacted]
2 Proper Care
3 Conduct Guidelines
4 Streaming Procedures

Figure 2: Example "wiki" page

While the committee's first stated purpose was to refine the code of conduct, and the second was to communicate that code more effectively, the third was to put into place a system for arbitrating "edge" cases in which the language of the code may or may not apply. At the time of writing, the committee has not yet been called upon to serve this purpose, but it has discussed hypothetical scenarios as well as the range of consequences that could be given to potential breaches of the code of conduct.

A fourth purpose for the committee presented itself as work on the other three progressed: to share its materials and discuss its findings to the wider scholarly community of collegiate esports. In the spring following its first meeting, the committee presented on its work at a national conference. There, committee members exchanged ideas with fellow researchers and industry members about strategies for making esports a more inclusive and diverse space. Comments from audience members were especially productive in directing the

committee's attention to issues to reflect upon more deeply, such as a path for appealing decisions and the merits of consulting with mental health professionals about disruptive behavior.

Conclusion

Through the committee's reflection, discussion, and collaboration described above, it condensed its process for creating and refining a code of conduct into the following method:

1. **Outreach:** Cast a wide net for prospective participants in the work of crafting the code of conduct.
2. **Collaboration:** Work together on the language used in that code, paying close attention to word choice — particularly around issues of identity — by consulting resources such as successful codes of conduct and inclusivity statements.
3. **Communication:** Convey that code to community members (players, shoutcasters, staff people, and users of the facility) through accessible platforms.
4. **Preparation:** Train staff according to the values at the heart of the code of conduct, using hypothetical scenarios for staff members to rehearse in advance of potential conflicts.
5. **Enforcement:** Set expectations and boundaries, then create procedures and establish consequences for minor and major infractions.
6. **Arbitration:** Put into place a plan to arbitrate in cases in which the code might not clearly apply.
7. **Reflection:** Consider on that which worked, or went unaddressed, or went wrong, in order to refine the code further.

In the committee's view, this method is adaptable and applicable to many esports contexts. Anywhere that the "rubber" of a university's stated commitment to inclusion meets the "road" of practice in esports, it is necessary to put careful thought into how to make such spaces welcoming to the interests of many. Language makes a difference, especially around issues of identity. Using language of inclusive pronouns, crafting policy that mitigates the potential for identity-based harassment on campus, and creating a culture of proactive inclusion rather passive bystanders: all of these may at first sound straightforward. However, cultivating and refining the language of the code of conduct that works to these ends requires care and attention, as well as wide involvement of multidisciplinary perspectives.

Impact and Future Work

The committee's work is ongoing: some of its projects are scheduled to be completed in the near future, while others are intended as living documents subject to further refinement. The wiki site is drafted, and at the time of writing, it is scheduled to go live in the coming months. Once it does, it will be a resource both for people at our institution and for esports programs elsewhere, as an example of guidelines and policies that work in various contexts, written in thoughtfully constructed language aimed at including a diverse body of students. Moreover, the work of the committee has resulted in changes to the language of the contract for scholarship players, which is more extensive than the language for the code of conduct. One observable impact of the revised training materials on these scholarship players has been their adoption of the "green dot" language of the program's bystander training and their consistent use of this language in context at the arena. As such, they actively apply their training in situ. In terms of outcomes for the staff, they have attested to more confidence in moderating chat in the program's official streams, a clearer understanding of how to

respond to disruptive behaviors when they occur in the arena, and a more open discourse with patrons, visitors, and industry professionals about behavioral guidelines in the program. Also, as mentioned above, the committee has not yet been called upon to arbitrate in edge cases, but any future work in this vein will be a subject for subsequent scholarship.

Outside of this, the committee has also been called upon by industry members at a local chapter of the International Game Developers Association to share some of the exercises the university's esports arena uses for training staff members in bystander intervention. These resources are also being prepared to share online with the wider community of collegiate esports. Our work with this organization suggests promising potential for ongoing communication between institutions of higher education and industry members who produce and manage esports games; we are excited at the prospect of making an impact on the medium of the video game from the developer's side, and we hope this is a first step toward influencing norms of inclusivity in favor of more diverse participation in the esports community writ large.

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CHAPTER 13.

INSIGHTS INTO THE ESPORTS CONSUMER

EXPLAINING CONSUMER ENGAGEMENT FROM A DUAL SYSTEMS PERSPECTIVE

BASTIAN KORDYAKA, TOBIAS SCHOLZ, KATHARINA JAHN, AND BJOERN NIEHAVES

ABSTRACT

Due to the increasing popularity of eSports novel opportunities occurred for organizations to leverage the evolving monetary potential. A relevant starting point is a better understanding of the engagement of eSport consumers. Following this call, based on assumptions from dual process theories and consumer engagement, the paper at hand aims to better understand the interplay between impulsive (i.e., affect) and reflective systems (i.e., consumer similarity) as predictors of consumer engagement in the context of eSports. Accordingly, we collected a sample with 216 participants with the help of the crowdsourcing marketplace Mechanical Turk. Using a quasi-experimental approach contrasting the factors affect (positive vs. negative) and consumer similarity (high vs. low) as predictors of consumer engagement, our results show support for the assumption that both systems explain a disjunctive part of variance, with the impulsive system (i.e., affect) being the empirically richer predictor. Furthermore, we find an interaction effect between both types of processes. We discuss the contribution of our analyses and identify potential paths for future research.

Introduction

In late 2018 almost 100 million viewers watched the League of Legends finals of the world championships and even featured a concurrent viewer peak of 44 million, which reaches nearly the same highs as the viewership of the Super Bowl (Goslin, 2018). This underlines the demand towards the phenomenon of eSports and indicates an enormous potential for monetary revenue attracting the young generation of consumers (Kordyaka & Hribersek, 2019; Scholz, 2019). Accordingly, the market of eSports had a global value of nearly 900 million U.S. dollar in 2018 and some analysts proposed that it will go up towards 1,7 billion U.S. dollars in 2022 (Statista, 2019). Taken together, eSports as a digital phenomenon involves a huge and still increasing economic potential, which makes it a relevant context for academia and practice.

To leverage existing commercial potentials regarding the eSports market a better understanding of different idiosyncrasies seem to be beneficial. One especially relevant aspect from a marketing perspective of organizations and their brand management is the engagement of consumers. Previous research has revealed that digital engagement with a brand leads to different desired outcomes like brand loyalty and purchase intention (Moon, Kim, Choi, & Sung, 2013; Wirtz et al., 2013). Despite the growing popularity of eSports, little scholarship has been undertaken to better understand the consumers' behavioral engagement patterns related to eSports brands. With the paper at hand, we aim to illuminate one of the existing blind spots by contributing to better understand eSports consumer engagement. For this, we consult dual process theories from psychology (Chaiken & Trope, 1999; Soror, Hammer, Steelman, Davis, & Limayem, 2015), which postulates that human behavior is influenced by the interaction of two different cognitive systems (the impulsive and the reflective system). Based on deliberate decisions, the reflective system acts as a precursor for

behavior in form of intentions, which results in rather slow responses of this system. In contrast, the impulsive system is based on associations built by success of past behavior and can react fast and without much cognitive effort. As a context of our study, we use the LEC League of Legends Season 2019 and make use of a quasi-experimental approach contrasting impulsive (i.e., affect) and reflective (i.e., consumer similarity) processes as factors explaining consumer engagement. Accordingly, the paper at hand is guided by the subsequent research question:

Research question: Is the engagement of eSports consumers rather a question of impulsive or reflective processes of the dual system?

Framed to the specific context of eSports, we want to test dual process theories as a seminal framework for the first time to provide organizations with the opportunity to reconcile their corresponding brand management. For this, we propose consumer similarity as a component of the reflective system of dual processes since it involves a rather thoughtful, slow, and conscious process of evaluation. Consumer similarity refers to the self-perceived similarity to other consumers of the brand under consideration (Brocato, Voorhees, & Baker, 2012; Karaosmanoğlu, Banu Elmadağ Baş, & Zhang, 2011) in terms of their observed traits and characteristics influencing attitudes and behavior toward a brand (Brocato et al., 2012; Shen, Huang, Chu, & Liao, 2010). In line with this assumption, previous research shows that consumers experience increased attachment to a brand when they perceive high similarity between themselves and consumers of a specific brand. Furthermore consumers experience increased attachment to brands associated with reference groups congruent with their self-concept (Escalas & Bettman, 2003; Karaosmanoğlu et al., 2011). Accordingly, we propose the subsequent hypothesis:

Hypothesis 1: High consumer similarity towards an eSports brand is positively associated with consumer engagement

Opposed to consumer similarity, we operationalize affect towards an eSports brand as a component of the impulsive system of consumers. This assumption is based on the idea that affective associations occur rather automatically and unconscious. Previous research in neighboring domains already indicated that positive emotional associations relate to higher levels of engagement with a brand (Christenson, Reschly, & Wylie, 2012; Reschly, Huebner, Appleton, & Antaramian, 2008). Accordingly, we propose the subsequent hypothesis:

Hypothesis 2: Positive affect towards an eSports brand is positively associated with consumer engagement.

By answering the hypotheses of our study, we aim to make the following contributions. First, it will allow academia to better understand eSports consumers' engagement and illuminate the interplay between reflective and impulsive systems as predictors. Second, it will provide practical implications with the opportunity for eSports organizations to increase their monetary revenue and position their brand in an advantageous market position.

The paper is organized as follows. First, the materials and methods are visualized. Second, the data analysis and the results of the paper are presented. Third, the discussion of the results provides an overview of the meaningfulness of our empirical insights and discuss implications for theory and practice. Finally, limitations, future research, and a short conclusion is described.

Methodology

Research Design

We used a cross-sectional design and a survey to test our

research question. For this, we collected self-reports of players with a digital questionnaire. Subsequently, we analyzed the data with covariance-based statistics (i.e., regression analysis, 2×2 ANCOVA) to quantitatively contrast the effects of reflective (i.e., consumer similarity) and impulsive (i.e., affect) systems as explanations for consumer engagement, while controlling for demographics (Figure 1).

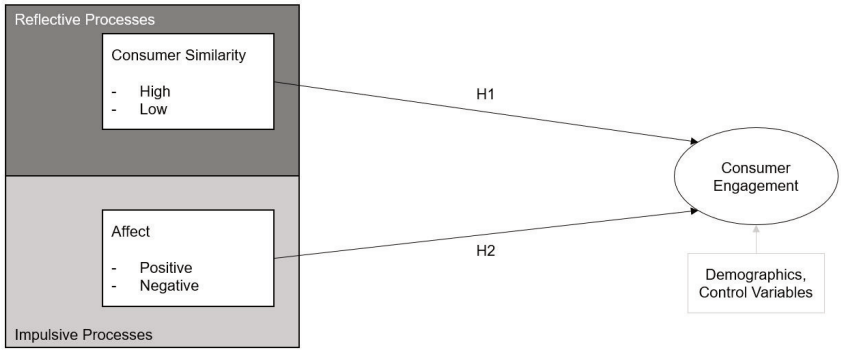

Figure 1: Research Model and Hypotheses

Participants

We conducted a survey with 216 esports consumers using the crowdsourcing marketplace Mechanical Turk (MTurk). All participants received 1.09 Dollar as a reward for taking part in our study. The majority of the collected sample were males (161 males, 55 females) and had an average age of close to 31 years (M = 30.98, SD = 7.36). Most participants were Americans (158) followed by Indians (47) and more than half stated that they already had finished their bachelors' degree (54%). Additionally, they started consuming esports a little more than three years ago (M = 3.35, SD = 1.86) and the majority either liked the esport organizations G2 esports (51), Excel esports (49), and Fnatic (33). Taken together, the participant characteristics of our sample seemed representative for the group of the ordinary esports consumer.

Procedure

After informed consent was obtained, the first part of the online questionnaire consisted of instructing participants to select one of the ten professional organizations (franchises) of the LEC League of Legends Season 2019 (i.e., Splyce, Fnatic, Team Vitality, G2 esports, Rogue, SK Gaming, Excel esports, FC Schalke 04 esports, Misfits, Origen) they are the most familiar with. Second, participants filled out the scales for the independent variables consumer similarity and affect. Third, the dependent variable engagement was presented. Finally, participants filled out demographic data and received a code to receive their payment. To increase the quality of our data, we inserted multiple attentions check items during the procedure of our questionnaire (i.e., "pick a number smaller than two") to exclude inattentive respondents.

Materials

Unless otherwise stated, all items were measured on a seven point Likert scale ranging from 1 "strongly disagree" to 7 "strongly agree".

Dependent Variable

To measure the dependent variable *consumer engagement*, we used a validated scale from previous research (Keller, 2001) consisting of six items (e.g., "I am always interested in learning more about my most favorite LEC franchise", ($M = 4.99$, $SD = 1.43$, $\alpha = .92$).

Independent Variables

Consumer similarity was measured with an existing scale (Sirgy, 1982) with three items (e.g., "The typical users of my most favorite LEC franchise are similar to me", $M = 5.02$, $SD = 1.29$, $\alpha = .89$).To carry out our quasi-experimental approach, we used the technique of mean splitting the variable in a binary fashion

(low vs. high). After this procedure, the low similar group consisted of 111 cases and the high similar group of 105 cases.

Affect was measured with an unidimensional scale from existing literature (Kenning & Viktoria Rampl, 2014) consisting of three items (e.g., "I have strong positive emotions for my most favorite LEC franchise", $M = 5.34$, $SD = 1.23$, $\alpha = .86$). Once again, we used the technique of mean splitting the variable in a binary fashion (positive vs. negative). After doing so, the positive affect group consisted of 115 cases and the negative affect group of 101 cases.

Results

Preceding Analyses

Before testing the hypotheses, some preceding analyses were carried out with the aim to detect confounding patterns within the data and control them in the subsequent analyses. Accordingly, we ran a multiple regression analysis with sociodemographic variables (i.e., gender, age, education, country) and control variables (i.e., LEC franchise, duration esports consume) as predictors of the dependent variable engagement. The regression equation showed a significant result ($F(6; 209) = 9.92$; $p < .001$) and explained 20% of the variance of engagement. The regression weights of age ($\beta = -.18$, $p < .01$) and education ($\beta = .40$, $p < .001$) played a significant role explaining engagement (all others $p \geq .11$).

Hypotheses Testing

A two-way analysis of covariance (ANCOVA) was examined to test the quasi-experimental effect of the factors consumer similarity (low vs. high) and affect (positive vs. negative) on the dependent variable engagement[1]. Additionally, the identified

1. Since the quasi-experimental approach led to a limitation of variance, we tested the effects of the two factors as metric variables as well. Results showed that both

variables age and education from the prior step were included as confounds. The analysis yielded a significant model test ($F(5; 210) = 49.11$; $p < .001$, eta2 = .53) and showed significant main effects of the factors consumer similarity ($F(1; 210) = 28.15$; $p < .001$, eta2 = .12) and affect ($F(1; 210) = 37.95$; $p < .001$, eta2 = .15), as well as the two confounds age ($F(1; 210) = 7.17$; $p < .01$, eta2 = .03) and education ($F(1; 210) = 13.58$; $p < .001$, eta2 = .06). Referring to the research question of our study, we see that the effect size of affect (eta2 = .15) describes a high effect and the effect size of consumer similarity a medium effect (eta2 = .12). Based on the determined values, the quantitative results of our study propose the impulsive system to be more relevant for consumer engagement in esports. Additionally, as predicted, scores of engagement were higher in the high consumer similarity condition ($M = 5.86$; $SD = .65$) than in the low consumer similarity ($M = 4.07$; $SD = 1.45$) indicating empirical support for Hypothesis 1 and scores of engagement were higher in the positive affect condition ($M = 5.81$; $SD = .80$) than in the negative affect condition ($M = 4.07$; $SD = 1.45$) showing signs of empirical support for Hypothesis 2 as well. In addition, a significant interaction between consumer similarity and affect ($F(1; 210) = 4.03$; $p < .05$, eta2 = .02) was detected in which the difference between negative ($M = 3.76$, $SD = 1.40$) and positive affect ($M = 5.12$, $SD = 1.08$) in the low similarity condition was bigger than the difference between negative ($M = 5.26$, $SD = .54$) and positive affect $M = 5.99$, $SD = .60$) in the high similarity condition indicating support for an interaction between both factors.

Discussion

Based on the results of our study, we found empirical indicators to answer our research question – *Is the engagement of esports consumers rather a question of impulsive or reflective processes of the*

factors explained customer engagement and affect partially mediated the relationship between consumer similarity and consumer engagement.

dual system? Our results indicate that the impulsive system plays a marginally more important role than the reflective system. As a result, we are able to better understand esports consumers' engagement and the interplay between impulsive and reflective systems. On a more general level, we illustrated the potential to use theories of dual systems for the first time in the context of esports extending the external validity of seminal work (Chaiken & Trope, 1999; Soror et al., 2015). Referring to practice, we understand this result in a way that it is a promising approach for esports companies to develop and execute dedicated communication strategies to emotionally charge their brand in a beneficial and desired way. A starting point could be to better understand consumer perceptions of different parts of such a strategy using tools of market research to increase the monetary revenue and position their brand in an advantageous market position.

Furthermore, were are able to answer the hypotheses of our study. Referring to Hypothesis 1 we found the postulated positive relationship of consumer similarity, which confirms prior literature from marketing (Brocato et al., 2012; Shen et al., 2010) and Information Systems research (Soror et al., 2015) that the reflective system has a meaningful impact on the behavior under consideration and extends the validity to the context of esports. On a level of theory, this finding suggests the importance of social (group related) aspects of consumer behavior. Looking to the realms of psychological research a theory worth testing in the context of esports can be the social identity approach (Tajfel & Turner, 2004), which differentiates personal and social characteristics as predictors of a specific behavior of interest. One potentially fruitful way for esports companies can be to use the concept of saliency (Bergami & Bagozzi, 2000) to underline individualized similarities between consumers to influence their perception in a desired way.

With regard to Hypothesis 2 we transferred the validity of

findings from marketing research (Christenson et al., 2012; Reschly et al., 2008) to the context of esports and illustrated the meaningful impact of the impulsive system. On a level of theory, we understand the impact of positive emotions as a reference to the assumption of Woods (2001), who underlines the importance of emotions for brand marketing (Woods, 2004). Based on this finding, the question of which emotions play a meaningful role in the context of a particular brand in the context of esports arises. Accordingly, the circular model of emotion (Plutchik & Conte, 1997) and other conceptual approaches can be used (Aaker, Stayman, & Vezina, 1988). Referring to practice, we understand this finding as a call for a professional value and emotion management for esports companies, which is already disseminated in the regular economy outside the context of esports (Heath, Brandt, & Nairn, 2006; Rosenbaum-Elliott, Percy, & Pervan, 2015).

Referring to the interaction effect customer similarity and affect the results of our study indicate that the impulsive and the reflective system indeed do interact with each other as predictors of consumer engagement, which explains disjunctive shares of the variance of consumer engagement exceeding the explanatory power of the two main effects. On a level of theory, this finding illustrates the benefit of using theories of dual processing in the context of esports. On a level of practice, we record that it is beneficial for esports brands to simultaneously achieve the goals of high consumer similarity and positive affect, which can be done by an individualized strategy of communication with different clusters of consumers.

Limitations and Outlook

Besides the significant insights, like every other study our study includes several limitations. Subsequently, we will name two of them and illustrate potential ways to deal with them in future research. First, regarding the theoretical framework of dual

systems, it is unclear what factors determine when a consumer will rely on their intuition (impulsive system) or think analytically (reflective system). Although the goal of the paper at hand was not to extend the underlying theoretical assumptions, it still seems beneficial for future studies to test other operationalizations of both systems, their interplay, and triggering conditions in the context of esports to derive a more holistic empirical picture. Second, we only looked at League of Legends as the economically most important esports game. More research is needed to illuminate similarities and differences to consumers of other esports games to extend the external validity of our findings.

Conclusion

Based on assumptions of theories of dual systems, the study at hand used a quasi-experimental approach to illustrate disjunctive effects of the impulsive and the reflective system of consumer engagement and can be understand a one of the first elements to make sense of the fast growing and economically meaningful context of esports.

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CHAPTER 14.

MORE THAN A TOURNAMENT

GRASSROOTS PLAY AND PARTICIPATION AT ESPORTS EVENTS

YING-YING LAW AND JOSH JARRETT

ABSTRACT

This paper explores the grassroots esports of the Super Smash Bros. Melee (SSBM) (Nintendo, 2001) community in the United Kingdom. The research methods consist of ethnographic research, using field notes from observations and informal conversations with the players and organisers at the SSBM tournament 'Heir to the Throne 5' (Heir 5). Both researchers attended Heir 5 in Leicester, UK, between 17th-19th August 2018 as spectators, where over 800 SSMB players gathered to compete at the largest European SSBM tournament. The aim of this paper is to determine what the notion of 'grassroots' implies in an esports context through drawing on sources from game and cultural studies. Moreover, our critical aim is to question how far organised grassroots esports could represent an alternative to more mainstream and commercialised esports formats.

Introduction

Electronic sports (esports) in the West have grown exponentially in popularity since the establishment of live streaming platforms such as *Twitch* and *Youtube*. For games such as *League of Legends* (Riot Games 2009), Co*unter Strike: Global Offensive* (Valve Corporation 2012) or *Overwatch* (Blizzard Entertainment 2016)

this growth in viewership has equated to structured worldwide leagues, franchised teams, lucrative sponsorships and a general professionalisation of playing practices. Central to the commercial success each of these games encompass is a close relationship between the game's developer/publisher and their esports industries; a co-creative relationship that has become the norm for many of the most watched games. However, alongside these developments in esports widening mainstream appeal has also been a more participatory, alternative and grassroots structure of competitive play that is present for many games that are not supported by the game's developer. One of these games is *Super Smash Bros. Melee (SSBM)*, a game released in 2001 by Nintendo for the *Gamecube*. As a game that is constitutively offline, unable to change and importantly for Nintendo, difficult to continually monetise, *SSBM* has always shared a tense relationship with its publisher. The director, Masahiro Sakurai believed that many players gave up on the purposely designed party game because it became; 'too technical, because they can't keep up with it… I think the philosophy behind them doesn't go in line with Nintendo's philosophy in that some of these players are playing for the prize money… I feel like a game at the end of the day, is about playing the game' (Doolan, 2018, para 1). Consequently, Nintendo have always promoted their newer Smash Bros releases such as *Super Smash Bros. Brawl* (Nintendo 2008), *Super Smash Bros. 4* (Nintendo 2014) and *Super Smash Bros. Ultimate* (Nintendo 2018). Curiously, *SSBM* has endured in popularity through each of these titles despite the game itself never changing, the game requiring dated equipment such as cathode-ray tube (CRT) televisions to play competitively and Nintendo ignoring (and at times resisting) *SSBM's* esports culture (Elmezeny and Wimmer, 2015, 2). This paper seeks to delve into the curious existence of *SSBM's* esports culture, critically asking why and how this game has remained a popular yet distinctively participatory, alternative and grassroots activity.

In particular, the focus of this paper is the vibrant grassroots culture surrounding the UK *SSBM* esport scene. The research presented here was conducted at an internationally popular tournament named 'Heir to the Throne 5' (Heir 5), an event hosted in Leicester during August 2018, where over 800 *SSBM* players gathered to compete in the largest European tournament. Heir 5 had numerous matches taking place at the same time and various community activities, including an international crew battle, an open stand-up comedy night and an LGBT meetup. Organised and funded by the community, for the community, Heir 5 had limited sponsors and no formal recognition from Nintendo. The aim of this paper is to identify what is unique about the grassroots organisation and ethos of a community organised tournament such as Heir. Research surrounding grassroots esports is not entirely new as T.L. Taylor's (2012) seminal work surrounding pre-live streamed esports cultures exemplifies. However, in expanding on the notion of grassroots esports in particular, this paper aims to extend lines of inquiry opened up by work such as Taylor's to reconsider what the activities of an esport event can entail.

Through drawing on literature from game and cultural studies, this paper seeks to explore the practicalities, practices and play involved in the grassroots activities of Heir 5. Although it has been noted that there is a relative lack of literature detailing the subcultural practices of players (Carbone and Ruffino, 2014), we turn to sources from cultural studies of subculture (Hebdige 1979) and fandom (Fiske 1992) to critically frame the resistant values and practices at play in *SSBM.* Moreover, it is an aim of this paper to provide an alternative account of esports to more commercialised examples that have come to define the current landscape. As Veli-Matti Karhulahti (2017: 46) has recently noted, the 'e' in contemporary esports is not representative of the 'electronic' but 'economic' as it is the extra economic foundation of an explicitly commercial game that sets esports

apart from traditional sports. In the grassroots organisation, activities and play of *SSBM*; a critical alternative to more mainstream esports is described as more communal, commercially resistant and at times inclusive.

A Brief History of the UK Melee Scene

The original game of the Super Smash Bros. series was targeted at home console players, who would either play alone or with family and friends. The first public *SSMB* tournaments were held in early 2002 with the 'Tournament Go Series', held in California. Early tournaments had disputes over what the official ruleset should be, but the organiser Matt 'MattDeezie' Dahlgren came up with an official ruleset, similar to the current fundamental ruleset (four stocks, eight minutes, best-of-three). Although the *GameCube* may have run its commercial course, the console is still being played in a remarkable way at competitive tournaments and international stages.

Within the United Kingdom, the *SSBM* community consists mostly of players across different skill levels ranging from professional to amateur, but very few (if any) are able to play professionally full-time as a livelihood. To date, there has been limited research focusing on the demographic of players specific to certain esports titles, however, from Law's (2016) ethnographic study, most of the UK Smash players she interviewed were predominantly male and in their mid 20's. Competitive fighting games have a history of localised competition from arcade culture, living rooms and bedrooms with family and friends, local regional tournaments held in 'liminal' subcultural spaces (from local pubs, comic book shops, bowling alleys, churches, universities, warehouses, hotel conference rooms and gaming spaces), to national tournaments held in game related events (such as exhibitions and conventions centers) (Sheilds, 1992).

Research Methods

Both researchers have a background of attending a variety of UK based *SSBM* tournaments (mostly in North-West and South-West of England). This research draws on these experiences but also consists of empirical ethnographic research from Heir 5, using observational research and informal conversations with the players and organisers at this tournament. The informal conversations that informed this paper were selected from convenience sampling during the players 'down-time' (waiting between matches) and the researchers objective was to observe the players motives, attitudes and practices during the event. Although the informal conversations were not recorded, extensive field notes were taken from the discussions with players.

Defining a Grassroots Esports Culture

From its inception as an esports culture in North America and Europe, *Super Smash Bros. Melee (SSBM)* has always been associated with an alternative and particularly grassroots ethos. Upon winning a tournament in 2017, one of the most prominent professional *SSBM* players, Juan Debiedma (widely known as 'Hungrybox'), proudly declared after using an expletive in an interview that 'we're not supposed to be this friendly old esports community, we came here from the gutter ourselves. We can say whatever the damn hell we want' (Allen, 2017, para 4). Debiedma's views are widely shared in *SSBM's* competitive culture as the commercial developer of the game, Nintendo, has historically overlooked and at times resisted the continued existence of *SSBM's* esport scene.

For example, in July 2013 after *SSBM* made a return to the premier annual fighting game event in North America named 'EVO' due to a community crowdfunding effort, Nintendo subsequently forbid any *SSBM* games from being streamed at the tournament. In this instance, the reaction to Nintendo's

decision was so severely rejected and controversial to *SSBM's* culture that Nintendo reversed their decision. However, this attempt at cultural and playful governance by Nintendo is not an isolated example with another notable example coming in the form of the mod *Project Melee*. *Project Melee* is a total conversion mod for *Super Smash Bros. Brawl* that changes the game to play more like *SSBM* with regards to in-game speed and technique. As a game that was popular in the *SSBM* community, it was widely played in tournaments up until 2016 when Nintendo pressured *Twitch* to ban it from being streamed. Nintendo even banned their own users for mentioning *Project Melee* on their Miiverse social network (Cowley, 2016). Under this pressure, *Project Melee* cased development in 2016 and is now a niche activity for *SSBM's* culture, although it remains a topic of much resentment towards Nintendo.

In both of these examples of commercially motivated governance by Nintendo, the culture of *SSBM* has been united in their own stance that is opposed to that of the game's developer. The salient point here is that it is this background of playful defiance that animates *SSBM's* culture and is notable in the affective texture of an event such as Heir 5 where feelings of independence, community and grassroots dynamism are palpable. As Debiedma goes on to state in the same post-game interview from above, 'I want you [Nintendo] to hear the amount of people who support this league, the amount of people who want this to be a lifestyle for people. This is not just a video game, this is a lifestyle' (Allen, 2017, para 6). It is the ethos of this 'lifestyle' and its oppositional relation to both Nintendo and mainstream esports that is crucial to define here as, at Heir 5 in particular, various grassroots cultural practices could be noted.

In using the notion of grassroots here, it is our intention to make direct comparisons between *SSBM's* culture of competitive play and wider examples of community, DIY, alternative or participatory media practices (Jenkins, 2006; Newman, 2008,

vii). In their own way, each of these forms of media production and circulation represents a grassroots form of cultural activity and it is this bottom-up agency that carries implications for the creative, commercial and democratic potentials of a media form. Writing about community media practices in the form of radio, television and online networking, Kevin Howley notes that community media entails, '…grassroots or locally oriented media access initiatives predicated on a profound sense of dissatisfaction with mainstream media form and content, dedicated to the principles of free expression and participatory democracy, and committed to enhancing community relations and promoting community solidarity' (Howley, 2005, 2). Although the media forms Howley was considering differ from esports in the kinds of messages or experiences that are circulating, there are clear parallels in the ethos of these cultures of media production.

As noted above, *SSBM*'s relationship with Nintendo is a tense and at times antagonistic one that unites the culture of *SSBM* in their 'dissatisfaction with the mainstream media form and content'. Although this form of resistance is compounded by the status of players playing and in many cases feeling affectionate towards Nintendo's in-game characters, it is nonetheless notable in several aspects of the way tournaments are run. The forms of resistance include the grassroots organisation of the tournament, the communal negotiation of tournament rules, the retro aesthetic of the gaming setups (and the game itself) [see image_1] and highly modified and personalised *Gamecube* controllers. For example, the Heir 5 slogan, '2-0 is not an option' considers standardised commercial tournament rules (single or double elimination) to be problematic for knocking out less familiar players after two rounds. In contrast, Heir 5 guaranties 8 sets of games for every player, promoting a sense of community and levelled relations between players of all experience and skill levels.

Figure 1: A tent at Heir 5 full of CRT's with players freely playing

These cultural practices suggest a sense of belonging within a tight-knit gaming community – something that sometimes gets lost in commercialised events. Borrowing Hodkinson's (2002) term of subculture, he suggests that there are elements of movement, overlap and change within subcultures, with remarkable levels of commitment, identity, distinctiveness, and autonomy. In relation to our findings, there was a strong sense of identity of 'us' and 'them', which involved a distinct cultural grouping and shared feelings of identity through community and 'ritual' practices. It is these communal practices that constitute the tightly bound, coherent and at times more inclusive culture of competitive play we experienced at Heir 5.

Conclusion

Taken together, these practices are constitutive of the alternative identity Smasher culture has crafted out for itself. Moreover, similar to many subcultural practices that provide a

more inclusive and progressive space for identity, such as the alternative fan cultures described by Hebdige (1979) and Fiske (1992), Heir 5's Smashers governed their space to allow anyone to participate. If as Hebdige (1979) argued, subcultures bring together like-minded individuals who feel neglected by societal standards and allow them to develop a sense of identity, then these identities were certainly encouraged by Smashers at Heir 5. Due to the scalability of larger more mainstream events, it is unclear if event organisers could host similarly inclusive esports in this way. However, at a grassroots level these events are happening, they are passionately attended and create a more alternatively welcoming event overall.

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CHAPTER 15.

CHEATING, CONSEQUENCE, AND PERFORMANCE IN PROFESSIONAL ESPORTS

ALEXANDER MILLER

ABSTRACT

This paper works to categorize and understand the presence and punishment of cheating in the esports industry. Whether it is newly signed team players being suspended for past offenses, or professionals being caught match fixing or cheating mid-game, there are multiple patterns of behavior that can be analyzed through the lens of performance studies. The analysis draws from case studies across the spectrum of esports games and leagues, and incorporates the use of aimbots and account boosting, as well as more low-tech instances of cheating such as screen-looking and match fixing. In addition to discussing instances of player malfeasance, the paper also analyzes the performances of game companies as they attempt to limit and punish cheating. The give and take between these two groups is a rich field of embodiment and restored behaviors that gives rise to a performance of fairness necessary for the industry's long-term success.

Introduction

In June of 2018, Timo Kettunen, known by his gamer handle

"Taimou," posted a tweet exposing what he considered a flagrant example of cheating. The tweet contained a clip of live video stream from a player known as "Necros" (real name unknown) playing the team first-person shooter *Overwatch.* In the clip, Necros succeeds in not only dispatching two players, but almost instantly turning 180 degrees and hitting a third player, hovering several feet in the air, square in the chest. This clip fueled rampant speculation that Necros was cheating, using a special program known as an "aimbot" to quickly lock on to targets as they appear on the screen. The *Overwatch* Reddit community quickly sided with Taimou, as have other players and esports professionals (Asarch, 2018; Breslau, 2018). Necros has denied the accusations vehemently and, as of the writing of this paper, *Overwatch*'s creator Activision-Blizzard has not taken any punitive action against him (Asarch, 2018).

The Necros incident is one part of a much larger performance in the esports industry, playing out in real time across dozens of virtual arenas. The development of professional leagues for games such as *Counter-Strike: Global Offensive (CS:GO), League of Legends, Defense of the Ancients (DOTA) 2,* and *Overwatch* has coincided with a concerted effort by these games' parent companies to stamp out cheating in its many forms. This effort, as in other professional sports, and indeed in any competitive pastime, is a quixotic endeavor. What differs from other such attempts is the almost unlimited potential for cheating enabled by game mechanics and gamer culture. This paper tracks and analyzes various attempts at cheating in both professional and semi-professional esports, finding not only a shared aesthetic in not only the instances of cheating, but also in the attempts to curtail and punish these incidents. This analysis is concerned with two areas of interest. The first is the actual act of cheating in games. While this discussion is focused on the professional esports circuit, it is difficult to entirely separate that experience from the realm of amateur gaming and the cheating that occurs

on the non-professional level. That is because of the second layer of analysis: the corporate reaction and policing around incidents of cheating both in amateur and professional game play. These two elements are in constant conversation with each other, creating a performance that is as much about fairness as it is about risk and reward.

Performance and Cheating

The utilization of performance studies methodology is critical to this analysis. The act of playing video games is an exercise in embodiment. As players boot up their computers or consoles, their relationships to their digital avatars are governed by similar principles as those between an actor and a character. Players embody what Diana Taylor (2003) would call the repertoire; acts that carry specific meanings and are produced and reproduced as part of a cultural transmission (p. 20). Much of this transmission is ephemeral, but it is precisely that ephemerality that performance studies has been designed to analyze. By approaching the behaviors of both gamers and game companies as performances embodying some form of cultural transmission, valuable avenues of thought are opened up into the discussion of future action. As this paper progresses, these avenues will be developed to encompass how cheating alters the repertoire of actions available to players.

Most modern methods of cheating in video games generally involve some form of identifiable manipulations of the program. One of the most common of these manipulations are "aimbots." These are a subset of cheat programs that alter the code of the game itself, providing players who use them the ability to lock on to an opponent's avatar with a speed otherwise only possible through sheer luck (Consalvo, 2007, p.119). Viewers unfamiliar with the mechanics being manipulated may not be able to identify what is going on, but regular players of the game can identify the aesthetic differences created by the aimbot. Aimbots

are found in most games involving serious hand-eye coordination, such as *CS:GO* or *Overwatch*. They are fairly easy to find and download but are usually suspect enough for concerned parties to identify them.

Aimbots are often exploited in a games' amateur multiplayer servers, but there are incidents of them making their way to professional use. For example, on October 19, 2018, during a *Counter-Strike:Global Offensive* tournament match between Revolution and OpTic India, referees called a halt to the game after some unusual play from OpTic India's Nikhil Kumawat, a.k.a. 'Forsaken.' Video of the incident shows a referee examining Kumawat's computer for a few moments before Kumawat hurriedly attempts to delete a file before the referee's very eyes. Based on Kumawat's match performance and his subsequent actions, referees concluded that the file was an aimbot (Good, 2018). Forsaken's digital embodiment was influenced by the artificial enhancement of the bot, and it is this artificiality that creates the aesthetic of cheating. Part of the fun of online gaming is that every avatar represents another human being in all their imperfections. Practice does not inherently make perfect in gaming. A player like Necros, mentioned in above for his almost "perfect" reactions, may have racked up hundreds of hours honing his skills with a specific character, but his movements are still bound by his own reflexes and the reaction time in moving impulses from his hardware (mouse, keyboard) to the software (avatar). When these imperfections are seemingly removed, as was the case with both Necros and Kumawat, it gives the impression of playing against someone who could not possibly be as good as they are. For casual players, this transitions the game aesthetic from something enjoyable to something tedious, and it is thus to be avoided. For professional players, it transitions the experience from a fair contest between individuals to a contest of human against machine.

In addition to the use of aimbots and other programs, there are more low-tech ways for players to cheat, even at high levels of team play. In a 2012 tournament, members of the *League of Legends* professional team Azubu Frost were caught observing the spectator view of their game, allowing the team an obstructed view of their opponent's positioning (Hafer, 2012). More subtle types of cheating, such as match fixing, are not uncommon in professional esports. In 2015, a large scale match-fixing conspiracy was uncovered amongst the Korean *Starcraft* leagues. Some of the highest profile players in the country were implicated, and several were arrested, tried, and convicted for throwing games (Godfrey, 2018). Still perhaps the most unique methods of cheating in esports is known as "boosting." This is a type of permitted identity theft, where a particularly skilled player logs in to another player's account and poses as that player in order to boost their in-game rating. This is a widespread problem amongst the various leagues for *Overwatch*, where multiple members of the Overwatch League (OWL) have been found to have engaged in this behavior during their earlier careers (Overwatchleague.com, 2019). These alternative methods of cheating represent a fundamental violation to the ethics of a fair and balanced game environment, thereby altering the aesthetic value and experience of other players and viewers of the games.

For the study of performance, boosting perhaps provides one of the most intriguing case studies in this field, as the act itself has no ready analog comparison. Usain Bolt could not show up to a high school track meet and reasonably claim he was a student on the team, even if he had their jersey, ID number, or any other methods the school would use to track a student. However, just such a thing can occur in the virtual world. This act raises questions over not only the ethics of this act, but also what it means for the one-to-one relationship assumed between player and avatar. Boosting also represents a fundamental shift in the

economics of gameplay. To borrow a term from Mia Consalvo (2007), boosting disrupts the accumulation of "game capital," where players eager to improve their abilities, and thus their stature in the community, can take advantage of a loophole in their relationship to their digital body (p. 38). The digital performance that goes on between the players is linked to the assumption that everyone plays by the same rules, and that the game's mechanics are the final arbitrator of those rules. In adopting a digital embodiment that is not their own, boosters demonstrate the malleable nature of this performance.

Embodiment

At the core of these instances of cheating, there is an aesthetic of embodiment that marks them out. In the analog methods of cheating, this embodiment is found in actions as simple as looking up from a screen. A player's embodied actions are, if not predictable, very orthodox, and when a player deviates from them, it changes their performance. The same can be said for match throwing. As in other professional sports, the embodiment of the player changes when they are purposefully holding themselves back. The most interesting of these examples is in the digital embodiment altered by bots. Ian Bryce Jones refers to the relationship between avatar and player as a *dehiscent performance,* built on "(the) uneasy collaboration between human and machine" (Jones, 2016, p.89). The player's input into the game is not all that goes into digital embodiment; it must be read, understood, and translated into impulses through the game's software. This collaboration has a chance to burst open at any moment, leading to the avatar embodying an action unintended by the player. Jones sees this performance as a spectrum, with some games attempting to exploit this effect for comic benefit by giving the player *too* much control over their avatar. As mentioned earlier, the aimbots give an impression of perfection to the player's movements. By removing the possibility of player error, aimbots are intended to

to "sew up" this dehiscence, turning the player's inputs into an extension of the game's mechanics, rather than a cooperative partner. This sewing up is what creates the aesthetic that stands out as suspect amongst experienced players. This approach to the aesthetic of cheating can be applied to a wide variety of expected cheating encounters.

In addition to instances of alleged and definite cheating, this analysis lends itself to understanding situations where players have been cleared of cheating. In 2016, Se-yeon Kim, known by her gamer tag "Geguri," was accused of using an aimbot, first by an online user and then by several other competitive players during an *Overwatch* event. After several days of controversy, Geguri was recorded by a Korean gaming site while she played in sterile test conditions, proving that she, in fact, was not cheating (Ashcraft, 2016). Geguri's ordeal is certainly framed by the rampant sexism that exists in the gaming community at large, but the accusations leveled against her are very telling. Geguri's digital embodiment was so lacking in dehiscence that it began to mirror an artificial performance. While some performance traditions greatly value precision of movement and bodily control, professional gaming is not one of them. Though precision in performance is valued, too much precision leads to the suspicion of cheating. Geguri's skill seemingly proves that this performance is not so much a demonstrative fact, but rather an objective judgement from outside observers. The same could be said for the experience of Necros in 2018: his skill and performance has been called into question based on an outside judgement.

Policing Cheaters

Standing in conflict with those who cheat at these games are the companies who attempt to prevent and police cheaters. These efforts are largely focused on stopping pirated copies of games and regulating the game experiences of online communities.

Mia Consalvo points out that companies concern themselves with these incidents due to the financial concerns that they represent. If it becomes clear that a game that relies on online play can be corrupted or manipulated by cheaters, it could lead to a reduction of sales and the long term health of the game and its community (Consalvo, 2007, p. 129). To this end, companies use many methods to identify cheating and to punish it. In her analysis of these methods, Consalvo demonstrates that the categories and identifications of what is considered cheating are constantly being refined. The codification of these behaviors ties into the performance and behaviors associated with good play and bad play (Consalvo, 2007, p. 147). These reinforced behaviors are not limited to the experience of the gamer; they also indicate future reaction and performance by, for lack of a better term, the cheat police. When a certain behavior is banned or met with punitive action, it stands to reason that that same behavior should be met with the same reaction in every instance across games. In exploring further, this may be the case in the amateur world, but is not in the professional scene.

Punishments for being caught cheating vary greatly based on not only the offense, but also the league or even government handing down the sentence. Players found cheating in the amateur servers of these games, either casually or in competitive leagues, are given a lifetime ban on their game account. In the case of Nikhil Kumawat, his team, OpTic India, was immediately disqualified from the tournament. Shortly thereafter, the team terminated Kumawat's contract and dissolved, while the Esports Integrity Coalition handed him a five-year ban on playing any games sanctioned by the Coalition. It's worth noting that this was Kumawat's second offense for cheating using foreign code, and he had faced a lifetime ban (Chalk, 2018). The Azubu Forrest team were fined $30,000, around 20% of their winnings, for their violation. However, they were still allowed to continue in their tournament, based on the

evaluation from Riot games that the incident was not the deciding factor in Azubu's win (Hafer, 2012). For the Overwatch League, a Discipline Tracker was set up to record all infractions and punishments handed down to their players. Those found to have boosted before being signed to their teams were suspended for two games, but had otherwise no further repercussions. In South Korea, a 2018 law made the practice of boosting for profit illegal, with sentences ranging from fines the equivalent of $18,000 to up to two years in prison (Padilla, 2018). These reactions demonstrate a very real and very concerted effort to stomp down on the potential of cheating. The potential prospect of prison time is a strong motivator away from illicit or unethical behavior, particularly for something so mundane as being paid to log into someone else's account. These punishments all represent serious financial risks for those who engage in cheating, particularly at the higher levels of play.

These accounts of financial reports are linked to the aesthetic of cheating through the risks they represent to the parties involved. To better understand these risks within their context, it is useful to consider Ulrich Beck's risk calculus. In *World at Risk,* Beck (2007) proposes a series of definitions to establish who is responsible for risk and security in an increasingly industrialized and ecologically hazardous world. Beck's initial argument presupposes a "risk calculus" that emerges out of a desire to quantify and balance a capitalist concern for profit with the very real potential for catastrophic reaction to the search for that profit (Beck, 2007, p. 7). While Beck concerns himself with large scale human endeavors and the consequences (mass industrialization, nuclear catastrophe, impeding ecological collapse, etc.), this risk calculus can be applied to endeavors with much lower stakes, such as the game and gamble of investment as it relates to esports. Activision-Blizzard, Riot Games, and their fellow game companies are balancing the potential catastrophe of a market collapse with the possible

earnings that are represented not only by hooking large investors into their leagues but also the promotion of their games to an admiring audience. People that watch the Overwatch League will likely want to play *Overwatch* itself, and if they do already, may want to engage in the further in-game micro-transactions that continue to line Activision-Blizzard's pockets after the initial sale. Failure of these leagues would do the opposite: depress sales and drive away potential revenue. This is the knife edge that most large ventures teeter on, but for esports, there is the additional element of the players and the potential for player behavior to influence the success or failure of the leagues.

Within this push and pull between game companies, game consumers, and the financial backers of their leagues, there is a stage of performance. The professional players are as much responsible for the success of the league as the reverse, and if and when they are found cheating they throw the legitimacy of the venture into question. The same is true of amateur players found cheating, only instead they throw the legitimacy of the game itself into doubt. This creates the motivations and obstacles for the game companies to find and punish cheaters quickly, to demonstrate a commitment to fairness not only for the legions of "honest" players who represent day to day success for these companies, but also to the current and potential investors in their leagues. This is the performance that is sold, but as has been discussed within this essay, it is a dehiscent performance. The ruptures of the performance occur along the seams of identifying cheating and meting out some form of punishment. While that punishment seems quick and easy to dispense in the case of amateur gamers, professional gamers are a more complicated image. Some of these gamers, such as Forsaken or the Starcraft match fixers in Korea, have been made an example of for the benefit of the public. Others, such as the Azubu Forest team or the various players found to have boosted

before joining OWL, have received minor slaps on the wrist and were allowed to continue. Players accused of cheating, such as Geguri and Necros, have also been met with fractious responses, ranging from having to prove their skill to facing no punishment outside the court of public opinion. This range of reaction demonstrates that there is, as Consalvo reminds us, no single way to define cheating, despite what the appearance of "fairness" may suggest. Rather, there is only the performance of "fairness," enacted to demonstrate a legitimacy and reinforce the trust between company, consumer, and investor.

Further evidence of this performance may be found in the apparent lack of cheating in the Overwatch League. Rod Breslau, a long time esports journalist and reporter, tweeted on the notable absence of any incidents in OWL that match the brazenness of incidents from the CS:GO professional leagues (ironically, his tweet came only days before Forsaken's scandal). His argument is based on the stakes of the league: with so much money being offered up to players, the chances of no one actually cheating in any level of professional play in *Overwatch* is exceedingly low. Joe O'Brien (2018), reporting on Breslau's claims, highlights Activision-Blizzard's stringent equipment controls as a possible reason for this lack of high profile incidents of cheating. While the money at stake for players would prove a compelling reason to risk cheating on the public stage, Breslau's claims hold an unintended explanation as to why there have been no major cheating scandals. For the legitimacy of the league and the appearance of trust, the performance of fairness needs to be upheld even against the potential accusations that not everything can be fair. In a sense, Activision-Blizzard find themselves in the same situation as Necros: their performance of fairness is just too good to be true, but as long as they are not required to prove it, their word is all critics have to go on.

Conclusion

In articles, blogs, and forum posts commenting on the presence of cheating in esports, the authors lament the seemingly irrational attempts of these young e-athletes at trying to game the system. When they are caught, these players face either substantial fines, long suspensions, or both. This can potentially end the careers of these individuals, and even more severe punishments are forthcoming. These sorts of actions seem in some ways disproportionate to what is at worst an inconvenience for other players at the casual level. At the professional level, the rewards are substantial, but perhaps not so substantial as to merit adopting this "win at all costs" mentality that gives way to cheating. Perhaps then, the risk of cheating is not in the hands of the cheaters, but the cheated; the large game companies and the other players who stand on the verge of professional recognition. To return once again to the conflict between Necros and Taimou, it does not matter much whether or not Necros was engaged in cheating. What is at stake is here the potential to show that cheating is possible at high levels of play in *Overwatch*, a possibility that Taimou, now with as vested an interest in the long-term success of the OWL as Activision-Blizzard, cannot allow to pass without punishment.

Companies like Activision-Blizzard, Riot Games, and Valve likely do not believe they can stop all cheating within their games. It would go against the very foundations of their business. Even if they focused on completely eliminating cheating from their licensed professional leagues, it would be a feat never before equaled. Instead, these companies have seemingly focused on policing their games and leagues, handing out punishments if and when cheating is discovered. This focus is all part of the larger performance of the companies as a whole. When this performance is analyzed, it becomes clear to see that the ideal outcome is not really about fairness in gameplay.

Instead, it is the performance of fairness, and the subsequent trust that that builds, both with customers and with investors.

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CHAPTER 16.

ESPORTS AND PLATFORM STUDIES

AN INTEGRATED PERSPECTIVE

WILLIAM CLYDE PARTIN III

ABSTRACT

This paper situates esports within the field of platform studies in general and the platformization of cultural production in particular. As an interdisciplinary approach to studying the complex relationship between computing technologies and cultural production, platform studies offers a valuable, antireductionist framework for placing esports within their broader sociotechnical and political economic contexts. Following an introduction to the basic tenets of platform studies, this paper details a number of ways in which esports are dependent upon major platforms, centralizing technical and economic control over esports ecosystems in the hands of publishers. In light of these relationships, I argue that esports convert traditional sports, a platform-independent commodity, into a platform-dependent one. This paper ends by considering several ways in which esports may themselves be considered platforms.

Introduction

The rising popularity of esports over the last decade has taken place alongside the increasing influence of platforms in culture industries. The wager of this paper is that this parallelism is not a coincidence and that esports may help us better understand

culture industries in the age of what many theorists now call "platform capitalism" (Srnicek, 2016). "Platform", in its broadest sense, refers to a digital infrastructure that connects different categories of users for economic and social interaction while also collecting data on those exchanges. While the influence of platforms has been recognized in a variety of industries, from transportation (Rosenblatt, 2018) to healthcare (van Dijck, Poell, & de Waal, 2018), platformization have been felt with particular acuity in culture industries. Thomas Poell and David Nieborg (2018) have referred to this shift as the "platformization of cultural production," the processes by which media producers have been forced to adapt, with varying degrees of success, to digital platforms as a vital intermediary for the production, monetization, and distribution of cultural content today.

Studies examining the platformization of cultural production have considered changes in how cultural content is made, monetized, and distributed across a variety of media types, including news (Bell & Owen, 2016), music (Hesmondhalgh, Jones, & Rauh, 2019), and game production (Foxman, 2019). Even so, scholars of platform studies have not paid close attention to the emerging professional gaming industry. Likewise, scholars of esports have largely failed to address the literature of platformization of cultural production. While the best studies of esports have always adopted interdisciplinary perspectives, the majority of extant work on esports is situated within clear disciplinary bounds (Reitman, Anderson-Coto, Wu, Lee, & Steinkuehler, 2019), especially those of human computer interaction and media psychology. Without discounting the value of these studies, this author contends that they must be contextualized within the complex assemblages of sociotechnical infrastructures and political economies that have determined the shape of the esports industry and the opportunities for action afforded to those in it.

Against this background, I propose platform studies as a more

comprehensive theoretical framework for studying esports, one that is sensitive to the interrelations between technology, capital, and culture. The point is not to suggest that esports may be reduced to platforms, nor that the relationship between the two is causal. Rather, it is that platforms are indisputably a part of esports. For this reason, platforms deserve closer attention from scholars of esports. As this paper argues, the platformization of cultural production offers a powerful anti-reductionist framework to consider the interrelations amongst infrastructure, software, and political economy that, together, form the conditions of possibility for professional gaming. By examining these forces in concert, it becomes possible to better understand the actions undertaken by all users in a given esports ecosystem.

In the first section, I define "platform" and introduce scholars of esports to key aspects of platform studies in general and the so-called "platformization of cultural production" in particular. Here, I argue that esports transform traditional sports from platform independent commodities into platform dependent ones, with significant consequences for issues of governance, centralization, and accessibility. In the second section, I consider how esports are reliant on various types of platforms, from the cloud computing platforms (Amazon Web Services) that power many games, to broadcasting platforms (Twitch, YouTube, etc.), and video game distribution platforms (Steam, Battle.Net). Finally, in the third section, I consider three ways in which esports may themselves be conceptualized as platforms: as multisided markets, as programmable software suites, and surveillant assemblages.

Why Platform Studies?

Despite the popular opposition of the sporting body to technology, many scholars in esports have long pointed out that *all* sports are sociotechnical insofar as they are constituted by

complex compositions of human bodies, technological artifacts, and social processes (N. Taylor, 2009; T. L. Taylor, 2009, 2012; Witkowski, 2012). Rather than create a false dichotomy between "technological" and "non-technological" sports, it is important for scholars to investigate the affordances and practical use of the technologies, no matter how humble, that facilitate individual sports. Inquiry undertaken in this spirit is intended to reveal not only how technologies shape the possibilities for participation for players, fans, and complementors, but also how power relations are embedded into these technologies.

In the case of esports, this paper assumes that the most important technological arrangement for scholars to consider is the platform. In for their long-running series Platform Studies, Ian Bogost and Nick Montfort (2009: vii-viii) suggest that platform studies is defined by three features:

1. A focus on a single platform or closely related family of platforms
2. Technical rigor and in-depth investigation of how computing technologies work
3. An awareness of and discussion of how computing platforms exist in a context of culture and society

While Bogost and Montfort leave open the methods by which scholars ought to study platforms (Apperley & Parikka, 2018), they nevertheless emphasize programmability as a shibboleth for platforms. This view predominates in software studies (Helmond, 2015), but scholars in other disciplines have theorized "platform" differently. Scholars in economics are likely to regard platforms as "matchmakers" that facilitate multi-sided markets (Evans & Schmalensee, 2016), while those in labor studies see platforms primarily as labor intermediaries (van Doorn, 2017). And, of course, there is the popular sense of platform that emphasizes the capacity of social media services to

enable users to share content in an ostensibly open playing field (Gillespie, 2010, 2015, 2018). In attempting to situate esports within platform studies, I do not regard any of these definitions as fixed, final, or foundational. Rather, each aspect of platforms offers insight into the sociotechnical and political economic underpinnings of the contexts in which professional gaming takes place.

Esports and Platforms

In adopting this flexible approach to platforms, I follow more recent work on the Thomas Poell and David Nieborg on the platformization of cultural production, which synthesizes insights into platforms from political economy, business studies, and software studies. To examine how different culture industries respond to the rise of platforms, Poell and Nieborg distinguish between platform dependent commodities and platform independent commodities. For example, whereas legacy news media firms were forced to adapt to the rise of platforms, the digital game industry was always already reliant on programmable software platforms. In this way, I suggest that, from the perspective of the history of sporting, the primary consequence of esports is to convert sports – a quintessential platform independent commodity – into a platform-dependent one. The effect of platform dependency, Poell and Nieborg argue, is to accelerate what Yochai Benkler (2006: 32) calls "the project of control" and its twin pillars of commercialization and corporate consolidation. Put bluntly, platforms afford game publishers more opportunities for control over esports ecosystems than has ever been possible in traditional sports ecosystems.

To illustrate this tendency, I consider the close relationship of esports to a wide variety of platforms. Here, I offer three examples. One, esports publishers have long relied on cloud platforms like Microsoft Azure as an infrastructure for

managing the vast server load required to support online multiplayer games; two, esports publishers rely on broadcasting platforms like Twitch in order to cost-efficiently reach global audiences; three, the video games on which esports are built are sold through and run on platform marketplaces like Steam, Battle.Net, and Origin. The affordances of these platforms shape the conditions under which users may participate in professional gaming ecosystems. For example, Activision-Blizzard has long used Amazon Web Services to manage servers for competitive *Overwatch*, meaning that access to *Overwatch* is limited to those regions in which AWS is active. This situation has no obvious analog in traditional sports, where the platform independent technologies (balls, bats, goals, etc.) that enable sporting practices are not entangled with the infrastructures and business models of large technology firms.

Though the sports industry has surely had to contend with the impacts of platformization, these effects have largely been limited to matters of distribution because traditional sports are not reliant upon platforms in the same way that esports are. What this reveals is that, in the context of esports, platforms do not simply alter (e)sporting practices, cultures, and institutions at the point of distribution, but also at the *point of production*. As a result, I argue that platforms offer publishers unprecedented control over professional (e)sport ecosystems in ways that have no comparison in the history of sports. In political economic terms (Mosco, 2009), this shift has massive implications for the commodification, spatialization, and structuration of esports, which are a vital piece of context for any study of professional gaming.

Esports As Platforms

A more radical argument, however, is that esports are *themselves* platforms, at least in three senses of the term: (1) esports function as multisided markets, defined as markets in which two

or more intermediaries are "matched" by a technical intermediary (2) esports are surveillant assemblages that collect vast amounts of data on users in order to predict and control future behavior, and (3) esports serve as software suites that developers may access using an application programming interface (API). In each case, by examining esports as platforms, it becomes possible to better understand how esports are reconfiguring sporting practices, cultures, and institutions in ways that increasingly concentrate control in the hands of publishers and/or large technology firms.

In the first case, as legal scholar Max Miroff (2018) observes, "electronic sports … [create] multisided markets that rely on the ability of numerous entities to access a publisher's intellectual property." If Facebook's platform is a multi-sided market insofar, then game publishers use their intellectual property to connect otherwise distinct actors such as fans, players, team owners, and sponsors in a single market. Even so, game publishers are not neutral intermediaries; rather, they actively intervene in these multisided markets according to their organizational goals, be it maximizing player productivity, as in the case of Valve and Dota 2 (Boluk & LeMieux, 2017) or seeking massive capital investments in the form of franchise fees, as in the case of Activision-Blizzard and Overwatch League. Questions of platform governance (Gawer, 2014) thus lie at the heart of professional gaming and are critical to understanding the implications of so-called "open" and "closed" esports ecosystems (Scholz, 2019).

In the second, surveillance is a critical element of virtually every esport today because of their reliance upon platforms. As Torin Monahan and David Murakami Wood (2019: 1) argue in a recent editorial, "digital platforms fundamentally transform social practices and relations, recasting them as surveillant exchanges whose coordination must be technologically mediated and therefore made exploitable as data." Along these

lines, esports reconfigure sports into a technologically mediated practice that is amenable to mass data collection. As Nicholas Taylor (forthcoming) puts it, "esports offers sports scholars a compelling glimpse of what athletic performance looks like when it unfolds in digital environments that are already instrumented for data collection." The data-rich environments of esports have in turn proven irresistible for software developers working on artificial intelligence. Elon Musk's OpenAI initiative, for example, has long relied on data collected in public Dota 2 matches to train the organization's machine learning algorithms.

Finally, many esports enable third-party developers to develop applications for esports programs using a game's API. Just as Facebook opened its API to developers in order to extend the platform's utility, some game publishers give developers API access to their games in order to create tools that offer new features to competitive players. For example, aspiring and professional Dota 2 players have long relied on services such as Dotabuff, which uses API access to Dota 2 to generate sophisticated statistical readouts about player performance and behavior over time. While traditional sports have long relied on datafication to increase player performance, the ability to access this data through an API fundamentally changes the calculus of (e)sport analytics by making third parties technically dependent upon a developer's API. (It goes without saying, of course, that baseball has no API).

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CHAPTER 17.

THE META

ESPORTS, OPTIMIZATION AND SETTING LIMITS

CHRISTOPHER A. PAUL

ABSTRACT

Esports competitions play a vital role in defining the 'meta,' or optimal strategy, for playing video games. As a meta solidifies, it impacts players in both esports and those who play the game recreationally, limiting their options and their approaches to play. Using rhetorical analysis of the first season and a half of the Overwatch League and examples from traditional sports, this essay argues that metas and the desire for optimization structures video games in a manner that is notable and important in considerations of game design and esports play.

Introduction

Broadcasting esports has the effect of normalizing approaches and solidifying proper modes of play. Augmented through tier lists and analysis of games, prominent players and commentators normalize how particular games should be seen, frequently using exceptional players as their models for how to engage a game. The shapes the way players see games, setting limits for their approaches as they seek to optimize their results and continually reinforcing 'the meta.'

To chart how the meta calcifies play, I draw from games research on theorycrafting and metagaming, engage in a discussion of how similar processes work in traditional sports, and move to a rhetorical analysis of events over the first season and a half of the *Overwatch* League. This essay is intended to offer a reflection point on a particular kind of impact of esports has on the broader landscape of video games and how the discourse of video games can differ from that of other, seemingly similar kinds of activities.

Theorycrafting and Metagaming

Tracing from a pejorative comment among *World of Warcraft* players, theorycrafting arose in tandem with the increasing difficulty of the game (Paul, 2011). The increasing challenge of the game meant that players needed to do research outside of the game in order to improve their chances of success. The term originally mocked players who sought to do testing outside of the game, rather than just go out and play it. However, over time, the practice was normalized and players used theorycrafting to try to understand the black box of game design through rigorous hypothesis testing and analysis (Wenz, 2013). The term has seeped into both gaming discourse and academic discussion with essays penned about analysis of metagaming discussion about how games work and even using the concept to engage in the pedagogical design of classes (Debus, 2017; Finseth, 2015).

At this point in gaming discourse, theorycrafting typically leads to the creation of a 'meta.' What exactly a meta is ranges from game to game, but it typically includes a handful of common elements. One key piece of the meta is what characters are considered strongest. In games like *League of Legends* this shows up in the form of tier lists with certain options considered more valuable than others. Game developers often engage in balancing updates to make lesser characters more powerful and

make highly ranked characters weaker, often resulting in players reassessing which choices are seen as optimal.

A second area of the meta is in the general approach to game play. Beyond character selection, strategies emerge that become popularized as a 'best' way of playing a game or approaching a common situation. This could emerge in something like using the GOATS, or triple-triple, composition in *Overwatch,* which features three characters considered tanks and three characters considered support with no traditional damage dealers (Richardson, 2019). Benefiting from the incredible survivability of the composition, a team that works well together can dominate in team fights and defeat more balance teams. The dominance of the approach led to Blizzard, the game's developer, introducing changes in an effort to weaken GOATS and players experimenting to find an answer to defeat it (Allen, 2019).

The third key piece of the meta is the balance between the success of the approach and the judgments of players. To the first end, players must seek the meta characters and approaches as better, more valuable, and more successful than other strategies and tactics. The popularity of a strategy like GOATS depends on players seeing it work again and again and then trying it for themselves. Meta characters need to be seen as successful in battle, as the first choices of players in drafts or as one of the first characters to ban other players from using. Tied to the success is actions of the player community. Metas become sticky and powerful not just because they work, but also because players enforce them through judgments within the game. Deviating from the approved values and strategies of the community could get a player mocked, warned, banned, or otherwise sanctioned for 'poor' play. Because of the community judgments that are made within video games, aligning with the meta can be seen as a strategy to avoid rocking the boat and trying to fit in with the expectations of other players.

All three of these aspects can be seen in relief by reflecting on the role of the meta in high-level traditional sports. Looking beyond esports and video games offers a fresh perspective on how judgments in games can work to structure, incentivize, and effectively limit play.

Traditional Sports and The Meta

Although esports are a relatively recent creation, traditional sports have decades of professional play from which to draw examples. Paralleling the growth of theorycrafting in games like *World of Warcraft,* baseball saw an analytics revolution that fundamentally changed what was valued and how the game was played (Lewis, 2004). As outlined in a best-selling book and subsequent movie, Michael Lewis makes the case that new-school general managers like Billy Beane sought to exploit market inefficiencies and create a new way to assess players and strategies. In baseball, this took the form of focusing on players who could draw walks, in basketball the three-point shot was emphasized, and in American football coaches sought to 'go-for-it' more often on fourth down.

All of these approaches were predicated on statistical analysis and testing, much like the theorycrafting done by video game players. All of these approaches also changed the way the games in question were played. In the case of basketball, the number of three-point shots skyrocketed, with top players averaging more three-point attempts in single games than most teams did a few years ago (Shea, 2018). This approach then trickled down, as college and high school teams sought to copy what was working at the highest level of the sport. Exceptional players, like Stephen Curry, bent the game even farther, routinely attempting shots from farther and farther away and stretching the dynamics and angles of the court (Goldsberry, 2019).

However, the role of exceptional players in popularizing new strategies also shows a limit of these approaches. Most players,

particularly those who are not high-level professionals, cannot copy the virtuosity of the most talented people on the planet. Stephen Curry's shooting range is historic and is likely only matched by one other current player, Damian Lillard, which means the lessons most are able to apply from his example is limited. Surely recreational players pretend to be professionals, wearing the jerseys, cheering for the teams, and copying their trademark moves. But, we cannot actually pull off what they are able to do, limiting the transferability of what professionals are able to establish as a meta approach, akin to a regular player seeking to match a professional player's actions per minute in a game like *Starcraft.*

A second example to be taken from the example of traditional sports is in the reception of new approaches. Often derided as coming from pencil-pushers who never played the game, innovative strategies are frequently rejected out of hand by some commentators. Although there is surely a valuable critique in how not all things can be quantified and measured, a strain of these objections is also in an inherent conservativism about how games should be played.

American football provides an avenue to reflect on this, as analytical approaches demonstrate that teams should attempt fourth-down conversions far more often than they do. Although the math works out, games are played in short-run instances, rather than in the long-run, which means that any individual decision that deviates from expectations is a chance to be proven wrong. Coaches who seek to chart a new path need to be successful over and over before their approach is considered valid if it rejects the knowledge of the past. To this end, one of the coaches who uses divergent strategies most often in the current NFL is Bill Belichick, who also happens to be the most successful current coach (Goff, 2018). Although tracing the causality of the relationship would be exceptionally difficult, his status as a famous, successful coach offers him the opportunity

to do things others cannot. More directly, he is unlikely to be fired for a given decision, while a less secure coach or general manager may be sanctioned for deviating from expectations. Then, once a valorized, successful person proves an approach is better, others can pick up and help popularize a new meta.

In the case of video games, individual players are unlikely to be able to run in the face of a dominant meta without significant reputational cost. Although top teams may be able to demonstrate a new path, rank and file players are often held captive by the meta that expects them to simply know what is best or face a social cost for their ignorance or desire to be different.

Traditional sports offer a model of how the meta can changes games, shifting how they get played and structuring the choices that are made. This balance is both about what is seen as successful and appropriate and also about the normative judgments made by the community to enforce and regularize the meta. Taking this analysis into a discussion of esports requires a discussion of analytical method.

Rhetoric and Method

Communication studies based rhetorical analysis is an incredibly flexible approach for analyzing moments of discourse and seeking to understand what is happening in those cases. Fundamentally concerned with the questions of 'what's going on' and 'so what,' analysis in this manner is intended to help us understand systems and structures at a deeper level (Zarefsky, 2008). Predicated on the notion that all things are rhetorical and that words we use shape the way we see the world, rhetoric in video games also included elements like game design and the procedures within games (Bogost, 2007; Campbell, 1970; Paul, 2012; Schiappa, 2001). In the case of this essay, analyzing the discussion around and establishment of various metas offers an

opportunity to understand how activities in esports help structure and guide play throughout a game's environment.

Given the length of this essay, focus is placed on the role of the *Overwatch* League in structuring discourse surrounding the game as a whole. Through the prominence of the GOATS or triple-triple strategy and the counters that players sought, the establishment of a meta in esports redefined the game, limiting play, and leading to ongoing responses by players and developers that generally attempted to disrupt an unpopular meta. Texts for analysis were generated by focusing on official Blizzard communication about the league and other commentators who analyzed the trends in league play and its impact on viewership and the play of people outside of the esports league.

Overwatch and The Meta

The *Overwatch* League is notable in part because of its direct connection with the game's developer, Blizzard, and in its clear attempt to parallel certain aspects of traditional sports. From the city-based teams to the funding sources for teams, which have a mix of ties between esports and traditional sports, the *Overwatch* League is a key surface on which to trace how metas impact and structure play.

In its first two seasons, *Overwatch* League consisted of series of stages that ended in a round of playoffs to crown the top team. This approach meant that there were teams that were more successful in the stages and others that were victorious in the playoffs; in the first year the New York Excelsior were dominant in the first three stages, winning two, then suffered an early elimination from the playoffs after being swept out by the Philadelphia Fusion.

The established meta shifted over the course of the season, as changes made by Blizzard altered the terrain of play and what

tactics and approaches would be most likely to meet with positive results. In a season one recap the official YouTube account for the *Overwatch* League defines the term 'meta' as "the tactical picking of certain comps [compositions] of heroes" and then explaining how patches that are rolled out throughout the season mean that "the meta changes with the game"(Overwatch League, 2019). Over the course of the first season, the meta was dominated by Mercy in Stage 1, Widowmaker in Stage 2, Tracer in Stage 3, and then the meta shattered in Stage 4 with the release of a new character, Brigitte Lindholm (Labarca, 2019).

Over the course of the first season, Mercy went from being picked in 96% of matches and serving as the cornerstone of what was called a "dive meta" to suffering a nerf before Stage 2 that relegated her to position as a much lesser choice. The introduction of Brigitte was specifically designed to counter the dive meta that started the season, but led to the solidification of a new approach.

Nearing the end of the first *Overwatch* League season, in a separate, small tournament, a team named GOATS dominated after an early loss rolling to a tournament win with the composition discussed above, leading to their triple-triple style gaining "notoriety as a low-skill/high-reward strategy" (Bray, 2019). The problem is that the approach is largely reviled, as it is not perceived by the community as fun to watch and, when one team runs it, the other is placed in a position where their best choice is to use the same approach or choose a highly-specific counter composition (Grayson, 2019b). The dominance of this particular meta means that every team is placed in a position where they are effectively being assessed on their ability to play this particular version of *Overwatch,* even as the developers make changes in an attempt to shake up the meta (D'Orazio, 2019). In Stage 1 of season two, the five characters that make up the core of GOATS all saw usage rates above 83%, with the sixth

just under 70% and 16 characters at 5% or less (Trautman, 2019a).

Heading into Stage 2, one commentary on the game noted that the changes Blizzard was announcing showed how they were "not messing around with their attempts to shake up the meta, as Stage 2 will see plenty of changes to the game" (Hartling, 2019). From the introduction of a new character, Baptiste, to being played on "one of *Overwatch's* most aggressive balance patches to date," the end result was more about small adjustments to individual team play styles than a wholesale change to the meta (Trautman, 2019b).

The stakes and dominance of the meta are important for three key reasons: the impact on the broader community of the game, the effect on pro players, and Blizzard's desire to define how their game works and what that indicates about esports more generally.

The dominance of GOATS necessarily dictated discussion in the broader community of *Overwatch* players as commentary focused on certain heroes, team composition, and playstyle. As one critique of the strategy notes, the growing prominence in professional play lead to a change in how the game was played "Across all levels and all elos [a measurement of skill], expansive DPS was spurned in favor of close-counter TripleTank brawls" which were less aesthetically pleasing, as the dive meta "was a leopard skillfully pouncing on a wayward gazelle,' while mirror GOATS matches look like "two river hippos wrestling for the last puddle of mud" (Bray, 2019). Going into games, players expected others to conform to their expectations of the perceived optimal approach to the game.

In an interview about the establishment of GOATS as meta, game director Jeff Kaplan argued that players will always grow to despise a meta, but in video games cannot avoid them as

"players always want to play optimally" and changing the meta either requires action by Blizzard or a new, better answer found by players (Grayson, 2019a). Kaplan also contends that while most players may be attempting to play the dominant strategy, they are unlikely to have the skill to execute it. As Nathan Grayson summarizes in his interview with Kaplan "They might be picking the same characters because they've heard that GOATS is powerful, but they're not actually executing the strategies that would cause that team to actually dominate" (Grayson, 2019a).

Beyond the impact on the millions of rank and file players, establishment of a meta also has a dramatic impact on professional players as certain characters go in and out of fashion. Players that were dominant under a meta where their favored character was powerful may slip into fringe status when forced to play a character they are not as good at. A summary of the impact of changes in season 2 concludes by stating that "For all the players in the OWL [*Overwatch* League], it is vital that they find their place in the changing meta. Those who are falling behind must actively adapt; the previous meta that suited their strengths is now gone and they don't have much time to find their place in the new one" (Jang & Paek, 2019).

The role of the meta and the expectation that players should always seek the optimal approach means that a meta is always already solidifying and inherently limits how to play a game that has professional players modeling the 'best' way to play. In attempting to copy their approach, the rank and file fall victim to an ethos of optimization, while professional players are subject to the whims of a game developer that could turn them from an MVP to an unknown or vice versa.

Metas presume that there is an answer, one that can be divined, copied, and put into practice. And, with an overarching focus on systems, skill, and eliminating the role of luck, esports are a

leading force in defining how video games should be played, even if only a tiny fraction of players are able to compete on the same level as the pros they watch in events like the *Overwatch* League.

Conclusion

Esports, optimization and video games operate within a larger rhetorical context that shapes how they impact structures of play. As an example, one of the smaller changes announced for the second stage of the second season was to get rid of coin flips for seeding, a decision spurred by an "uproar [that] came over Twitter" when it was used at the end of Stage 1 and was praised as "anything that avoids complete luck will be welcomed" (Hartling, 2019). The role of the meta in a game like *Overwatch* demonstrates how video games are treated as puzzles to be solved, forcing players to conform or fall behind.

Similar dynamics exist in traditional sports, as leagues see styles of play come and go and adapt rules to stop some approaches and encourage others, but there is typically far more variance in the style of play and less of a focus on a singular set of tactics.

Although watching professional play necessarily demonstrates a level of exceptionalism that will never be matched by most, yet still likely serves as a model for many, the intersection of esports and dominant metas limits play, creating a box of expectations all players are placed in whether they are good enough to execute that approach or not.

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CHAPTER 18.

PANEL: NAVIGATING UNIVERSITY STAKEHOLDERS

AJ DIMICK, GLENN PLATT, AND MARK DEPPE

ABSTRACT

Large universities are enormous enterprises with long histories, proud traditions, and institutional bureaucracy. Esports programs represent new directions, opportunities, and challenges for universities as they look to innovate with fledgling esports programs. Esports program directors have had to understand the power structures on campuses and work with many stakeholders to seek support and approval for creating these new initiatives. As more schools consider adding esports, each will need to consider the many stakeholders including students, faculty, alumni, athletics, communications, legal, admissions, IT departments, and many others.

This panel consisted of some of the key early adopters of collegiate esports from the University of Utah and Miami University (Ohio) who have successfully built highly-respected programs. The panel began with short overview presentations from both AJ and Glenn as they shared basic information about their esports programs and what they

do. The panel then went through some of the common and uncommon questions that are frequently asked.

Panelists

Mark Deppe led the effort to create the award-winning esports program at UCI that boasts a 100% graduation rate. Working closely with student leaders, administrators, faculty, and industry partners, Mark built a business plan that is both cost-neutral to the university and that broadly approaches the world of esports through the five pillars of Competition, Research, Community, Entertainment, and Careers. Mark was selected to serve as the inaugural commissioner for the North American Scholastic Esports Federation, helping connect learning to student interests.

CHAPTER 19.

ESPORTS ONLINE VIEWERSHIP

THE INFLUENCE OF PUSH AND PULL FACTORS

TYREAL YIZHOU QIAN AND JAMES JIANHUI ZHANG

ABSTRACT

In light of a growing spectator market, the esports industry has committed considerable effort and resources to satisfy fans' increasing needs for esports media services and products. In the current study, we adopted the push and pull framework to explore and understand how distinct social, cultural, psychological, and environmental factors would impact esports online viewership. We surveyed a convenience sample of esports online viewers (N = 1,306). Results showed that both push and pull factors should be considered equally important and relevant in esports online viewership albeit they exerted different levels of influence on esports consumption behavior. The findings highlighted the necessity of considering pull factors that have not received much research attention. This study made initial efforts to help decipher the appeal of esports online viewership and provided critical insight into potential business opportunities.

Keywords: esports, online viewership, push and pull framework, new media

Introduction

Esports has undergone a profound transformation from a

participant-first activity into a popular spectator entertainment in the past few years, attracting more than 380 million people across the globe who watch esports on a regular basis (Steinkuehler, 2019). The rise of esports as a spectator phenomenon could be attributable to the enhanced access to professional competitions (Jenny, Manning, Keiper, & Olrich, 2017) and perhaps most importantly, the increasing availability of live internet broadcasts, also known as online streams (Sjöblom & Hamari, 2017).

Despite the growing research interest in esports online viewership, as reflected by an increasing number of studies that started to delve into this emerging topic (e.g., Hamari and Sjöblom, 2017; Sjöblom & Hamari, 2017; Qian, Zhang, et al., 2019), empirical work on why people tend to watch esports online, what unique characteristics of esports media services and products are essential to people's engagement in esports online viewership, and how different psychological, social, cultural, and environmental factors in esports online viewership could result in esports related consumption is still limited. Hence, in this study we attempted to identify and explore the influence of push and pull factors in esports online viewership through the lens of the push and pull framework (Dann, 1977). Data collected through a convenience sample (N = 1,306) were used for partial least squares structural equation modeling (PLS-SEM) analyses to investigate the impact of push and pull factors on esports consumption consequences.

Literature Review

The theoretical root of the push and pull framework could be traced back to the unconscious-thought theory (UTT) (Dijksterhuis & Nordgren, 2006). The UTT posits that the decision making, impression formation, and attitude formation of an individual may be realized through two distinct modes of thought: unconscious and conscious. The unconscious thought is

implicit, works aschematically, and takes a long time to form and change. Although unconscious thought is object or task-relevant, it occurs when one's attention is not focused on the object or task (Dijksterhuis & Nordgren, 2006, p. 99). The conscious thought, in contrast, is defined as explicit cognitive or affective thought processes towards an object or a task that occur while the object or task is the focus of one's conscious attention (Dijksterhuis & Nordgren, 2006, p. 96). Therefore, we argue that the idea of push and pull factors dovetails the concept of the UTT. Push factors in esports online viewership refer to the intrapersonal or interpersonal elements that people might not be consciously aware of, but might influence people's decision to consume esports, such as socialization, entertainment, competition, skill improvement, skill appreciation, and game knowledge (Brown, Billings, Murphy, & Puesan, 2018; Pizzo et al., 2018; Qian, Wang, Zhang, & Lu, 2019; Sjöblom & Hamari, 2017). Pull factors are defined as consumer demand factors related to features and attributes of event-based broadcasts and personality streams, such as player characteristics, event attractiveness, commentary features, stream quality, chat room, streamer traits, and virtual rewards that people consciously evaluate during their engagement in esports online viewership (Qian, Zhang, et al., 2019). As such, the push and pull framework provides two dynamics with which to decipher the influence of consumers' needs and wants, namely, innate motives, characteristics of esports competition, and provisions of streaming services, on esports consumption. Researchers in the field of tourism, hospitality, and sport management have found that push and pull factors were positively associated with consumer satisfaction, commitment, loyalty, supportive behaviors, visit intentions, WOM intentions, game attendance, and media consumption (Hsieh, Park, & Hitchcock, 2015; Leong, Yeh, Hsiao, & Huan, 2015; Wong, Musa, & Taha, 2017; Xu & Chan, 2016; Zhang & Byon, 2017).

In the current study, we postulated a structural model based on the push and pull framework and examined the extent to which push and pull factors would influence the consumption outcomes associated with esports online viewership. In particular, we tested how push and pull factors would impact the selected attitudinal and cognate constructs (i.e., game commitment and WOM intentions), as well as two behavioral constructs (i.e., watching and playing). We hypothesized that push and pull factors would positively influence commitment to esports games (Hypotheses 1 and 2), WOM intentions (Hypotheses 3 and 4), and behavioral outcomes associated with watching (Hypotheses 5 and 6) and playing esports (Hypotheses 7 and 8).

Method

A cross-sectional, non-experimental survey design was employed. A total of 1,622 participants representing 21 most popular esports games under five major esports genres (MOBA, FPS, RTS, Fighting Games, and SVGs) (Qian, Zhang, et al., 2019) completed the online survey. Participants had to be at least 18 years old, knew what esports is, and watched esports at least once a month. The survey was distributed through reddit; of the participants, responses from 313 individuals were removed due to failure to meet the stated requirements, resulting in the final sample of 1,309.

Measures

Items assessing push and pull factors were measured on a 7-point Likert scale based on previous studies (Qian, Wang, et al., 2019; Qian, Zhang, et al., 2019). Specifically, push factors included 18 reflective items measuring Skill Improvement, Skill Appreciation, Competitive Nature, Entertaining Nature, Game Knowledge, and Socialization Opportunity. Pull factors incorporated 21 formative items assessing Chat Room, Stream Quality, Commentary Features, Player Characteristics, Event

Attractiveness, Streamer Traits, and Virtual Rewards. In addition, items measuring Game Commitment (reflective), WOM intentions (reflective), and Watching/Playing Behaviors (two formative items; watching/playing hours and spending on watching/playing) were directly adopted from Qian, Zhang, et al.'s (2019) work.

Analysis

We used a formative measurement model and a PLS-SEM approach to test the structural relationships between the constructs of interest (Diamantopoulos et al., 2008; Diamantopoulos & Winklhofer, 2001; Hair, Black, Babin, Anderson, & Tatham, 2010; Hair, Hult, Ringle, & Sarstedt, 2016; Jarvis et al., 2003; MacKenzie, Podsakoff, & Jarvis, 2005; MacKenzie, Podsakoff, & Podsakoff, 2011). Procedures in SmartPLS 3.0 were conducted to test the structural model and verify the proposed hypotheses.

Results

All reflective constructs were evaluated and confirmed through exploratory factor analysis (EFA) and then confirmatory factor analysis (CFA). We assessed the validity and reliability of measures by examining the loadings of items on their intended underlying constructs, Cronbach's alphas, average variances extracted (AVE) values, and inter-construct correlations. The results demonstrated good psychometric properties for the reflective constructs.

Formative constructs were assessed following Hair et al.'s (2016) three-step procedure: (a) assessing convergent validity, (b) evaluating indicators' collinearity, and (c) analyzing indicators' relative and absolute contributions, including their significance. We employed a redundancy analysis to test constructs' convergent validity (Chin, 1998). The path coefficients linking the proposed formative constructs and the single item reflective

constructs ranged from .75 to .86, exceeding the threshold value .70 and exhibiting good convergent validity (Hair et al., 2016). As to multi-collinearity, we checked the formative indicator's variance inflation factor (VIF), which should be less than 5.0 (Hair et al., 2016). Results showed that VIF scores were between 1.08 and 3.39. Lastly, we examined the significance and relevance of the formative indicators through nonparametric bootstrapping of 5,000 resamples (Hair et al., 2016). It was found that all of the formative indicators' outer weights and loadings were statistically significant ($p < .05$), indicating they had sufficient relative and absolute contributions to their respective latent constructs.

28.2% variance of esports game commitment, 30.0% of consumers' WOM intentions, 3.0% of viewership related behavior, and 4.0% of game-play related behavior were explained in the proposed structural model. There was a significant, positive relationship between push factors and commitment ($\beta = .244$, $p < .001$), and between pull factors and commitment ($\beta = .381$, $p < .001$). Hypotheses 1 and 2 were supported, respectively. The model revealed a significant, positive relationship between push factors and WOM intentions ($\beta = .233$, $p < .001$), supporting Hypothesis 3. However, pull factors did not exert a significant, positive effect on WOM intentions ($\beta = -.015$, $p = .657$), leading to the rejection of Hypothesis 4. Additionally, we did not find a significant, positive relationship between push and pull factors and watching behaviors ($\beta = .056$, $p = .160$; $\beta = -.069$, $p = .096$). Thus, Hypotheses 5 and 6 were rejected. While push factors did not significantly impact playing behaviors ($\beta = -.050$, $p = .159$), rejecting hypothesis 7, pull factors had a positive, significant effect on playing behaviors ($\beta = .089$, $p = .023$), supporting Hypothesis 8. Finally, although not hypothesized, we found a few interesting mediated effects in the model. In particular, commitment was found to be a pivotal construct that mediated the relationship between push and pull factors and WOM

intentions, watching behaviors, and playing behaviors. Most of the insignificant or negative direct effects were converted into significant, positive total effects with the addition of commitment.

Discussion

This study adopted the push and pull framework originated from the UTT (Dijksterhuis & Nordgren, 2006) and addressed a call to encompass both unconscious thought and conscious thought processes to systematically examine the interconcept relations and effects (Zhang, 2015). In this study, we operationalized push factors as the composite of socio-psychological motives (e.g., skill improvement) and demonstrated that push factors had a direct impact on commitment and WOM intentions. Findings related to Hypotheses 1 and 3 support the influence of push factors on esports consumption outcomes.

Pull factors were conceptualized as an amalgamation of demand factors associated with features and characteristics of esports event broadcasts and personality streams (e.g., chat room). Findings related to Hypotheses 2 and 8 suggest that pull factors have distinct influence on esports consumption outcomes, specifically, positive effects on commitment and playing behaviors. While most existing studies primary focus on push factors (Funk, Filo, Beaton, & Pritchard, 2009; Funk, Mahony, Nakazawa, & Hirakawa, 2001; Lee, Seo, & Green, 2013; Pease & Zhang, 2001; Suh, Lim, Kwak, & Pedersen, 2010; Wang, Zhang, & Tsuji, 2011; Wann, 1995; Zhang et al., 2001), findings of our study introduce the concept of pull factors in the esports online viewership setting. Further, our study supports and extends recent research (Cianfrone, Zhang, Pitts, & Byon, 2015; Qian, Zhang, et al., 2019; Zhang & Byon, 2017) that indicates pull factors are equally important as push factors and have a complementary role in explaining consumer consumption behaviors. In the light of Zhang's (2015) inclusive approach to

capture consumers' needs and wants to the greatest extent, this study highlights the necessity to investigate not only those unconscious, intangible, and hedonic concepts, but also those conscious, tangible, and utilitarian constructs.

An examination of total effects also reveals interesting findings as push and pull factors appear to exert differing effects on watching and playing behaviors. The findings extend research by Sjöblom and Hamari (2017), Hamari and Sjöblom (2017), Qian, Wang, et al. (2019), and Qian, Zhang, et al. (2019) through the UTT processes, and propose a viable future research direction, i.e., the investigation of the core and peripheral features of esports online viewership.

Managerial Implications

Contrary to traditional TV viewership, esports online viewership is the exemplary embodiment of participatory online media. Online platforms such as Twitch have converted media producers and passive viewers alike into content creators (Cha, Kwak, Rodriguez, Ahn, & Moon, 2007). Learning from Fortnite's enduring popularity and the elevation of Tyler 'Ninja' Blevin as a mainstream celebrity, we argue that high-profile influencers are potential liaisons for brands to facilitate businesses' outreach to the esports community that might be otherwise reached through traditional promotion methods. Similarly, traditional sports leagues could utilize the emerging online platform to promote their products to the younger generation (e.g., cord cutters and cord nevers) by working with popular esports influencers, for instance, through co-streaming traditional sports games (Byrne, 2019).

Limitations and Future Research

Survey data were collected from English-speaking participants. Hence, the results might not be reflective of non-English speaking markets. Future research should cross validate the push

and pull model in other major esports communities, e.g., Asia (China, South Korea), Eastern Europe (Russia, Ukraine), and South America (Brazil, Chile), in order to provide a holistic understanding of esports online viewership. Furthermore, the current study did not examine the potential moderation effects of esports background variables on the relationship between the push and pull factors and dependent variables. Moving forward, it would be ample research opportunity for understanding esports online spectatorship given the different game preferences, watching and playing patterns, and spending intentions among spectators. For example, future study could delve into the potential differences in push and pull factors between casual viewers vs. die-hard viewers, casual players vs. avid players, and new esports fans vs. veteran esports fans. In traditional sport event attendance studies, spectators can be classified into die-hard and fair-weather fans as they demonstrate distinct socio-psychological motives and consumption patterns (Wann & Branscombe, 1990). In a similar vein, esports online viewers could be also categorized into different groups based on their fandom and examined accordingly as to how push and pull factors would have different impact on outcome variables.

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CHAPTER 20.

A STAKEHOLDER JOURNEY THROUGH THE BUSINESS ECOSYSTEM OF THE ESPORTS INDUSTRY

TOBIAS SCHOLZ AND BASTIAN KORDYAKA

ABSTRACT

The global phenomenon of esports has experienced exponential growth in recent years, gaining interest from the media, sports and technology industries. Being born digital, global and agile, competitive gaming appeals to a young and emerging audience, and therefore the management of businesses within the esports industry requires a unique strategy. Therefore, it is essential to understand the different stakeholders in the industry as well as the interconnection in the business ecosystem of the esports industry. These insights culminate in a business model network of esports.

Keywords: Esports, competitive gaming, strategic management, ecosystem, business model

Introduction

The world of esports or competitive gaming has grown exponentially in recent years (Taylor, 2012; Woodcock, &

Johnson 2018). There are many similarities with traditional sports and media businesses, but there are many differences, too, in the esports industry. With the absence of a standardized governance structure, esports is predominantly self-organizing and mostly business-driven. Primarily due to the young audience, the global approach, and the digitized environment, the esports industry does not follow traditional business rules, but it becomes evident, that esports is business (Scholz, 2019). The esports ecosystem is, therefore, different from the existing business understanding. Primarily due to its time evolving on its own, the esports ecosystem has created unique business models that only partly follow the market logic established in traditional industries. Furthermore, every other sector may have an interest in investing in esports, leading to a situation where not only entrepreneurs are keen to participate, but also traditional media companies, sports organizations, or any other brand that may be interested in reaching a young audience. Consequently, there is an observable clash of business models, leading to a high degree of dynamism.

An interesting development can be observed in recent years. The esports industry is categorized as being entirely digital, global, and agile; consequently, esports organizations seem like the "dream" organizations that is currently popular in modern management literature. They are capable of combining the challenge of digitization, globalization, and agility; many traditional organizations seek to become more digital, more global, and more agile. Interestingly, the central struggle of the esports industry is the lack of structures, regulation, and governance. So, there is an interesting paradox to observe. Everybody is moving toward becoming more digital, more global, and more agile, while the esports industry is moving toward becoming more analog, more regional, and with greater institutionalization. It becomes evident that there is potentially too much digitization, too much globalization, and too much

agility. Surprisingly, we can observe a similar trend in other organizations, for example, Tesla, which recently stated that it has too much automation based on an extreme digitizing strategy: the product may be highly globally oriented, but, at the same time, the organization struggles to get the product sold globally, and the agility of Tesla is harming the production processes (Allen, 2018). Tesla and the esports industry highlight that a certain degree of face-to-face interaction (analog), local embedment (regional), and structures (institutionalization) will be necessary to deal with digitization, globalization, and agility. The esports industry could act as a compelling case for efficiently balancing both worlds, especially as the esports industry is moving in the opposite direction to most other industries. Therefore, it will be interesting to describe the esports phenomenon in detail: it will be analyzed in depth based on various theoretical frameworks rooted in strategic management theory. Especially as the esports industry is rarely researched from a business perspective, it is necessary to categorize the historical development, the multiple actors and stakeholders involved, the governing principles of the industry, the underlying strategy with a focus on the business model, and a potential look into the future.

Although the esports industry is currently hyped and some industry reports state that the revenue will explode in the coming years — for example, Berenberg noted that the revenue would rise to $20 billion in 2025 (Rosa, 2018) — the underlying industry has evolved slowly over time. As stated in the previous chapter, many actors are involved for decades. Some of the biggest names have their roots in the early 2000s. Furthermore, it is becoming evident that esports is a complex and highly interwoven system. Many of the actors depend on each other: without an esports title, no tournaments; without tournaments, no teams; and with- out teams, no audience that can cheer—or, in business terms, be monetized. The interconnection is relevant

for an analysis of the eSports industry, as the focus is mainly on the stakeholders involved in esports. Stakeholders can be defined as "groups without whose support the organization would cease to exist" (Freeman, & Reed 1983, p. 89).

Esports Ecosystem

The esports industry with its various stakeholders can be seen as an interwoven network, where stakeholders need each other to work and to succeed. Although esports organizations challenge existing business models, they are part of the value creation. The esports industry is driven by innovations and technologies, but also by the interconnection of creative people trying to exploit technologies to the fullest. This unique setting, aligned with the start-up mentality and an understanding of interconnectedness, led to a distinct network of stakeholders. Although the esports industry is continuously evolving, the knowledge of being a network eventually to monetize the audience is still a driving force of every business model in the esports industry, as depicted in the following figure. This increased interconnection underlines the importance of a business model network in which the business models of every stakeholder interact with the other business models, leading to an increase in profitability throughout the system. The business model network thereby goes beyond the understanding of value creation based by the five forces defined by Porter (1985). The business model network focuses on value integration with an emphasis on cooperation rather than a threat. There are threats of new entries, buyer power, and supplier power, a risk of substitution, and competitive rivalry, but there is also a need for cooperation to utilize synergies.

Moreover, contrary to the five forces, there is also a certain synergy that allows strategic management, connecting the business models. Focusing on value integration, every single business model is linked with other business models in the

network, creating one combined business model network. This interconnection requires efficient use of dynamic capabilities (Teece, 2018). Therefore, every stakeholder will need to share some resources and potentially some sources of profit with other stakeholders to create a sustainable and thriving business model network in which they also have a thriving business model.

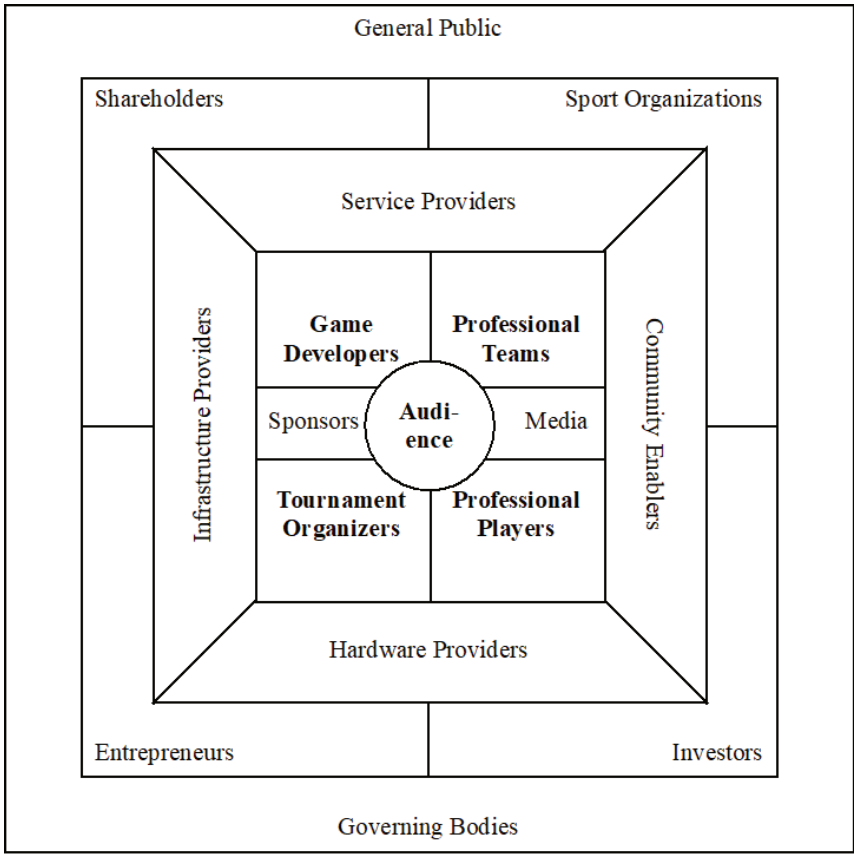

Figure 1: The Business Model Network of Esports

Most of the stakeholders evolved from within, and many early esports organizations emerged from people solely interested in playing games competitively. This first generation of eSports organizations had the chance to evolve without much interference from other organizations that may have an interest

in doing business in esports. This unique situation in an industry can be ascribed to the fact that eSports is difficult to measure in traditional business terms. Especially in the early 2000s, many organizations were struggling to find investors or sponsors, primarily because they were not able to show reliable numbers to prove their success (Cocke, 2018). Consequently, only a certain type of organization got involved in esports in the beginning, allowing this 'inner circle' of enthusiasts to evolve on their own and create distinct characteristics. Moreover, there was enough time to create a certain cultural understanding; it may even be the case that the esports industry is in a lock-in in terms of these cultural similarities, which may be difficult for outsiders to grasp, especially as they evolved globally and are shared by many stake- holders. Therefore, to understand the esports industry in its current evolution, Scholz and Stein (2017) distinguished the esports actors according to six fundamental characteristics.

- The people involved with esports are highly focused on goal setting
- The market's orientation is truly glocal
- Esports are oriented toward change
- Resources are allocated in a bottom-up fashion
- Participants are over-energetic, over-enthusiastic, and over-dynamic
- Digitization is integral to esports

The esports environment is highly complex and highly diverse. Many stakeholders are involved and are trying to foster growth for themselves, as well as for the esports industry in its entirety. Even though the surface may seem quite diverse, the invisible level shines through, and certain governing principles can be discovered. The assumption that there is a visible level consisting of symbols, rituals, and people, as well as the

assumption that there is an invisible level consisting of values, beliefs, and basic presumptions, is a prevailing theory concerning organizational culture. Schein's (1985) iceberg model highlights the importance of digging deeper into the culture of an organization. The basic underlying assumptions are difficult to decipher; however, they will influence the observable behavior and, even though they are unconscious, they are often taken for granted by the people involved in this organization. This understanding of culture can be translated to the esports industry, which has a distinct organizational culture. However, as it is a volatile industry, there are also shifts in these governing principles, as well as stakeholders revolting against these principles. Still, many behaviors of many stakeholders can be described by the following principles:

- Easy to learn, hard to master
- Shifting metagame
- Welcome to the Wild West
- Born digital, born global, born agile

Conclusion

The esports industry is a highly complex environment that is continually evolving. Based on this innovativeness, there are ground- breaking changes that disrupt the industry every five years or so. Furthermore, many external stakeholders invest in esports, creating a potential bubble, due to an overheated market. Such a development may result in a correction or a crisis, but it highlights the importance of creating a business model to monetize the audience. Besides the risk of not having a solid business model, esports organizations need to govern the risk concerning future developments related to franchising, new markets, new games, and an ongoing fragmentation of the esports industry. The esports industry will, despite any events, grow, though the composition of stakeholders may change.

However, the current bubble discussion highlights the importance for any organization to do their homework and create a strategy that tackles the challenge to design a sustainable business model.

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CHAPTER 21.

IS COGNITIVE INHIBITION AN INDICATOR OF EXPERTISE AMONG COMPETITIVE ESPORTS GAMERS?

ADAM TOTH, NIALL RAMSBOTTOM, AND MARK CAMPBELL

ABSTRACT

This study for the first time tested whether cognitive inhibition, the mind's ability to disregard stimuli that are irrelevant to the task at hand, and a known attribute of successful action video gaming (Castel, Pratt & Drummond, 2005; Kowal, Toth, Exton & Campbell, 2018), could be a marker of expertise among players of one of the most popular first person shooter esports, Counter-Strike: Global Offensive. Here we tested low, intermediate, and high ranked gamers and compared their performance on a color word stroop task and also compared the performance of players in each gaming rank group to non-gamers. We found that when considering both accuracy and response times, elite gamers performed significantly better than both intermediate and low ranked gamers on the simple choice reaction time condition (Accuracy, $p<0.025$; Response Time $p<0.001$) and significantly better than intermediate ranked gamers on the incongruent condition (an measure of cognitive inhibitory ability)(Accuracy, $p<0.001$; Response Time $p<0.001$).

Introduction

Competitive video gaming, or esports (electronic sport), is a phenomenon that has grown dramatically over the past decade. From the development of professional gaming leagues, to the staggering numbers of spectators drawn to watching players compete, to the ever rising revenues every year, esports are solidifying their place in competitive sport culture (Wagner, 2006). Typically, sport involves the display of elite physical and cognitive skill in competition for entertainment purposes (Campbell, Toth, Moran, Kowal & Exton, 2018). However, where traditional sports to a great extent rely on the development and performance of complex motor skills for success, gamers seem to rely more on cognitive skills (Himmelstein, Liu & Shapiro, 2017). As society continues to rely on digital technology for their entertainment, platforms such as twitch have revealed the immense popularity of watching elite gaming across the world. As we enter what may be the era of the cognitive athlete, the scientific investigation of esports must continue to grow.

Previous research on video gaming has debated numerous topics including the potential negative effects of action video gaming on behavior (Ferguson, 2007) and the effects of screen time on our physiology (Swing, Gentile, Anderson, & Walsh, 2010). However, a growing body of research has emerged demonstrating the benefits of video games for cognition. For example, a meta analysis conducted by Bediou and colleagues (2018) demonstrated positive effects of gaming on cognitive abilities such as spatial memory, multi-tasking and inhibition. Moreover, recent evidence has demonstrated that when compared to non-gamers, action video gamers display enhanced cognitive ability when evaluated using standardized cognitive measures of processing speed, visual search and response inhibition (Kowal, Toth, Exton & Campbell, 2018). However, despite the recent evidence in support of the effects of gaming

on cognitive ability, no research to date has investigated whether superior cognitive ability is a hallmark of elite gaming performance.

Counter-Strike (now Counter-Strike: Global Offensive; CS:GO) is a first person shooter computer game that has been one of biggest success stories for esports. Released in 1999, there have been a number of game releases prior to the current version and the game has been played professionally since 2012. In CS:GO, two teams of 5 players battle on a small map to either plant (terrorists) or diffuse (counter-terrorists) a bomb. Players are armed with weapons and while weapon proficiency is important, so are cognitive abilities like decision-making and response inhibition as friendly fire, an enabled feature of competitive CSGO, makes recognizing the difference between friend and foe crucial for success. Despite the fact that anecdotally, elite players have a learned understanding of some of the important fundamentals to play CS:GO at a high level, gamers at all levels tend to practice very little on those specific abilities but rather, simply play more matches (Campbell et al., 2018). By better understanding the specific skills required for success in esports, players would be better equipped to understanding areas of strength and weakness in their performance, which has the potential to completely alter how esports athletes train and align esports training with the type of training observed in traditional skill-based sports.

The purpose of this study is to determine whether the skill of cognitive inhibition is an indicator of elite gaming performance among players of the FPS game, CS:GO. To address this purpose, we will evaluate the color word stroop performance of ranked CS:GO players and determine if higher ranked gamers show superior cognitive inhibitory ability compared to those with lower game rank. We hypothesize that CS:GO players of higher rankings will demonstrate superior cognitive inhibitory ability compared to lower ranked CSGO players evidenced by

higher accuracy and faster response times, specifically on incongruent stimuli in the test.

Methods

Participants

One hundred and twenty-nine CSGO players (N=129; 126 Males, 3 Females) were recruited from attendees at the 2018 Gamescom and PAX gaming conference in Cologne, Germany and Melbourne, Australia respectively. Each provided informed consent prior to voluntarily participating in the study. The research ethics board at the University of Limerick authorized approval for the study in accordance with the Declaration of Helsinki.

Participants began by completing a survey that gathered demographic information regarding their age, sex, handedness and color vision. It also gathered data regarding their gameplay; including the average number of hours per week they estimated they spent playing CSGO and their current CSGO ranking. Following completion of the survey, participants sat in front of a computer with a 24-inch monitor, were instructed to wear headphones to reduce the volume of external noise and asked to complete a color-word stroop test.

Stroop Test

The color-word stroop test used in this study was administered using Inquisit 4 software by Millisecond. Participants were presented with either the word 'red' 'green', 'black' or 'blue' on a white screen in either red, green, black or blue colored font. In Congruent trials the printed word and the color it was printed in matched. Incongruent trials were those in which the printed word on screen and the font color it was printed in did not match. In addition to Congruent and Incongruent trials, Control trials were also included and consisted of a colored box presented on screen. In total, 7 trials of each of the 4 colors

within each condition (84 total trials) were presented randomly to participants during the test. In every trial, participants were instructed to respond to the color of the ink used to present the word or box on screen and not the written word on screen. Participants were instructed to respond as quickly and accurately as they could using the keyboard keys 'd', 'f', 'j' and 'k', which corresponded with answers red, green, blue and black respectively. To aid participants, the key bindings were indicated in 18% neutral grey ink along the top of the screen throughout the test (see Figure 1). For each trial, the response was recorded as well as the reaction time, in milliseconds, between the presentation of the stimulus and the participants' response.

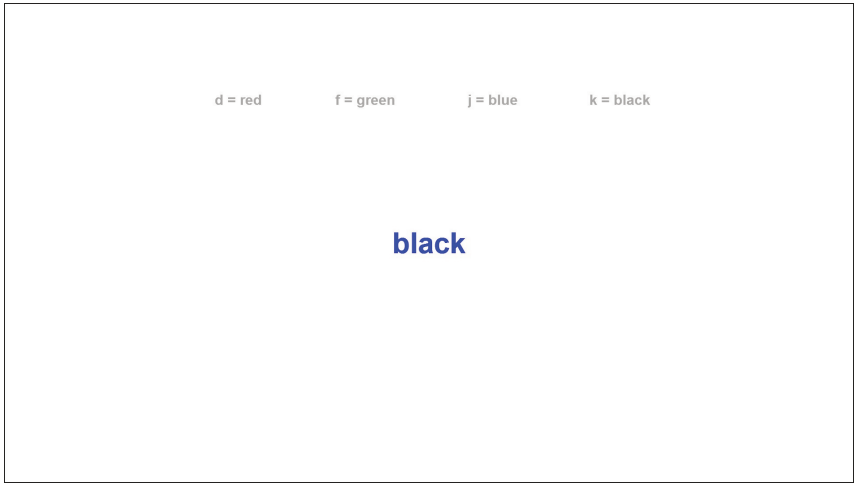

Figure 1: Example trial presentation during the color-word stroop task completed by participants.

Participants' data were excluded from analyses if they were under 16 or over 35 (n=7), indicated they were colorblind (n=8) or were left-handed (n=13). As evidence exists suggesting a female advantage on color-word stroop tasks (Golden, 1974) and due to our inability to compare male and female performance (low female n) we also excluded the data from the 3 females from further analyses. The remaining participants

were categorized based on their in-game ranking. In total, there are 18 CSGO rankings (see Figure 2). We grouped participants based on their individual CSGO ranking into one of three Rank groups. The Low Skill group consisted of gamers with rankings from Silver 1 to Silver Elite Master (n=12, Age=19.42 ± 3.44; Mean±SD). The Intermediate Skill group contained gamers with rankings from Gold Nova 1 to Master Guardian 2 (n=26, Age=20.46 ± 4.16). Finally, the Elite Skill group consisted of gamers between the Master Guardian Elite to The Global Elite rankings (n=60, Age=19.77 ± 3.84).

Figure 2: The 18 current competitive skill rankings for first person shooter esports game, Counter-Strike:Global Offensive (CS:GO).

Although previous work has determined that action video gamers possess superior cognitive ability compared to non-gamers, this work never compared non-gamers to gamers of a specific game nor has it evaluated whether only gamers of a particular ranking showed superior performance. In order to address these questions, we also included stroop performance

data from a group of Non-Gamers published in a previous study (Kowal, et al., 2018) and compared the performance of male participants in this group to the performance of ranked CSGO players. Data for trials across all participants were also excluded if the response time (RT) for that trial exceeded the overall average by two standard deviations. The average (±SE) percent correct and average (±SE) response times are reported for each condition and each rank group.

Statistical Analyses

In order to compare stroop performance between the three CSGO rank groups, we conducted 2-way ANCOVAs on both Accuracy (% Correct) and Reaction Time (RT; milliseconds) dependent variables with condition (Control, Congruent and Incongruent) and rank group (Non-Gamers, Low Skill, Intermediate Skill and Elite Skill) as independent variables. Previous work has demonstrated superior cognitive performance with greater time allocated to gaming. Therefore, the average number of hours reported gaming per week by participants was used as a covariate in in the ANCOVA. Post hoc analyses were performed with Tukey's correction for multiple comparisons and significance was determined at an alpha level of 0.05.

Results

Response Accuracy

Participants responded with accuracies of 94.4%, 95.3% and 91.0% on Control, Congruent and Incongruent trials respectively with response accuracy on incongruent trials being significantly poorer compared to those on control ($p<0.001$) and congruent trials ($p<0.001$). There was a significant interaction between condition and rank group on response accuracy when controlling for the average hours per week participants gamed for ($F(6, 1434) = 3.918$, $p= 0.001$, $h2=0.016$). Post hoc

comparisons revealed that Non-gamers were significantly more accurate than CS:GO gamers across all stroop conditions (Figure 3). Also, while no difference in accuracy was found between CS:GO rank groups for Congruent trials, Intermediate ($p=0.008$) and Elite ($p=0.025$) ranked CS:GO players were significantly more accurate than Low ranked gamers In the Control condition. In the Incongruent condition, Elite ranked gamers were significantly more accurate compared to intermediate ranked gamers ($p<0.001$) but not Low ranked gamers ($p=0.723$).

Response Times

A significant main effect of condition ($F(2, 1443) = 13.49$, $p<0.001$, $h2=0.018$) was found and post hoc comparisons demonstrated that although participants responded to congruent and control trials with average latencies of 778.939ms and 779.364ms, they took significantly longer to respond to Incongruent trials (855.683ms; $p<0.001$). There was also a main effect of rank group ($F(3,1442) = 17.962$, $p <0.001$, $h2 = 0.036$) whereby Non-Gamers were significantly slower than gamers in all CS:GO rank groups (Low; $p<0.001$, Intermediate; $p=0.027$, Elite; $p<0.001$) and Elite ranked gamers showed significantly faster response times compared to Intermediate ranked gamers ($p<0.001$).

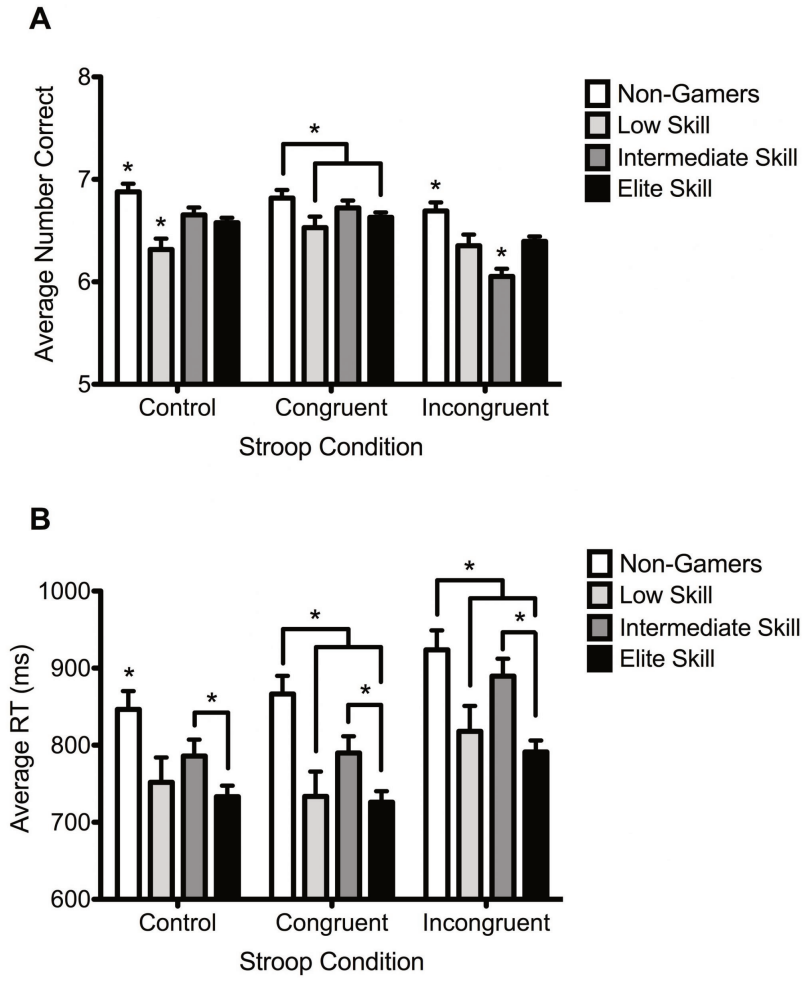

*Figure 3: Average number of correct respnses (A) and average response latencies in milliseconds (B) for Non-Gamer (white bars) and Low ranked (silver bars), intermediate ranked (charcoal bars) and Elite ranked (black bars) CS:GO gamers across Control, Congruent and Incongruient stroop conditions. Error bars represent ±SE. * indicates significant differences and ɤ signifies that the individual bar is different from all other bars within a stroop condition.*

Discussion

This study set out for the first time to identify whether a specific cognitive skill, previously suggested to be relevant for gaming

performance, could be a marker for rank in a prominent esports game. To do this we tested gamers of the FPS game, CS:GO, on a standardized color word stroop test and found evidence that elite ranked gamers show superior cognitive ability compared to lower ranked gamers. Specifically, we found that elite gamers have higher accuracy and faster response times for simple choice reaction time stimuli (control trials). However, where Elite gamers were far superior in their cognitive inhibitory ability compared to Intermediate ranked gamers, they did not significantly perform better on Incongruent trials when compared to Low ranked players. Finally, we corroborate previous work by demonstrating that gamers of all rankings prioritize speed over accuracy as a strategy when performing the stroop task.

Traditional sport science, motor earning and neuro-psychology research have identified the importance of identifying and training the individual fundamental skills required for high performance (Conte, Tessitore, Smiley, Thomas, & Favero, 2016; Mané, Adams, & Donchin, 1989; Boot et al., 2010). It is through the identification of an individual's competency with the many physical and cognitive skills required for elite sports performance that tailored training plans can be developed to more rapidly improve performance. In fact, this has been shown using a game developed for psychological research called Space Fortress (Boot et al., 2010). Previous research used this game to show that those players who practiced the individual skills of the game in isolation improved their in-game performance significantly faster and to a greater extent compared to those who spent their training time simply playing the game. In addition to improving individual performance, knowledge of the unique combination of strengths and weaknesses across skills for all players of a team allows for the development of superior strategies that utilise players to maximize strengths and mitigate the effects of weaknesses during matches. Currently,

very little research to date has attempted to identify the crucial cognitive and physical skills required for elite esports performance. Moreover, competitive players often cite their practice regimen to involve a steady diet of matches or scimmages to improve perfofmance with little to no objective approach to training the fundamental skills required for high performance at their chosen game (Hollist, 2015). As esports performance research grows and competitive franchises begin to identify player skillsets and alter training strategies to improve performance, we may observe a significant evolution in esports and the quality of play required to compete at a high level.

In this study, we focused on the cognitive ability of cognitive inhibition, which has been identified as a skill superiorly displayed by action video gamers when compared to non-gamers. However, previous research has often combined gamers of different action video game genres. Previously, Campbell and colleagues (2018) suggested that esports games or genres should be viewed separately from one another, similar to the differentiation of different traditional sports. Here for the first time, we examined the stroop performance of a homogeneous group of gamers of the FPS game CS:GO and compared their performance to a non-gaming sample. Moreover, we show that cognitive flexibility is a marker of in-game expertise as categorized by players' in-game ranking. The apparent importance of cognitive flexibility for CS:GO and first person shooter games in general may be tied to the importance of this cognitive skill for military personnel (Makhani, Akbaryan, & Cernak, 2015; Irgens-Hansen, Gundersen, Sunde, Baste, Harris, Bråtveit, & Moen, 2015). The scenario where distinguishing between friend and foe and deciding quickly and accurately whether to engage a target occurs regularly during CS:GO matches and often has a significant consequence to the outcome of a match.

This research is the first to attempt to quantify the influence that an individual cognitive skill has on differentiating players of different expertise level in a prominent esport. However, many more cognitive and physical abilities are also likely to display as indicators of performance and by identifying the key skills and attributes that differentiate esports players of different expertise, we may better understand how to develop training programs and in-game strategies to improve the probability of success for these individuals. To determine additional cognitive abilities associated with esports expertise, we may look to previous research that has identified specific cognitive abilities that are enhanced through gaming or which gamers show superiority with compared to non-gamers. For example, the meta-analytic work by Bediou and colleagues found that gamers were superior to non-gamers in the cognitive domains of inhibition, verbal cognition, perception, top-down attention and spatial cognition (Bediou et al., 2018). These findings are supported by experimental work showing gamers possess enhanced spatial memory (Clemenson & Stark 2015; Bonny, Castaneda, & Swanson, 2016) as well as visual attention and processing speed (Kowal et al., 2018) compared to non-gamers, but also that some of these cognitive aspects can be improved by gaming (Green & Bavelier, 2012; Boot, Blakely, & Simons, 2011; Green, Li & Bavelier, 2010).

In addition to the cognitive skills that may mark performance, there remains a gap in esports performance science highlighting the physical skills and attributes that highlight expertise within different games. For example, it has been well established that elite players of the game *Starcraft* possess a unique ability to output a significantly higher number of actions per minute compared to low ranked players and non-gamers (Hotz, 2012). In CS:GO, players have highlighted skills such as 'flicking' and 'tracking' to be key mouse control skills allowing players to hit and kill targets with the greatest speed and efficiency. However,

no research into the biomechanical and motor control skills displayed by elite esports players has been conducted to date and the area would immensely benefit from experiments that aim to quantify the magnitude of effect that different physical skills have on gaming performance.

While we do find that, among our sample of CS:GO players, elite ranked gamers perform superiorly on the Stroop task, they do not significantly out-perform the lowest rank group. This may be due to a differential influence that the many esports skills have on one's performance as they gain expertise in the game. For example, a lack of expertise across a number of mechanical skills using their mouse and keyboard may more strongly differentiate low from intermediate rankings. In this way, low ranked players may be more largely differentiated in game by their physical rather than cognitive ability. As mechanical skill develops and becomes less influential on overall ranking differences among intermediate players, perhaps cognitive abilities such as cognitive inhibition become more important and thus, the main obstacle for those unable to achieve an elite ranking status. In order to address this hypothesis, we recommend future research to identify the likely many more cognitive and physical markers of esports expertise, particularly in FPS games, and establish the other skills that differentiate specifically low ranked gamers and those in both intermediate and higher rankings.

Overall, this study for the first time has demonstrated that a cognitive ability shown to be enhanced in action video gamers can be used as a marker of expertise in players of the prominent FPS game, CS:GO. However, further research is required to identify the other essential ingredients required within the recipe of successful esports performance. It is our hope that the current study helps to accelerate a new and emerging body of esports performance research that aims to revolutionize the

methods used by gamers to train and prepare for elite competitive esports competitions.

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CHAPTER 22.

GAMERS ARE LESS SUSCEPTIBLE TO A COGNITIVELY FATIGUING TASK COMPARED TO AGE-MATCHED CONTROLS

ADAM TOTH, NIALL RAMSBOTTOM, AND MARK CAMPBELL

ABSTRACT

Previous work shows that esports (particularly action video games; AVGs) place high demand on a number of cognitive abilities. Further work has demonstrated that this use of cognitive function manifests in the ability of AVGs to outperform non-gamer controls on a number of cognitive tests. With the large demand on cognitive resources over what can be long periods of time (i.e. over 2 hours) during gaming, we hypothesized that AVGs may have greater resistance to the effects of cognitive fatigue. To test this, we recruited a group of AVGs and Non-Gamers and randomly allocated them to a cognitive fatigue group or control group. Our results show that AVGs who underwent the cognitive fatigue intervention actually improved their performance on the cognitive tests more than AVGs in the control condition and NGs in both the control and cognitive fatigue conditions.

Introduction

Electronic sports, or esports, are sporting activities where

individuals develop and train mental and physical abilities through the use of computing technologies (Wagner, 2006). Participation in esports has grown exponentially over the past decade and psychologists have recognized the potential positive impact of action video games on cognitive ability (Campbell, Toth, Moran, Kowal & Exton, 2018). For example, previous work has shown that individuals who play action video games display superior visuospatial attention under divided attention, superior attention allocation, and greater short-term memory capacity (Green & Bavelier, 2003), as well as enhanced processing speed and cognitive inhibitory ability (Kowal, Toth, Exton & Campbell, 2018).

Like any sport, in order to achieve a high level in esports, gamers must devote many hours on their PC to hone their skills. However, with the level of ease one can practice and play esports compared to many traditional sports (i.e. as simple as turning on a computer in the home and playing), it is very common for action video gamers (AVGs) to report gaming for more than 30 hours per week with some individuals reporting 80 hours allocated to gaming per week (Griffiths, Davies & Chappell, 2004). This prolonged period during which cognitive resources are taxed may increase cognitive load and fatigue, which has previously been shown to hinder cognitive performance (Boksem, Meijman & Lorist, 2005).

With this in mind, the question of whether AVGs are as susceptible to cognitive fatigue as NGs, or whether AVGs possess superior resistance to mental fatigue comes to the forefront. If AVGs are equally susceptible, it may be that new training and gaming practice regimens be implemented to control gaming time to maximize performance. This study aims to evaluate whether AVGs are more susceptible to cognitive fatigue compared to NGs. We hypothesize that AVGs will show similar decrements in cognitive test performance following a mental fatigue protocol to NGs.

Methods

Twenty-five male participants (N=25) (22.01; ± 2.95 years; Mean ± SD) from the University of Limerick student population with no history of neurological disorder provided informed consent prior to voluntarily participating in the study. The university's research ethics board authorized approval for the study in accordance with the Declaration of Helsinki.

Participants first completed a survey that gathered demographic information regarding their age, sex, handedness and color vision. It also gathered data regarding their gameplay; including the type of game genre they play the most (e.g. first person shooter games, massive online battle arena games etc.) and the average number of hours per week they estimated they spent on the game genre they played the most. Participants were then placed into an action video gamer group (AVG) if they reported playing more than 7 hours of action video games per week and a non-gamer group (NG) if they reported playing less than 1 hour of video games per week (Kowal et al., 2018).

Protocol

Following this initial survey, participants also completed the Brunel Mood Scale (BRUMS) questionnaire (Terry, Lane, Lane & Keohane, 1999) in order to quantify their current mood state prior to the start of testing. Following this, each participant sat in front of a 24 inch monitor with a consistent monitor refresh rate (144 Hz) and screen resolution (1920×1080), and completed 2 baseline tests of working memory using Inquisit 5.0 software by Millisecond; the corsi-block tapping task (visual and working memory; Kessels et al., 2000) and the Groton Maze task (immediate and short term visuospatial memory; Schroder, Snyder, Sielski & Mayes, 2004).

Corsi Block-Tapping Task

During this task, participants were presented with a screen of 9

boxes randomly allocated on a computer screen (Figure 1A). The boxes lit up in a pre-fixed sequence that was constant across participants. Participants were instructed to use the mouse to click on the boxes in the same order that they were lit. The sequence started at level 2 (2 boxes) and could increase up to level 9. Participants had two opportunities (2 trials) to respond to each sequence length and were able to move on to the next sequence as long as at least one of the two trials were responded to correctly.

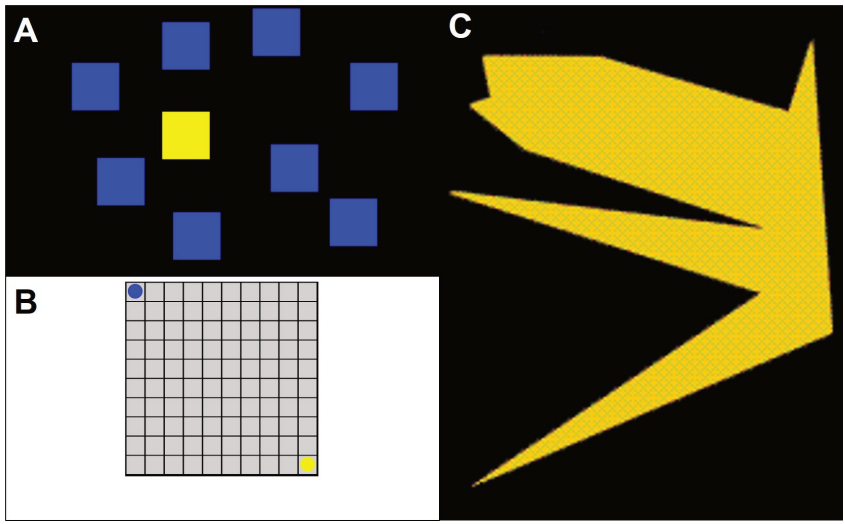

Figure 1: Layout of the Corsi Block-Tapping (A) and Groton Maze tasks (B) as well as one of the 8 sample shapes used during the N-Back task (C).

Groton Maze Task

Participants are presented a blank 10×10 grid and were asked to trace a hidden pathway by clicking on squares starting from the top left square to the bottom right square on the grid (Figure 1B). Participants could only move left, right, up, or down by one move at a time on the grid. After each move the computer indicated if the move was correct. If the choice was incorrect, the participant was required to touch the previous correct tile and then choose a different tile to continue. By default, the

pathway always included 28 total moves (not including the start square) and 11 corners. Participants were presented with the same hidden maze six times.

Upon completion of the baseline tests, each participant was randomly allocated to either an active or control intervention group. Those individuals in the active group performed a spatial N-back test for 25 minutes. The N-back task is a difficult working memory task previously validated as a sufficient tool to induce cognitive fatigue (Tanaka, Ishii & Watanabe, 2015). Twenty-five minutes was chosen based on pilot work to be a sufficient amount of time to create mental fatigue in participants and because it temporally aligned well with Tanaka and colleagues who showed strong evidence of cognitive fatigue after 30 minutes. Participants in the control group were provided a neutral documentary video on irish railways to watch for the same amount of time (25 minutes).

N-Back Task

During the n-back one out of a set of 8 yellow irregular shapes appeared continuously on a black computer screen every 3 seconds (Figure 1C). Participants were instructed to mentally note the shapes and hold them in their memory so as to identify if the current shape was the same as the one 1, 2 or 3 shapes back by pressing "A" on the keypad. If the shape was different, they did nothing. The test consisted of a 5 minute bout of practice consisting of one block each of 1-back, 2-back and 3-back stimuli followed by a 20 minute testing phase. In the testing phase, participants completed 6 blocks of 21 shapes; 2 blocks of 1-back, 2-back and 3-back, respectively. Participants were encouraged to maintain their focus during the entire task and to do as well as they could. They were also told that if they forgot previous shapes that, rather than giving up, they could start their memory process at any shape so as to continue their performance on the task.

Following the completion of the Control or Cognitive Fatigue interventions, participants the BRUMS questionnaire a second time followed by Post tests of the Corsi-block and Groton Maze tasks

Data Processing

Basline and Post scores were calculated separately for the BRUMs questionnaire, Corsi-Block Tapping and Groton Maze tasks. BRUMS Baseline and Post test scoring was performed according to (ref). Metrics for the Corsi-Block Tapping and Groton Maze tasks are outlined below.

Corsi Block-Tapping Task

The average latency to tap each block was calculated as the difference between the time of clicking on a box and the time at which the previous box was clicked. Memory capacity score was recorded as the highest number sequence successfully completed by a participant. In order to differentiate participants who may have achieved the same memory capactiy score by either responding to both trials correctly or one of the two trials of a sequence correctly, we also calculated the product of the memory capactiy and total number of trials correctly responded to (Total Score).

Groton Maze Task

The time taken to complete (TTC) the Groton Maze was calculated for each of the 6 Mazes in the Baseline and Post tests as the elapsed time from clicking on the first square to clicking on the last square in the grid. The total number of moves (Total Moves) is the sum of all correct and incorrect moves taken per Maze trial. Finally, we calculated the correct moves per second (CMS) as the number of correct moves (by default, 28) divided by the total time (in seconds) to complete the Maze.

N-Back Task

The number of hits, false alarms, correct rejections and misses were recorded. From these data, we calculated the average number of hits, average sensitivity (d') and decision criterion (c) for each block of n-back.

Statistical Analyses

Statistical analyses were performed using IBM SPSS Statistics v.25.0 software. After removing outliers (data points exceeding 1.5 times the inter quartile range) the Shapiro-Wilk test statistic and observation of the histogram plots verified the normality of the dependent variables. Two way (Gamer Type x Intervention) ANCOVAs were used to test for differences between groups for each Post test dependent variable, while controlling for respective baseline test performance for the BRUMS questionnaire and Corsi Block Tapping task (i.e. baseline scores were input as a covariate in the model). A three-way (Gamer Type x Intervention x Maze trial) ANCOVAs were used to test for differences between groups for each Post test dependent variable, while controlling for respective baseline test performance for the BRUMS questionnaire Where multiple post hoc comparisons were performed, the Holm-Sidak p-value adjustment was used. Effect sizes are reported using $\eta 2$ and results are reported as means ± SE with a significance alpha level of $p<0.05$.

Results

12 AVGs and 13 NGs were allocated to either the Control (6 AVGs; 7 NGs) or Cognitive Fatigue (6 AVGs; 6 NGs) intervention. AVGs and NGs who completed the N-back cognitive fatigue task did not differ in their performance when comparing sensitivity (d') and decision criterion values. (Figure 2).

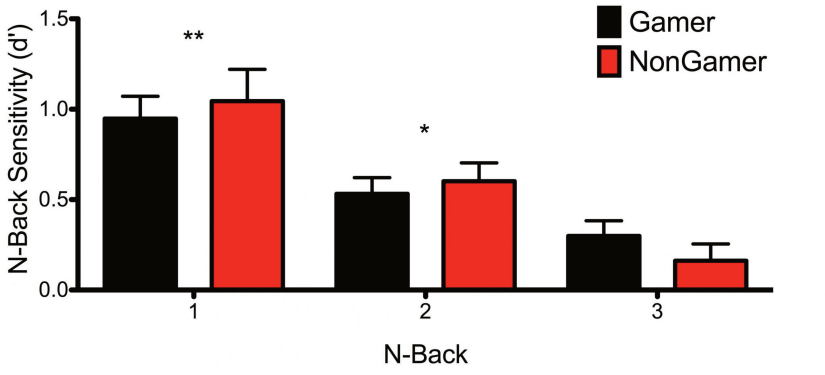

*Figure 2: Sensitivity scores (d') for action video gamers (AVGs; black bars) and Non Gamers (red bars) on 2, 3 and 4-back tasks. ** and * represent significantly different d' scores between 2, 3 and 4 back tasks. Error bars indicate SE.*

A significant interaction effect was found for BRUMS fatigue scores after controlling for baseline scores ($F(1,20)=9.233$, $p=0.006$, $\eta 2=0.316$). Post hoc comparisons revealed that NGs were significantly more fatigued following the N-back task compared to NGs who watched a video for a similar time period ($p=0.015$, $\eta 2=0.262$) and also that AVGs who performed the N-back task were the least fatigued of all the groups (Figure 3).

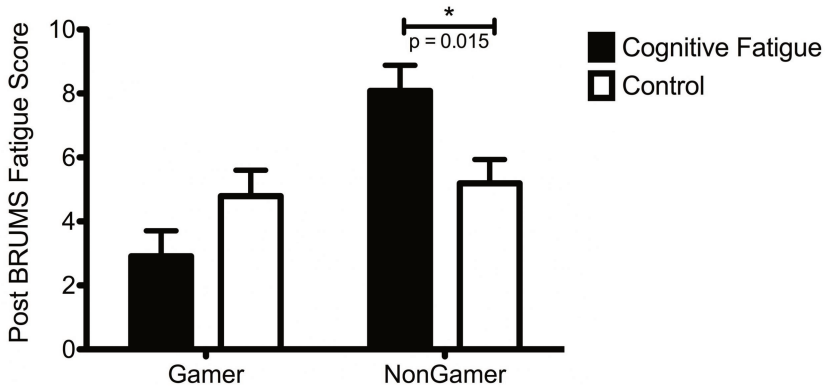

Figure 3: BRUMs fatigue scores for both AVGs and NonGamers who engaged in the cognitive fatigue (N-Back; black bars) or Control (Video; white bars) interventions. Error bars indicate SE.

Upon evaluating the total moves required to complete the Groton Maze task, we found significant main effects were observed for Gamer Type ($F(1,125)=8.569$, $p=0.004$, $\eta 2=0.064$) intervention ($F(1,125)=7.076$, $p=0.009$, $\eta 2=0.054$) and Maze trial ($F(5,125)=5.411$, $p<0.001$, $\eta 2=0.178$) after controlling for baseline scores. Data show that AVGs overall took fewer moves to complete the Groton Mazes and that participants who completed the N-back task took fewer moves compared to participants who watched the video (Figure 4).

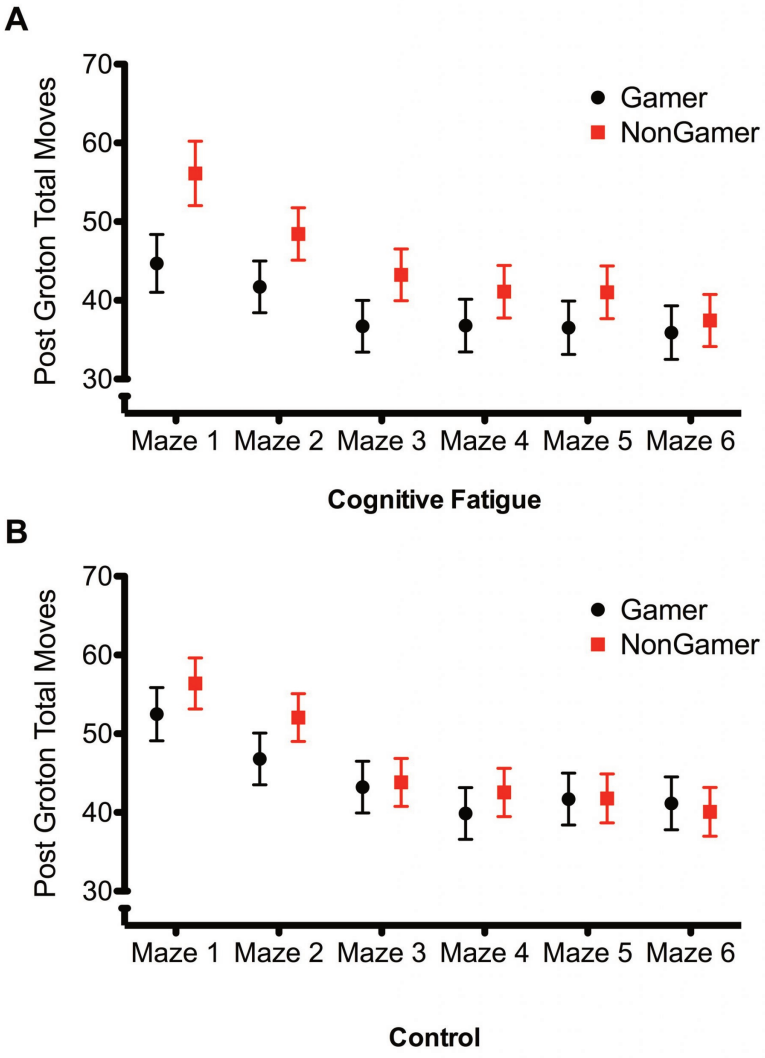

Figure 4: Total number of moves required by AVGs (Black circles) and Non-Gamers (red squares) across Groton Maze trials after either a cognitive fatigue (N-back; A) or Control (Video; B) intervention. Error bars indicate SE.

Similarly, we also found significant Gamer Type ($F(1,125)=12.364$, $p=0.001$, $\eta 2=0.090$), intervention ($F(1,125)=10.398$, $p=0.002$, $\eta 2=0.077$) and Maze trial ($F(5,125)=2.382$, $p=0.042$, $\eta 2=0.087$) effects for Post CMS after

controlling for baseline scores. Post hoc comparisons showed that AVGs made significantly more CMS compared to NGs and participants who performed the N-back task had significantly more CMS compared to those who watched the control video (Figure 5).

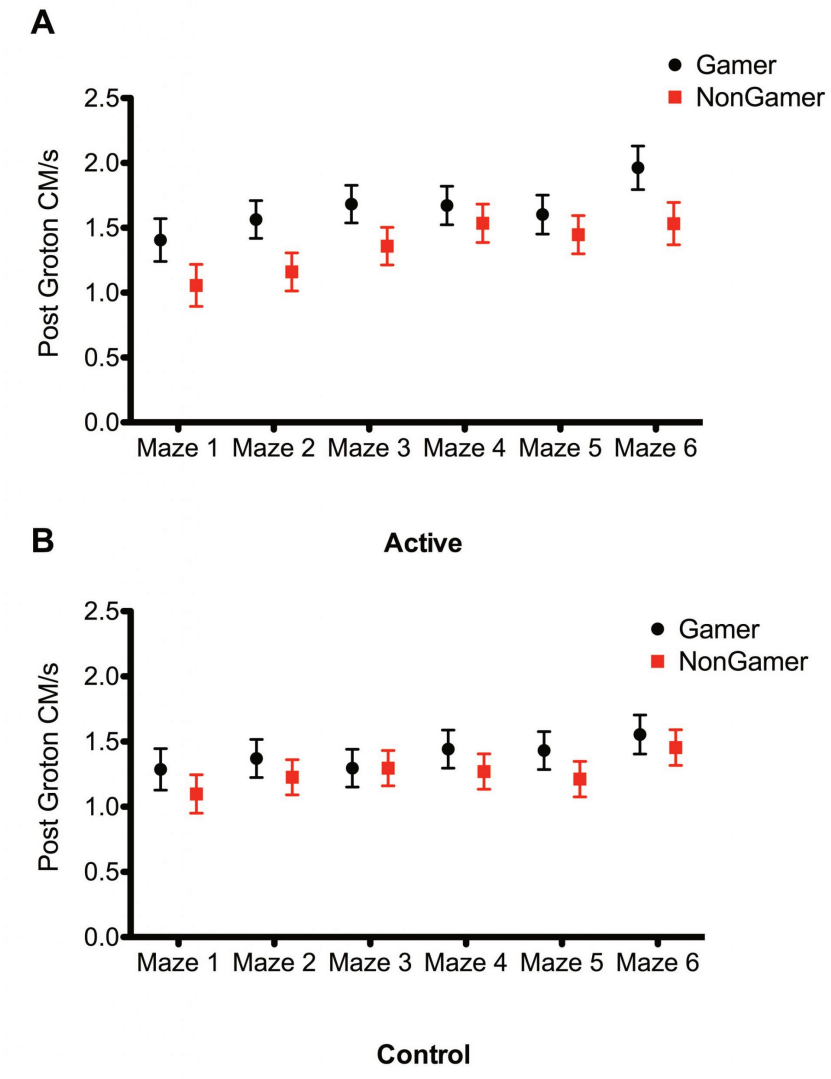

Figure 5: Correct Moves per second by AVGs (Black circles) and Non-Gamers (red squares) across Groton Maze trials after either a cognitive fatigue (N-back; A) or Control (Video; B) intervention. Error bars indicate SE.

When analyzing participants' performance on the Corsi Block-Tapping task, we found a significant Gamer Type by intervention interaction effect for participants' average latency ($F(1,20)=5.601$, $p=0.028$, $\eta 2=0.219$) after controlling for baseline

scores. Post hoc analyses revealed that AVGs who performed the N-Back task were responded to the corsi block task significantly faster than those who watched the video, whereas NGs who performed the N-Back task were significantly slower than NGs in the Control intervention group (Figure XXXXX). No main or interaction effects were found for either Memory Capacity or Total Score indices.

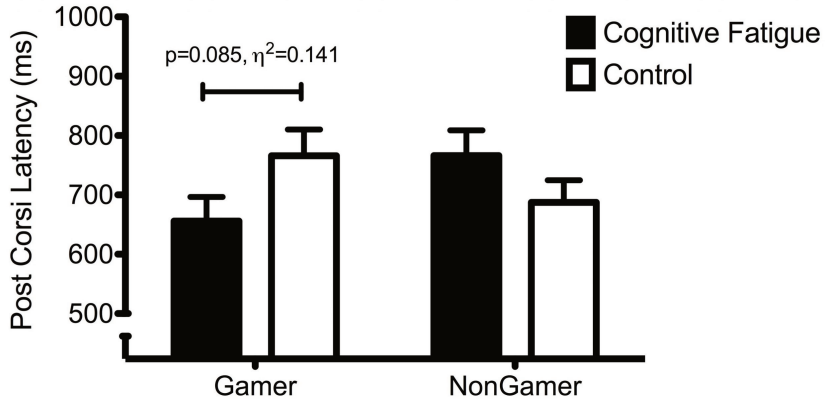

Figure 6: Average latency scores during Corsi Block-Tapping performance by AVGs and NonGamers who engaged in the cognitive fatigue (N-Back; black bars) or Control (Video; white bars) interventions. Error bars indicate SE.

Discussion

This study aimed to evaluate whether action video gamers were less susceptible to the effects of a cognitively fatiguing task compared to non-gamers. Contrary to our hypothesis, we found that AVGs who engaged in a cognitively fatiguing task for 25 minutes, were actually less fatigued based on their BRUMs fatigue scores compared to AVGs who passively watched a video for the same amount of time (Figure 3). Alternatively, non-gamers reported being significantly more fatigued after the cognitive fatigue task than when they passively watched the provided video. As a result, AVGs performed better after the cognitive fatigue intervention compared to the control

intervention whereas non-gamers performed more poorly. This was evidenced by Gamers after the cognitive fatigue intervention who recalled items more readily with no decrement in total memory capacity (Figure 6) and who also completed the Groton Maze task more efficiently across trials (Figures 4 & 5).

N-Back as a Cognitive Fatigue Tool

Previous work has demonstrated the N-Back task to be a sufficiently difficult task requiring sustained attention and tasking working memory for a long duration. Tanaka and colleagues (2015) demonstrate that following 30 minutes of a N-back task, participants report being significantly mentally fatigued via a visual analog scale and their MRI shows significant event-related desynchonization of the alpha frequency band in the visual cortex. Previous work by Tanaka has also demonstrated that cognitive fatigue induced by the N-back task hinders selective attention (Tanaka et al., 2012) and reduces alpha power in the occipital and parietal cortices as well as theta power over region Cz (Tanaka, Shigihara, Funakura, Kanai & Watanabe, 2012). This aligns well with work by Trammell and colleagues (Trammell, MacRae, Davis, Bergstedt & Anderson, 2017), who demonstrate that for younger adults, an increased theta-alpha ratio over Cz is associated with improved short-term memory performance. That Tanaka and colleagues see a reduction in theta power over Cz, may suggest that the cognitive fatigue effects of the N-back predominantly affect memory processes.

In the current study, non-gamers performed more poorly on the Corsi Block-Tapping task and Groton Maze task following the N-back intervention. Alternatively, AVGs' performance improved following the same intervention. The Groton maze task and Corsi Block-Tapping tasks test visuo-spatial working memory (Thomas et al., 2008; Furley & Memmert, 2010), which

is a key cognitive ability displayed during action video gaming. For example, Colzato, van den Wildenberg, Zmigrod and Hommel (2013) found that playing first person shooter action video games is associated with spatial working memory but not action inhibition performance. Moreover, West's group (West et al., 2018) recently discovered that AVGs who employ hippocampus-dependent spatial strategies during gaming show increased hippocampal and functionally associated entorhinal grey matter volume, and that controls who train on a 3D action video game can increase their spatial memory and grey matter volume in these regions as well. That AVGs' performance improves on these spatial working memory tasks following the N-Back intervention may be explained by the fact that the N-back task for AVGs serves as a kind of cognitive warm up.

A plethora of evidence exists that engaging in a cognitive task can improve subsequent cognitive test performance (Kesler et al, 2013; Foster, 2004; Wexler et al., 2016). Here, what may be a cognitively fatiguing task for Non-gamers, may serve as an ideal spatial working memory priming task for AVGs, especially since the N-back task chosen used abstract shapes as stimuli, which are 'stored' in similar brain regions as spatial (location) stimuli (Sanada et al., 2015). That cognitive priming may enhance subsequent cognitive performance in AVGs suggests that implementing a pre-gameplay cognitive warm-up regimen may enhance subsequent gaming performance, however this remains to be examined and we would encourage future work to examine whether priming other aspects of cognition improves subsequent performance on those abilities and whether the application of improved cognitive abilities through a warm-up during gameplay can improve overall gaming performance.

Overall, this study has demonstrated that AVGs are less susceptible to the effects of a cognitively fatiguing task on their subsequent cognitive performance compared to Non-gamers. Future work should expand on these findings and investigate

not only the effect of priming other cognitive abilities, but also should work to determine the differential mechanisms behind such cognitive improvements and decrements which follow the same cognitive intervention in AVGs and NGs respectively.

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CHAPTER 23.

POSTER ABSTRACTS

MINDSET TOWARDS FAILURE IN ESPORTS

Craig G. Anderson, University of California, Irvine
Constance Steinkuehler, University of California, Irvine

Video games, especially competitive games, are designed to challenge players abilities to their peak to test them against each other. These environments encourage players to have a close relationship with failure as players practice and hone their skills. Researchers widely accept that failure plays an important part of the game experience (Juul, 2013). Traditionally, how an individual responds to failure can be conceptualized by their level of mastery orientation (Dweck and Reppucci, 1973). Mastery orientation has been traditionally measured through self-report survey, role-play activities, and discourse analysis (Dweck, Chiu & Hong, 1995; Mueller & Dweck, 1998; Auten, 2014). To date, no studies directly observe the behaviors an individual takes directly after failing. This study aims to fill this gap in part through analysis of game-metric data collected from NASEF tournaments. Participants are asked to fill out a survey gauging their mastery orientation, allowing researchers to code their gameplay for actions that match a mastery orientation description. This research will provide a better understanding of how individuals react to failure in these challenging environments where failure is expected.

e-SpOrTs: THE NEED FOR MORE CRITICAL JUSTIFICATIONS FOR THE

ABBREVIATION OF "ELECTRONIC SPORTS"

Luis E. Pérez Cortés, Arizona State University

"It's 'esports' folks, not 'e-sports' or 'eSports,' and that's final" (Darcy, 2017). Across academic and non-academic groups alike, the burgeoning phenomenon of electronic sports has seen inconsistent ways of spelling the abbreviation of "electronic sports". Notable spellings include "esports", "eSports", "Esports", "ESports", and "e-sports". In response to this inconsistency, the Associated Press recently determined the "correct" and "final" spelling of this abbreviation. Although efforts to standardize this spelling do help lend legitimacy and consistency to the burgeoning phenomenon of electronic sports, I argue here that acceptance of any spelling—whether standardized or not—in an uncritical or unthoughtful fashion can be detrimental to future scholarship on electronic sports. This paper probes this "final", prescriptive decision and initiates a discussion of the constraints, affordances, and implications for future scholarly research on electronic sports when selecting one spelling over others with(out) due justification.

BUILDING A SCHOOL TO CAREER PIPELINE WITH ESPORTS AND GAMING CONCEPTS

Brooke Haag, Microsoft Education

Among our most important priorities, Microsoft Education wants to support great teachers and light up the future ready classroom. In conversation with educators globally, it has become abundantly clear that esports presents an amazing interest-based vehicle for learning that demands our attention. Our first foray into esports in education recently occurred with the launch of a new course on the Microsoft Educator Center by educators for educators: 'Building A School To Career Pipeline With Esports and Gaming Concepts'. The Microsoft Educator Center is a personalized platform where educators can learn and explore training and resources and earn badges and certificates. To date over 66,000 educators have engaged with this new esports course.

It has been a tremendous proof point and we are excited to empower and mobilize interested educators globally around esports. Now the question is how we might truly promote the goodness of esports in education at scale via partners, programs, and affordable, easy to manage technology.

COMPETITIVE PLAY, PHYSICAL EXERCISE, AND SCHOOL PERFORMANCE: CASE STUDY AMONG PRE-TEENS AND TEENS ATTENDING ESPORTS SUMMER CAMP IN FINLAND

Raine Koskimaa, University of Jyvaskyla
Valtteri Kauraoja, University of Turku
Veli-Matti Karhulahti, University of Jyvaskyla

Digital games have been considered harmful for the youth in many ways. One of these concerns is the reduced time left for school and healthy physical activities in return for non-ergonomic crouching over gaming controls and staying up late. On the other hand, the evolving esports scene has given rise to more organized and systematic training and playing, with an added emphasis on player wellbeing. So far, to our knowledge, the relationship between competitive gaming, physical exercise, and school performance among the youth has not been studied scientifically. Some research among high-level and professional esport players, however, has indicated that players on this level spend approximately 1 hour daily on physical exercise, and more than half of them (56%) believe that integrating physical exercise in training programs improves their competitive performance (Kari & Karhulahti 2016; Kari et al. 2019).

The present work-in-progress is based on mixed method data collected from an Esports Summer Camp in Jyväskylä, Finland (June 3–7, 2019). The attendees were 10-15 years old and partaking in two groups, one playing Overwatch and the other Fortnite. Local esports coaching company InCoach was responsible for the contents and running of the camp, and they had coaches for both teams with experience as professional players in the respective games. Questionnaires were given to the attendees (n=22) and half the

respondents were interviewed with a semi-structured approach as well (n=10). The results of the above serve two further aims in the future: we will conduct a longitudinal multi-year study with these and other young players aspiring to competitive esports careers, and a bi-annual national sports and physical exercise survey (n=4000) will be extended with gaming and esports related questions in the next round during Spring 2020.

The respondents were, as expected, avid players and online streaming spectators. At the same time, however, they also practiced many traditional sports and physical exercise. Their school performance was good. Esports and traditional sports were not mutually exclusive, but high interest in esports also indicated higher interest in traditional sports.

WHAT MOTIVATES ESPORTS

Je Seok Lee, University of California, Irvine
Constance Steinkuehler, University of California, Irvine

Motivation studies in esports research have been focusing mostly on consumption of esports, especially on playing or watching esports (Lee and Schoenstedt, 2011; Szablewicz, 2011; Sjöblom and Hamari, 2017). Beyond the consuming activity, the motivation of becoming a serious esports player as one's career (amateur or professional) has been less highlighted so far. In this study, we measure students' and staffs' motivation of participating in the NASEF league: motivation of playing in an esports league, playing as a club team, and working for an esports league. We implement a modified version of Lee and Schoenstedt's scale of 14 esports consumption motivation (Lee & Schoenstedt, 2011), which includes motivation factors such as entertainment, knowledge, control, identification with esports, design/graphics, competition, permanence, pastime, fantasy, social interaction, diversion, arousal, skill, and peer pressure. Esports as a career is still considered short and risky, and a lot of labor issues arise in entry

drafts and player protections (Funk et al., 2018). Exploring the earlier part of esports players' lifespan contributes to the guideline for young people who choose esports as their career.

COGNITIVE, PHYSIOLOGICAL, AND SOCIAL CORRELATES OF COMPETITIVE TOP 100 SUPER SMASH BROS. PERFORMANCE

Kyle M. Nolla, Northwestern University
Mark Beeman, Northwestern University
Paul Reber, Northwestern University

Competitors in esports require cognitive, physiological, and social resources to produce consistent top performance. This poster examines the relative influence of those resources. 30 Top 100 players from the Super Smash Bros Melee competitive community participated. All subjects filled out surveys on practice habits and relevant psychological characteristics like competitiveness, emotion regulation, and mindset. Subjects completed a cognitive battery measuring reaction time, working memory capacity, processing speed, and creativity. Physiological measures include salivary cortisol awakening response and at-tournament heartrate monitoring. Finally, an in-depth interview assessed social conditions that support top play from entry to professional status. In comparison to non-competitive Smash players, we found that professionals have more cognitive resources, more social support, and more accurate knowledge of their own skill; but professionals also have higher levels of depression and stress, fewer healthy emotion regulation skills, and less adaptive cortisol awakening response. Implications for esports cognition and industry are discussed.

SUPER SMASH BROS MELEE AS ESPORTS: THE HOLY TRINITY OF HARDWARE AND ACTIVE EMODIMENT

Abbie "spoopy" Rappaport, Concordia University

Super Smash Bros. Melee (SSBM), a platform-based fighting game for the Nintendo GameCube, is useful for thinking through the relationships between materiality, embodiment, and esports.

Mainstream media often regards esports culture in the context of high-tech instant access whereby players' bodies merge with or disappear in favor of the hardware on which they're playing. Competitive SSBM mandates the use of three essential and dated hardware objects: the CRT television, the GameCube or a software modified (modded) Wii, a common skill shared by Melee players, and the GameCube controller. Players' strict adherence to these three central hardware warrants a specific and strong sense of embodied experience of play exclusive to SSBM that are limited in other esports practises. SSBM's use of outdated hardware speaks to a reactivation and transformation of otherwise perceived archaic hardware, giving tools a competitive and a high-priority mandate, isolated from the mainstream discourse that frames newer technology as more desirable. Players' engagement and reuse of these hardware ultimately afford novel and customized embodied experience for a given player where individual bodies are felt present more than most other esports cultures.

PEER MENTORING IN HIGH SCHOOL ESPORTS

Jason G. Reitman, University of California, Irvine
Constance Steinkuehler, University of California, Irvine

Building on work that explores how interest in games can motivate community participation (Ito et al., 2010; via Squire, 2011), scientific literacy and habits of mind (Steinkuehler and Duncan, 2009), social and emotional learning (Hromek & Roffey, 2009), and peer mentoring between students (Goodrich, 2007; Leidenfrost, Strassnig, Schabmann, Spiel, & Carbon, 2011) we aim to better understand how peer mentorship of such behavior might develop in high school esports club teams. Goodrich (2007) defined peer mentoring in the high school club context to include behavior that helps peers increase achievement, build knowledge of the game, learn social skills, and support the leader or teacher. Our aim is to analyze in-game communications between players for language that indicates peer mentoring, like different kinds of feedback after a play. If the kinds of feedback between players correlate with how long the team has participated in NASEF's

program, we can infer that there is a relationship between NASEF's programming and its participants' peer mentoring each other.

FirstPersonScience: QUANTIFYING PSYCHOPHYSICS FOR FIRST PERSON SHOOTER TASKS

Josef Spjut, NVIDIA
Ben Boudaoud, NVIDIA
Kamran Binaee, NVIDIA and Rochester Institute of Technology
Zander Majercik, NVIDIA
Morgan McGuire, NVIDIA
Joohwan Kim, NVIDIA

In the emerging field of esports research, there is an increasing demand for quantitative results that can be used by players, coaches and analysts to make decisions and present meaningful commentary for spectators. We present FirstPersonScience, a software application intended to fill this need in the esports community by allowing scientists to design carefully controlled experiments and capture accurate results in the First Person Shooter esports genre. An experiment designer can control a variety of parameters including target motion, weapon configuration, 3D scene, frame rate, and latency. Furthermore, we validate this application through careful end-to-end latency analysis and provide a case study showing how it can be used to demonstrate the training effect of one user given repeated task performance.

EMOTIONAL MANAGEMENT IN ONLINE COMPETITION: ESPORTS AND TILT

Minerva Wu, University of California, Irvine
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The concept of "tilt" is a gaming term primarily associated with negative affect such as anger and frustration but can be used more broadly as an emotional reaction to in-game events that cause a deterioration in gameplay. Starting as an investigation into how

different games defined toxicity and how tilt impedes "playing well", this research explores social-emotional learning in a game context. Understanding how tilt is conceived and dealt with becomes an understanding of what it means to "play well" in a game community. The study will survey students and interview coaches to examine how players define tilt, behave when tilted, and coping strategies for dealing with emotions in games. Coaches will provide insight into how to best approach tilt and social-emotional learning within the team or club context. This poster compares different ideas of tilt in academic literature and layperson conception.

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