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Expertise in Professional Overwatch Play

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ABSTRACT

eSports is a rapidly growing phenomenon in competitive gaming. Expertise is an interesting topic to study in relation to eSports, as eSports athletes are considered among the most highly-skilled players of their particular games. Examining expertise not only advances the understanding of what skills compose professional play but enables a deeper study of learning in games; before learning processes are studied, it is important to detail what learning these processes should produce. This study examines expertise through the application of thematic analysis to a series of interviews with professional players of the eSports game, Overwatch. The goal of this study is to identify which skills are perceived to be important to professional-level play by professional players. Two overarching themes were identified, game sense and mechanics. A number of sub-themes were identified as important, including survival, anticipation / prediction, communication, thoughtfulness, aim, ability usage, movement and positioning, and team-based mechanical synergies.

KEYWORDS

Esports, Expertise, Game Sense, Games, Learning, Overwatch, Professional, Skills, Video Games

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INTRODUCTION

An expert is a person with above average ability, talent, or knowledge (Kirschner & Williams, 2013). The study of experts is not a new phenomenon and has received strong attention from the literature. However substantially less focus has been given to the study of expertise in games and research on expertise in esports is still in its infancy. This is problematic as expertise is domain-specific (Murphy & Alexander, 2002); while a professional football or American soccer player must be able to precisely control a ball with her foot and maintain an intense level of stamina, a professional basketball player would be penalized for foot control, and a professional chess player has little use for the type of physical stamina used in the aforementioned sports. Similarly, with esports, each game has different goals, rules, and affordances, in different settings, and with different control schemes. Players need to become proficient with manipulating the controlling mechanisms to react to specific timing structures in games (Egliston, 2007). Expert game players must master complex skills that work in synchrony with the game's mechanics (Thompson, Blair, Chen, & Henrey, 2013; Horn, Cooper, & Deterding, 2017). As researchers study the composition of expertise within a particular esport, they gain an understanding of the aspects which need to be mastered in order to be considered an expert. Once understood, these aspects enable the study of the processes required to develop that expertise, and also allow for cross-game and cross-domain study of the aspects and processes to better situate esports and players within the greater body of expertise research.

While much work remains, expertise research in gaming has progressed substantially since Sudnow's (1983) *Pilgrims in the Microworld*, an anecdote chronicling the author's journey from novice gamer to competent player in the Atari game, Breakout. Other early gaming expertise research examined expertise in video games, focusing on how video game-based expertise transfers to non-game-based tasks. For instance, both Sims & Mayer (2002) and Greenfield, Brannon, & Lohr (1994) examined how spatial ability in games translated to spatial ability outside of games.

Esports expertise research picked up in the late 2000s. Jakobsson, Pargman & Rambusch (2007) conducted interviews with professional Counter-Strike: Source players at the 2007 World Cyber Games. Although the article focused primarily on the transition from novice to professional player, it mentioned expertise within its analysis, citing the importance of team communication and adaptation to the enemy, and described the importance of both physical and mental aspects of game mastery.

Reeves, Brown, & Laurier (2009) also examined expertise in Counter-Strike: Source by proposing and analyzing two gameplay vignettes. The authors argued the importance of considering the player experience, and presented a set of features of expertise in Counter-Strike players, as a result of their vignette analyses. The authors recommended examining how these features remain or differ across expertise in other FPS games, or games of other genres.

Donaldson (2015) theorized about expertise in the Multiplayer Online Battle Arena esports game, League of Legends. This research provided an in-depth examination of

mechanical and metagame expertise. The author concluded that the development of metagame expertise is particularly important to expert play.

Castaneda, Sidhu, Azose, & Swanson (2016) used pre and post-play surveys in conjunction with eye trackers to study differences across players with a range of gaming experience. They found that novice players reflected more on concrete game elements, and were more likely to look at the same spot on the screen, twice in a row, when compared to expert players. While this was not a study of professional players, it did utilize the esports game, Defense of the Ancients 2, and yielded strong data on visual practices of players with high levels of expertise.

Other studies have examined expertise in games in other ways, such as using quantitative metrics to assess expertise in Tetrus (Lindstedt & Gray, 2013) or recording gameplay and asking the player to narrate his or her actions in World of Warcraft (Kirschner & Williams, 2013). While this research is quite valuable, there is still much that remains to be studied when considering expertise in modern esports, a topic that is likely to find its way into the public eye if the esports market continues its recent and continuous trend toward success.

Esports has experienced rapid growth in recent years (Hamari & Sjöblom, 2017). At over $99.6 billion in revenue in 2016, 8.5% higher than the previous year, these digital competitions have not only become popular, but have become lucrative (Armstrong, 2017). In parallel, the academic literature has recently strengthened its focus on esports, as evidenced by the third special issue of this journal dedicated to the topic. That is not to say that esports research has not been ongoing, but it has certainly achieved a stronger focus in recent years.

Professional esports athletes, as with any traditional sport, represent the highest tier of skill found within the player base. They practice for long hours (Collins, 2017; Kari & Karhulahti, 2016), learn the game in and out, and ultimately form their own strategies and new ways of playing the game in order to maintain an edge on their competitors. Expertise and learning, therefore, are at the core of an athlete's esports experience, and thus at the core of esports itself. The present study seeks to examine expertise in a modern esports game, *Overwatch*.

Overwatch

Overwatch is a competitive online multiplayer first person shooter (FPS) game where players form into two teams of six players each in objective-based play. Players choose from a large roster of playable characters, called heroes, who each have their own special abilities, strengths, and weaknesses. Hero selection can be changed at any point during the game as long as the player is in their team's spawn area. Each hero has a "primary fire" ability which is typically a straightforward attack or healing action (e.g., swinging a hammer, shooting a gun, extending a healing beam), and some heroes have a secondary fire ability which tends to be slightly more complex (e.g., hacking an opponent's abilities). Heroes also have other abilities which require a timer to count down before they can be used again (e.g., laying a trap). Beyond that, all heroes have an ultimate ability, which charges over time. These ultimate abilities

can turn the tide of the game, enabling a character to temporarily become an extremely powerful damage dealer or healer, or making enemies less effective or easier to attack (e.g., stunning all enemies in front of the user). These abilities are charged over time and can be unleashed once a meter reaches 100%. The required charge time can be reduced by damaging enemies or healing allies.

In addition to an expansive roster of heroes, Overwatch has several different game modes. This article focuses specifically on the competitive mode, which is composed of four different sub- modes – escort, assault, hybrid, and control.

Control is a classic king of the hill mode where two teams compete to hold a predefined location on the map. As a team holds the point, their progress bar progresses from 0% toward 100%. In order to capture a point, a team must have at least one player on the point while the enemy team does not have any players on the point. Once captured, the progress bar will increase at a steady rate until the opposing team captures the point. When a team's progress bar reaches 100%, they win the round; the first team to win two rounds wins the game.

The remaining modes assign each team to be attacker or defender. In assault, the attacking team must capture two different points, in sequence, while the defenders try to stop them by defending until a timer runs out. After the timer runs out or both points are captured, the roles switch. Whichever team makes more progress as the attacking team wins. Subsequent rounds are played in the event of a tie.

In the escort mode, the attacking team must move a payload toward a delivery point. The payload moves when attackers are in the vicinity of the payload and no defenders are present. The round ends when the timer runs out or the payload is delivered. Like assault, the teams then switch roles. Whichever team moves the payload furthest wins.

The hybrid mode begins as assault, where the attacking team must capture the payload, and ends as escort, where the payload must be delivered to the delivery point. Teams switch as in the other modes, and whichever team progresses the furthest wins.

Overwatch is a complex game with many layers of expertise. While the average experienced game player can pick up the game and perform the basic actions that are required to help her team win to some extent, there are many different aspects of the game that require experience and skill to execute effectively. While this can be said of other objective-based first-person shooter games, Overwatch expands upon the complexity by integrating a large roster of heroes that all have unique abilities, attributes, and roles.

It is important to note that not all players agree on the specifics of role categorization. While Overwatch separates the game's heroes into Offense, Defense, Tank, and Support roles, these are not absolute. It is quite common to see the sniper hero, Widowmaker, who is assigned as a defender in game, being played as an attacker. While discrepancy occurs, there is some consensus in the ways players discuss roles; most players tend to agree that the following roles exist:

DPS (Damage Per Second): DPS heroes typically do large amounts of damage to the enemy team and secure kills. For example, Soldier:76 has an assault rifle and rocket launcher that can be used to attack the enemy team.
Tank: Tanks absorb or block damage. Tanks are typically meant to be in the frontlines of battle, pushing back enemy tanks and brawling anyone who gets too close to the friendly team's front lines. Tanks typically help create space between teams so that DPS heroes can more efficiently deal damage without fear of dying. For example, Reinhardt, has a large shield that can be maneuvered to protect his team so they can safely deal damage.
Support: Support heroes primarily include healers, but also others that support the team in ways beyond tanking or damage-dealing. For example, Sombra can hack enemy players to temporarily remove their abilities, making them easier to kill (e.g., can hack Reinhardt to remove his shield).

While these roles exist to categorize heroes, heroes that belong to the same role frequently exhibit strong dissimilarities. While a Lucio player spends much of his time close to the frontlines healing his team and selectively altering their speed to make them more mobile and evasive, an Ana player heals her team from afar, using a sniper rifle that both heals allies and damages enemies, and grenades that can heal allies and make enemy players unhealable for a small period of time. The positioning, timings, movement, and ability usage of both of these support characters differ meaningfully; differences become even greater when discussing playable characters that form different roles (e.g., a support character vs DPS).

The Present Study

While these articles examine popular esports games in several different ways, the study of expertise within esports requires more attention. The present study takes a different approach from previous studies. The goal of this study is to use thematic analysis to gain a holistic understanding of the skills professional players find to be important to expertise within the esports game, *Overwatch* (Blizzard Entertainment, 2016). Overwatch has made major strides in aligning itself with traditional organized sports (Marks, 2017) by establishing regulations on salary, tournament winnings, benefits, contract length, and housing and practice facilities. Further, like other traditional sports, teams in the official Overwatch League will represent cities around the world (e.g., Miami-Orlando Misfits). Moreover, significant figures have invested in Overwatch teams, including Robert Kraft, Chief Executive Officer of the Kraft Group and the New England Patriots and Jeff Wilpon, Chief Operating Officer of the New York Mets (Minotti, 2017).

Scholz & Stein (2017) argue "The reasoning behind rejecting the sports label is that eSports do not aim at creating converging structures of official sports such as associations and rule standardizations, but strive for preserving its dynamics and potentials from decentralization." (p. 48). The new formation of the Overwatch League opposes this argument, enabling Overwatch as an esport to better reflect traditional

sports composition. The alignment of the digital sport with the traditional sports, and Overwatch's strong sense of organization makes Overwatch a unique case that diverts from the contemporary esports norms and converges with those in the traditional sports.

With Overwatch established as a suitable esport of study, this article presents results of interviews with professional players and incorporates thematic analysis to investigate the following question:

Research Question: Which skills do professional Overwatch players perceive to be important in developing professional-level expertise?

The answer to this research question will enable a more focused examination of the processes required to become an expert in Overwatch; identifying the processes to acquire expertise without understand the factors that compose expertise is, at best, inefficient. Further, the investigation of this research question will yield results that will enable comparison of expertise between Overwatch and other esports, video games, and sports beyond the gaming domain, thereby better positioning the study of esports expertise within the literature of the broader expertise domain.

METHODOLOGY

This study used thematic analysis to examine the data obtained from interviews with professional Overwatch players.

Participants

12 interviews with 11 professional Overwatch players were analyzed to identify which skills professional Overwatch players perceived as important in expert-level Overwatch play. Players came from seven different teams, and represented damage dealers (DPS), support players, and tanks. Table 1 lists in-game names, team affiliations, and citations for each interview.

Interviews

While one interview was personally conducted by the researcher, all other interviews included in the dataset were located on YouTube, and conducted by others. YouTube interviews were targeted because they allow for verification, via audio and/or video, that the people being interviewed are actually professional players; text-based interviews do not afford the same certainty. The player interviewed by the researcher consented to have his information used in this study, alongside his name. All other interviews were already publicly available on YouTube.

All YouTube interviews were from two channels, Akshon Esports and Overwatch Central. Akshon Esports interviews were all 3-6 minutes long and maintained relatively consistent formatting. The player was asked about recent tournament performance, thoughts on a recent situation in professional Overwatch, who they would draft or form a team with if they were to manage a team, and to give a tip or discuss expertise with their hero or role.

Table 1. Interviewee names, teams, roles, and citations

In-Game Name	Team	Role	Citation
Arhan	AF.Blue	DPS	Akshon Esports, 2017a
Bani	FNRGFE	Support	Interviewed by Author
Dummy	NRG	Support	Overwatch Central, 2017a
EFFECT	EnvyUs	DPS	Akshon Esports, 2017b
MikeyA	TeamUK	DPS	Overwatch Central, 2017b
Miro	Lunatic-Hai	Tank	Akshon Esports, 2017c
Numlocked	NRG	Tank	Overwatch Central, 2017c; 2017d
Rascal	Kongdoo Panthera	DPS	Akshon Esports 2017d
Ryujehong	Lunatic-Hai	Support	Akshon Esports, 2017e
Tobi	Lunatic-Hai	Support	Akshon Esports, 2017f
Tvique	Misfits	DPS	Overwatch Central, 2017e

Video editing included intro and outro graphics, overlays, and cuts in between questions in order to display the question on screen. No cuts appear to have been placed in the middle of interviewee responses. Aside from the graphics and questions described above, the entirety of the interview displays the interviewee responding to the question.

Overwatch Central interviews were far more detailed, lasting 17-22 minutes. Unlike the Akshon Esports videos, these strongly focused on strategies, tips, and tricks. The interviewee was asked to discuss their professional background, followed by a series of open-ended questions relevant to that interviewee's primary hero. After each question, the interviewee is allowed to speak at length in response to the question. However, this becomes conversational. Follow-up questions were often asked in response to something the interviewee said.

The video does not show the interviewee or interviewer. Throughout the duration of the interview, the video shows in-game footage of the interviewee playing the hero he or she is discussing, with intro and outro text and graphics. There is no apparent audio cutting of the interviews, but it is difficult to be certain without accompanying video – asynchronies in audio are more difficult to detect than those in video.

These interviews were manually transcribed by the author and then submitted to thematic analysis.

Procedure

Thematic analysis was employed in order to derive common themes regarding the skills described. Thematic analysis is a widely-used methodology for systematically identifying, analyzing, and reporting patterns in qualitative data (Braun & Clarke, 2006) It is useful in the study of people, events, situations, and organizations through analysis of qualitative data (Boyatzis, 1998) Thematic analysis is useful for this study

because it enables the development, analysis, and understanding of key themes in how professional Overwatch players describe skills required for top level play. The methodology used in this study followed Boyatzi's (1998) four stages of thematic analysis.

Interview transcripts were re-read multiple times to extract quotations related to player skill. Once a reading occurred where no new quotes were extracted, one more reading occurred. If more quotes had been found at this point, another reading would have ensued. Next, the author generated initial codes to assign to the quotations. The quotations were read several more times, leading to the generation of more codes to assign to any quotations that did not have codes after earlier coding sessions.

Once all quotations were assigned one or more codes, another reading of the quotations was conducted to assess and fix any issues with internal homogeneity and external heterogeneity (Patton, 1990). During this process, some codes were deemed to be similar and combined into a new code. Codes were then interpreted to derive overarching themes to better describe the data. Finally, these themes were interpreted and described within this article.

RESULTS

Thematic analysis resulted in the following themes and subthemes:

1. **Game Sense:** Survival, Anticipation / Prediction, Communication, Thoughtfulness
2. **Mechanics:** Aim, Ability Usage, Movement and Positioning, Team-based Mechanical Synergies

Relevant extracts are provided as support for each sub-theme, but not all relevant extracts. To avoid wordiness, only those extracts which show different facets of the sub-theme are included; redundant extracts are excluded.

Game Sense – Subthemes: Survival, Anticipation / Prediction, Communication, Thoughtfulness

Game sense (also referred to as gamesense) as it relates to video games is a term that is not defined in the academic literature, but frequently used in competitive video game culture. ioStux (2017), a German Overwatch coach and YouTube streamer, defines game sense as an awareness of the current game state. A player with good game sense should have knowledge about the number of players currently alive, which abilities other players currently have available, whether or not the player should be aggressive or defensive, and so on. It is no accident that this is the first sub-theme listed in this article; game sense was described in all interviews, and it also seems to be the most complex and mysterious aspect of expertise that was described.

Survival

Being able to survive is an important aspect of a team-based game. When a player has been defeated, they are out of the action and unable to contribute to the team's

objectives and strategies. One thing that enables survivability is cooldown management. In video games, a cooldown is the amount of time a player must wait before being able to re-activate an ability. Players referred to keeping track of not only their own cooldowns, but also teammate cooldowns, and enemy cooldowns, all aspects of the game state that frequently change:

Extract 1: "Another important thing to think about when it comes to Ana's survivability is, honestly, you don't just manage your own cooldowns… you think about your team mates' cooldowns. It's a team game. If you are an Ana and you have a soldier, maybe you think about every time you get dove, or get pushed by anything, you need to make sure you're on top of your soldier so that he healing stations for you." (Dummy)

Dummy describes how Ana, a vulnerable but important healer, can position herself near Soldier:76, who can heal her if enemies begin to attack. Likewise, McCree can use a flashbang to stun attacking enemies. By keeping track of teammate cooldowns, players can assess when their teammates are best prepared to protect them.

Related to cooldowns, MikeyA discusses another time-based mechanism that can aid survivability, health packs.

Extract 2: "Tracer is extremely squishy, so you have to learn how to survive… You need to be mindful of where the health packs are and when they're going to come back up if you've taken them. If you have health pack control, you're going to win the 1v1." (MikeyA)

Health packs are stationary in-game items that increase health and regenerate after a short period, aid survivability. Knowing where these are and when they are available will help a player to survive. Like Dummy, Bani plays a healer for his team. When asked about his primary responsibilities, Bani stated:

Extract 3: "#1 – don't die, because I'm the focus of most of the enemy's strategies. #2 – keep my team alive." (Bani)

In Overwatch, healers are key targets for enemies. If Bani is defeated, his team loses a healing source, and so the rest of the team can be defeated with greater ease. So, as Bani attempts to keep his team alive, he must constantly consider how he can, himself, remain alive. From an offensive point of view, Tvique discusses how he must assess an enemy's capacity to threaten his survivability before engaging.

Extract 4: "If you actually want to take a fight vs a soldier or vs a McCree, you should definitely look out first for if they have used any of their abilities. That's the most important part." (Tvique)

Tvique shows the importance of cooldown-related game sense from the perspective of an attacker. A player moving in to fight Soldier:76 or McCree will have a much better chance of survival if the enemy cannot heal or stun.

While survival is necessary, it is insufficient for success. A player who hides in a corner and survives the whole game is unlikely to be a useful teammate. To this end, players discuss this importance of maintaining aggression without dying.

Extract 5: "I think Tracer is 70% survivability. Most important thing is to be alive to keep harassing your opponents." (EFFECT)
Extract 6: "push the boundaries, but never go past it. Try and take as much as you can, but never get punished." (Bani)

EFFECT describes the importance of being alive – to be able to harass the enemy. Likewise, Bani discusses the importance of not being punished, but to also have a parallel goal of maximizing impact.

Anticipation / Prediction

The ability to anticipate or predict changes to the game state supports player decision-making; by knowing what is to come, a player can decide which actions are most likely to result in success. One player discussed the importance of anticipation for being able to react quickly:

Extract 7: "I actually think the two work hand-in-hand. Since you're able to anticipate, you can react quickly. Your reactions depend on your game sense and anticipation." (Arhan)

To go back to Extract 4, if a player knows an enemy McCree has not used his stun recently, she can predict that McCree will likely stun her when she attacks. Armed with that information, she can choose to wait until he uses it before initiating, initiate with a different target entirely, or attempt to "bait it out" (e.g., get McCree to use the ability without actually stunning anyone).

Until now, only anticipating and predicting enemy action has been discussed. However, players also note the importance of reducing the enemy's ability to predict:

Extract 8: "It's hard to block an ult if…there's too much of a pattern within your play, because obviously they'll get used to it, and then they can just do it on the offset when you don't have your shield up. So, doing things like randomly meleeing – if you're not close to the enemy Reinhardt…get a swing in there, baiting him to think you don't have your shield up. Looking away quickly is a good bait as well." (Numlocked)

Reinhardt has an ultimate ability that will knock down and stun all enemies in front of him for a few seconds, making the team incredibly vulnerable. However, this can be blocked by the opposing team's Reinhardt shield. Numlocked discusses reducing

patterns within play to reduce the enemy's ability to predict when your shield will go down. For instance, lesser skilled Reinhardt players may continuously bring their shield down and up, in something of a rhythm. Numlocked describes how this rhythm can work against you, as the enemy can simply predict when the shield will go down and use the ult during the predictable window of time. Instead, Numlocked provides tips for being unpredictable so that the enemy has a difficult time predicting, and capitalizing on, your movements.

Communication

In addition to acquiring and using information, knowledge management acknowledges the importance of disseminating information. In a team-based game, this occurs through communication. Players discussed the importance of communication to team success:

Extract 9: "…in professional play it's all about communication" (Bani)
Extract 10: "Everything you use in your kit needs to be supplemented by communication. Otherwise, it's going to go to waste." (Dummy)

Numlocked elaborates on how to communicate *effectively*:

Extract 11: "it's important to realize what the important information is and communicate that. Abilities is the biggest one... So, like, Ana heal nades, Zarya shields, Roadhog hooks… those are huge cooldowns, and if they're not up, that's kind of a go sign for fights a lot of the time. Things like that give a lot of space to your team, and it's important that you communicate that, whereas things like, say, you did 50 damage to Lucio – that's redundant." (Numlocked)

Numlocked demonstrates the importance of not only acquiring information about the game state, but communicating it. One player may have unique access to information due to positioning, interface elements, or otherwise, and sharing this information with teammates can enhance understanding of the game state for all players. However, he cautions to only relay information that is important to the game (e.g., if important abilities are ready to be used). Although only one example is given, this is likely to refer to information that enhances anticipation and prediction of changes to the game state, as well as information that enables the team to coordinate to gain an advantage against the enemy.

The work conducted in Schrader & McCreery (2007) provides a relevant perspective. The authors describe the differences between traditional teacher/student roles and how they manifest within a massively multiplayer online game. Ultimately, they discussed how these roles regularly shift as information is shared amongst members of a gaming community. Similarly, in a single Overwatch game, players constantly acquire new information, and must relay that information to teammates. In turn, these information-bearers take on the role of teachers, and their teammates become students, until somebody else acquires sufficient knowledge to be valuable to

the others. With the fast-paced gameplay of Overwatch, these roles are likely to switch on the order of seconds. Experts must be able to accommodate to the regular role switching, fulfilling their role on a second-by-second basis to the best of their ability.

Thoughtfulness

As a player receives information about the game state, either through her own observation, or via teammate communication, the player must take the time to consciously make decisions about how to best sway the game into her favor. Overwatch allows players to swap their heroes throughout the game. As each hero is uniquely strong and weak against other heroes, this allows for picking heroes that counter the enemy:

Extract 12: "[Winston] just makes [Genji's] life so much harder in every single way, because he kind of basically always follows you and you can't really ever dash into a monkey because he is going to kill you 90% of the time as soon as you use your dash" (Tvique)

Winston has a large amount of health, while Genji has a small health pool. Fortunately, for Genji, Winston can only attack close range. However, this means that a Genji must recognize that the enemy team has a Winston and avoid areas near Winston, even if Winston is placed near a prime target, like an enemy healer. Similarly, if a player's team is having a really tough time with an opposing Genji, it is important for them to recognize this, and have one of the players begin playing Winston, in order to counter the Genji. Of course, at this point, the Genji could switch to Reaper, who fires shotguns at close range that do immense damage to Winston's large frame.

Thoughtful players may also benefit when they recognize that the current game state is favorable to aggression:

Extract 13: "More often than not [you should prioritize defeating] a hero that's out of position or nearest your team. If, for example, the enemy team is deep back somewhere, but Reinhardt is really out of position on his own, go for the Reinhardt." (Numlocked)

A player who recognizes that a player is not grouped with the rest of his team and understands that she can capitalize on this will allow her to either fight 1v1 or communicate with allies to create a several vs 1 situation where her team has a distinct advantage and can *stagger* the enemy team. By killing that one enemy at a different time than the rest of the enemy team will force the enemy team to either have to fight 5v6, because the staggered player is still dead, or to wait until the player comes back to life and runs back to the team, thereby wasting time when they could be enacting strategies.

Mechanics – Subthemes: Aim, Ability Usage, Movement and Positioning, Team-based Mechanical Synergies

Here, the term *mechanics* is used to refer to both the mechanical ability of the player (i.e., ability to precisely use input devices), as well as the player's ability to manipulate game mechanics (e.g., ability usage). The mechanics theme contains the sub-themes of aim, ability usage, movement and positioning, and team-based mechanical synergies.

Aim

Aim is perhaps the quintessential mechanical ability in first person shooter games, so it may come as no surprise that players note aim among the important skills for high level play:

Extract 14: "Aim is extremely important…The games can be decided by whether your Ana lands or misses her sleep darts." (Ryujehong)

Precision aim allows a player to target enemies and defeat them efficiently. Being able to precisely aim not only allows a player to connect damage-dealing blows with the enemy, but also allows players to do extra damage when hitting an enemy's small head hitbox. Rascal discusses how good aim enables the player to play a wider roster of heroes:

Extract 15: [when asked about being able to play multiple projectile heroes] "The only change is whether you're holding a rifle, an ice gun, or a rocket launcher. It's possible if you have good basic aim." (Rascal)

As aim enables players to use more heroes, they are more likely to be able to use specific heroes to counter enemy hero choices, increasing their chances of success.

Ability Usage

Each hero in Overwatch has unique abilities that are generally more powerful than their main attack. Numlocked describes an instance of properly using abilities:

Extract 16: "One thing you'll need to do is dance between the sides of your bubble… you want to always be going in and out of your bubble… whenever they come in, you go out. Whenever they go out, you go in…Winston's bubble is super important." (Numlocked)

Winston has an ability where he drops a static protective bubble-shaped field onto the terrain. While friendly players can shoot through the field, enemies cannot shoot in or out of it. A common practice for Winston is to always be on the opposite side of the enemy. If they go in, you go out; if they go out, you go in.

In addition to normal abilities, each hero also has ultimate abilities – very powerful abilities that are on a very slow timer, but can be charged up faster by dealing damage

or healing teammates. Miro discusses the importance of knowing the different uses for, the hero, Winston's ultimate ability:

Extract 17: A Winston needs to do just 1 of 3 things with Primal Rage. The first is to just kill them. Second is to push off an enemy that's trying to get to your healers. Third is to break down the formation of clumped up opponents. It's most important to read the game, pick 1 of these 3 and execute properly."(Miro)

Depending on the situation, a player using Winston's ultimate ability may attempt to defeat enemies, relocate enemies who are threatening his healers, or separate enemies from each other to reduce their ability to fight as a team. Miro mentions "reading the game" as the primary determinant for making this decision; this is likely a reference to having good game sense, which Miro was cited as saying was important, earlier in this article.

Movement and Positioning

A player needs to be able to position themselves in appropriate spots to take advantage of the terrain, make distance or close distance on the enemy, or otherwise utilize the map to gain an advantage on the opponent. Tvique describes how utilizing Genji's advanced movement capability can aid in the fight against an enemy:

Extract 18: "you should definitely use your climbing ability, just climbing up walls, like up and down all the time, because it makes you super annoying to deal with. But if you are in a really tricky situation, where you are forced to take this 1v1 vs this other hero and you can't really get out of it because you've got dash on cooldown, or for whatever reasons, you should definitely not try to double jump too much, if that makes sense, but if you do need to double jump, you will need to be able to get over his head and out the side of him. You will be able to basically just always able be above him if that makes sense, because it's really hard to aim upwards for a hitscan player." (Tvique)

By utilizing climbing, jumping, and dashing, Genji can improve his survivability, enabling him to remain in battle longer, thereby improving his overall impact. When reconsidering Extract 16's reference to Winston's bubble, we can see how movement, again, becomes important. A Winston positioned on the opposite side of the bubble to the enemy is invulnerable, but the required positioning changes based on the opponent's movement. So, too, the player must continuously move to be in the correct position. The importance of movement found within these results echoes the work of Reeves, Brown, & Laurier (2009) on Counter-Strike, which emphasized the importance of competent movement to skilled play.

Team-Based Mechanical Synergies

While this study and previous research (Donaldson, 2015) has highlighted the importance of mastering mechanics on the level of individual player, interviewees also highlighted the importance of synergizing mechanics between teammates:

Extract 19: "Team synergy is obviously important…" (Ryujehong)
Extract 20: "The biggest mistake I see most Genjis do is they try to do everything on their own…a good Genji is only as good as your team is." (Tvique)
Extract 21: "…in professional play, everyone is focused on achieving something as a team." (Bani)

Miro's discussion of how to properly use Winston's ultimate ability was described earlier. Ultimate abilities cannot be used often, but can strongly impact the game. More importantly, most ultimate abilities can be combined with other player actions to enhance their effects. Miro describes an instance of how this could happen:

Extract 22: "one thing I want to mention about his ult is that you shouldn't use it if your Zarya ults. Your Winston ult does less damage than his normal attacks. So, if your Zarya has ulted a ton of people, just keep zapping them. Don't go into your ult form." (Miro)

When Winston uses his ultimate ability, he can jump frantically, loses the ability to use his primary weapon (a gun that continuously electrocutes enemies), but gains the ability to knock players out of position by flailing his arms. Zarya's ultimate ability creates a gravity well that pulls all nearby enemies into a static position that they cannot escape from, temporarily. Here, Miro discusses that Winston can best synergize with Zarya when she uses her ultimate ability if he does not use his in parallel. Instead, he should save his ultimate ability for another time – enemies in the gravity well are rooted in place and cannot be knocked out of position, and Winston can do more damage to grouped enemies using his primary weapon.

Similar synergies exist with other characters. Mei has an ultimate that freezes all enemies in place within a specified area on the ground. Mei and Zarya do not synergize well, due to the similarity of their ultimate abilities. However, either could potentially synergize with a Genji who uses his ultimate ability, which allows him to use a powerful sword that quickly dispatches enemies, a task made even easier by targets that are forced to remain stationary, either through gravity or freezing.

DISCUSSION AND CONCLUSION

While this study derives components and expertise specifically from Overwatch, relating these components to other research findings enables a more well-defined positioning of Overwatch and these results within the existing body of esports expertise research. For example, the present research discussed game sense, the awareness of the

game state which enables appropriate decision-making. Similar examples are found in other games, like the FPS Counter-Strike series. Witkowski (2012) describes the frantic final seconds of a round where one team has planted the bomb and must defend it until it explodes and the other team must attempt to defuse it in the remaining time.

… timing and awareness of the other team… and of one's own team still playing on the map is crucial to the hurried decision making that inevitably plays a part in the result. (p. 359)

Just as Overwatch players must know the locations and positions of allies and enemies, locations and status of health packs, whether or not abilities are available, and so on, Counter-Strike players must understand where allies and enemies are positioned, the state of the bomb (and countdown timer until it detonates), and other factors, such as the potential for allies or enemies to have different types of grenades that can affect gameplay.

Wagner (2006) proposes concepts evidenced by the work conducted in the present study. The author asserts that:

…winning [esports] teams… need to be trained in successfully implementing and changing game strategies quickly and efficiently. (p. 3).

Using game sense to anticipate and predict ally and enemy movements and actions enable players to implement and change strategies, ultimately allowing them to better understand the implications of each potential strategy:

Game expertise needs to be studied and conceived of as lived play which is constantly concerned with 'why that now', 'where can I go from here', 'what next' and other familiar concerns… (Reeves, Brown, & Laurier, 2009, p. 26).

By understanding the current status of the game state (game sense), the player can consider all available options, taking into account possible changes to the game state (anticipation / prediction) and make the decision that is most likely to promote victory (thoughtfulness).

The theme of mechanics is also exemplified by prior published esports works. For instance, Donaldson (2015) identifies mechanics as an essential component of expertise in League of Legends. More broadly, Hilvoorde & Pot (2016) asserts that motor skills are inherent in practicing esports, in general. For example, motor skills appear to be important in expert Counter-Strike play:

If a player/team is poor at moving from A to B, or at quickly and precisely targeting the opposition in their sights, or even at maneuvering about the field space in coordination with teammates (which move in various formations depending on the side

one is playing, the map, and the number of players left standing) the likelihood for "failure" increases with each inadequately executed action. (Witkowski, 2012, p. 357)

This account of gameplay in Counter-Strike discusses the importance of aim (quickly and precisely targeting the opposition), movement (maneuvering about the field), and team-based synergy ("in coordination with teammates"). Ultimately, it seems as though many of the components of expertise identified within Overwatch may overlap with other esports games, as questioned by Reeves et al. However, while there is some alignment, perhaps they manifest in different ways. This is a line of research that must be continued across different games and at varying levels of specificity within each game; while this study has examined the composition of expertise in Overwatch, there may be a benefit to more granular analysis (e.g., expertise in Overwatch DPS players). By examining the similarities and differences in future studies, researchers can better understand the unique qualities in expertise and expertise formation in a variety of esports.

This study has implemented thematic analysis to derive an initial set of important skills for high level play of the Overwatch eSport. It is important to note that much of this is not ground-breaking work. In many ways, the research is catching up to the amateur theorycrafters and analyzers found in online discussion boards, reddit, and other places where esports are discussed in depth. However, this study contributes to the literature by confirming the existence and meaning of terms like "game sense" and proposing a set of named and defined skills, backed by evidence provided by the testimonials of professional players, that can be used in future study. Further, it takes initial steps to specifically identify and record the composition of expertise in Overwatch, which enables cross-comparison with the form of expertise in other games, examination of the process of acquiring expertise, and a positioning of Overwatch within the esports expertise literature.

LIMITATIONS AND FUTURE RESEARCH

While this article contributes to the ongoing study of expertise in esports, it is not without its limitations. Firstly, the scope of this study is limited to professional Overwatch players. For this reason, the skills identified as important to Overwatch may not extend to other esports games, or to amateur level play. While it is likely that game sense and mechanical ability are generally important to team-based competitive games, the sub-themes identified may not extend beyond Overwatch.

Additionally, while thematic analysis is a well-known and widely-used methodology, it is important to acknowledge the inherent bias in the methodology. The data collected is susceptible to alternate interpretations other than those presented; academic discourse is a necessary component for identifying and presenting other interpretations within qualitative analyses. However, a potentially mitigating factor is the researcher's experience with the game; at the time of writing, the researcher has logged several hundred hours of gameplay and has ranked within the top 10% of

players (estimated top 6%). As such, the researcher has advanced knowledge regarding Overwatch. Conversely, the researcher had to take care to avoid confounding the data with his own thoughts on what makes a good player.

While this study includes a range of professional players from different teams and roles, not all heroes and roles were included, due to the lack of available interviews including these individuals. Similarly, very few non-male players have become professional Overwatch players, and no interviews were found with, e.g., female players. Although there are very few non-male professional Overwatch players, a case study or focus group would support diversity of representation.

Perhaps the greatest limitation is the inability to perform controlled and consistent interviews with each of the players. The interviewers who performed these interviews are not researchers and likely had no overt interest in control, beyond that which promotes a relatively consistent and cohesive viewing experience for the audience. While the two interviewers followed similar formatting internally, there are strong differences between the interviewers which could have led to inconsistent responses that were more or less apt to mention particular aspects of expertise. The themes identified were cited across the two interviewers, providing some confidence in their existence, but further studies should seek to interview players directly. However, this may be difficult as professional players have limited availability, may be unwilling to provide interviews without compensation, and are unlikely to want to submit the full detail of their strategies to scientific scrutiny. Likewise, their franchises may impose limitations on the information their players can expose to systematic analysis, in order to maintain a competitive edge. Nevertheless, this level of control would likely yield valuable results.

The present study has worked within the boundaries of its limitations to gain insight into the composition of expertise in Overwatch. While this research presents a holistic view of expertise in Overwatch, future work should examine the specific composition of expertise within particular player roles to identify if the identified aspects exist equally for all roles, or if there are, perhaps, different weightings for aspects dependent upon the role. Further, cross-game comparisons should be conducted to identify points of consistency and inconsistency in the composition of expertise within different esports games. Finally, future research should employ empirical methodologies to identify if the skills identified through thematic analysis actually impact performance within a game setting, or if the actual composition of expertise differs from that of expert perception.

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