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EFFECTS OF FAILURE AND AVATAR DEATH IN MULTIPLAYER ONLINE SHOOTER GAMES

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ABSTRACT

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Even though casual games capture large audiences, hardcore games are increasing in popularity evident by the success of Dark Souls games and the rise of the battle royale genre. These hardcore games often feature gruesome punishments for failure such as permadeath or a great loss of progress. This study investigates how players can fail in online multiplayer shooter games, how they are penalised and how the penalties affect the overall player experience.

Formal gameplay analysis was conducted on Counter Strike: Global Offensive, Overwatch and PLAYERUNKNOWN'S Battlegrounds to identify failure mechanics and their punishments for avatar death. Then, an online player experience survey was deployed to measure the player experience of each of the sample games.

The analysis of the results revealed no connection between the severity of the game's punishments and the overall player experience. However, the data suggested the players of PUBG, the most severely punishing game, report their experiences to be more memorable than the players of the other games. Furthermore, the participants of the PUBG survey reported more physical reactions to winning supporting the notion that failure mechanics and avatar death do influence the player experience. Based on those results, I concluded that no clear connection between avatar death and player experience could be found. However, the interesting findings do warrant further exploration into the topic.

Keywords: failure, death, player experience, game design, death penalty

The originality of this thesis has been checked using the Turnitin OriginalityCheck service.

FOREWORD

This paper has been a long time coming. It has been an interesting journey delving back into ludology after a short hiatus from my studies and it has indeed reminded me why I started studying it in the first place. The interest and comments from other people including the online communities I reached during this research have kept me going and forged me with faith that what I am doing is important and meaningful.

I want to thank all my friends, family, loved ones, online communities and the Tampere University faculty and instructors for their support and encouragement. I could not have done this without you.

Keep on playing.

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1 INTRODUCTION

In recent years we have seen a rise in popularity of hardcore games. A hardcore game has no clear definition in game studies, but it is generally understood as a game that requires more time and effort from the player than core or casual games. A common feature in these types of games is *permadeath* where the players lose all progress associated with the character upon dying in the game. Some games take some elements of permadeath and let the player keep some of their progress. When playing games like *Escape from Tarkov* (Battlestate Games, 2016) or *Dark Souls* -games (From Software, 2011), I have often found myself wondering why there is such a passionate player base in these types of games when the games are gruesomely difficult and punish the player so severely upon dying. In academia a handful of authors have put effort into understanding this paradoxical phenomenon but no significant theories have been established. This thesis will examine how failure and avatar death specifically affect the overall player experience of a game. The goal is to provide evidence that these elements do have an effect to the player experience. In addition to establishing the connection, I aim to understand and explain how and why such an effect is observed.

The scope of this research covers failure and death mechanics in online multiplayer shooter games. Failure mechanics do not have an established definition in game studies but in this thesis, I will use it to describe game mechanics that surround the failure of the player during gameplay. For example, in *Tetris*, the player can reach a fail state by letting the game area are fill up with blocks. I consider the rule that states that if a block does not fit into the game area, the player reaches fail state, a failure mechanic. Furthermore, the rules that govern the aftermath of the fail state, for example the player must start at the beginning of the level, are included in my definition. Finally, failure mechanics also cover rules that bring the player closer to the fail state. An example of this could be taking damage in a shooter game. On the other hand, death mechanics are a type of a failure mechanic in avatar-based games where the avatars can die in the game world to represent the fail state. For clarity, I consider the avatar getting knocked out or other mechanically similar features a death mechanic, even though they are different in a thematical sense.

In this thesis, I will be examining digital video games exclusively. Even though board and table top games do feature failure mechanics that can be similar to digital games, I will leave them out of the scope. The context of gameplay sessions in physical games is different enough to warrant a whole another investigation on the subject. I further narrowed down the topic to online multiplayer shooter games to keep this research contained. By exclusively investigating the same type of games I will be able to dissect the failure mechanics from the other game mechanics and compare them amongst each other. Furthermore, online multiplayer games are unique in the sense that I am able to observe the interactions between the players in failure situations. This aspect can reveal interesting sociocultural phenomenon surrounding failure and death.

Even though hardcore games do not cater to the casual gamers but rather certain group of core players, their popularity is evident from media coverage, social media and streaming platforms. Furthermore, even a massive game like Fortnite (Epic Games, 2017) features a permadeath mechanic so it is important to gain an in-depth understanding of how the failure mechanics affect the player experience if developers are to make more engaging games. While Juul (2014) has written about the concept of failure in video games and researchers like Klastrup (2006), Carter (2013) and Allison et al. (2015) have researched some aspects of the topic, no studies have compared the failure mechanics of different games and their correlation to the player experience. This research aims to build on the work of aforementioned authors and the gameplay experience theories behind them to further the field of study of games.

Personally, I am drawn to this topic because the punishing games are the ones I often find myself playing and having the strongest experiences with. This observation also applies to my gaming friends and online communities I frequent and is evident from the passionate discussions about these types of games. Additionally, I have also studied the topic of hardcore games and wrote my Bachelor's thesis about them where I concluded that initial frustrations and hardships enhance the overall player experience in hardcore games. There is something quite intriguing in the juxtaposition of challenging the player immensely and then rewarding them appropriately after accomplishing their task. Moreover, the reward comes in large part from intrinsic motivation which increases the sense of pride and accomplishment after overcoming the obstacle. As more and more

games are focused in loot boxes, arbitrary cosmetics and achievement badges I want to get to the core of what made and still makes gaming engaging and fun.

As the construction and understanding of the research questions of this thesis require certain knowledge in previous literature, I will describe them in more detail in the literature review chapter. The first objective of this research is to inspect specific multiplayer online shooter games, identify failure and death mechanics within them and to craft a simple classification system that can be helpful in the further analysis. The second objective is to inspect the penalties that result from avatar death in the same sample games. I will focus on the player respawns, for how long they will be removed from battle and other elements that might arise from the observations. The first two objectives will be accomplished using formal gameplay analysis. The final objective is to determine, how the failure mechanics and punishments for failure affect the overall experience. The player experience will be measured using an online survey for players of the sample games. Additionally, I am interested in toxic behaviour in failure situations and the players' experiences with it. Based on the previous literature and my own experiences playing punishing games I predict that having more severe failure mechanics will correlate to a stronger gameplay experience. Failures and deaths during the journey should further enhance the sense of accomplishment and relief after finally winning the game. They also should give meaning to avatar death, which in turn guides the players towards more careful and strategic playstyle.

In the literature review chapter of this thesis I will first explore concepts in game studies relevant for this study. Next, I will first examine the concept of failure in the context of video games in general by presenting previous literature and research. Then, studies will be highlighted that have observed effects of failure in games. After that, I will present the analysis framework used in this study and finally describe the formulation of the research questions and hypothesis in detail. In the methodology chapter I will explain my approach to answering the research questions, introduce the titles chosen as the sample in this study and describe the experiment procedures step by step. The results chapter will present the results of the research methods separately and together, having focus on the research questions at hand but also pointing out particularly interesting findings in the data set. Next is the discussion chapter where I will present my interpretations of the results, their implications and acknowledgements of the limitations of this research. Finally, I will

conclude this thesis by summarizing the results and reflecting on them and the process of this study.

2 LITERATURE REVIEW

Research in specifically failure mechanics in games is sparse. Therefore, the phenomenon is not understood very well. According to Juul (2010), the stereotypical casual game design philosophy of making the game easy is proven to be partly unjustified. He argues that while hardcore games are often designed to be more difficult than casual games, gamers of all types desire to be challenged in a sufficient manner. One of Juul's survey participants reported not minding replaying a challenging level ten to twenty times.

In that case (Juul, 2010) the punishment for failure is having to start the level over from the beginning which largely contributes to the overall difficulty of the game. If the player could continue playing from the failure state, they could easily correct their mistakes and complete the level. While Juul (2010) argued the stereotype to be partly false, he grants that the part that is true is that hardcore games are designed to be even more punishing in the case of player failure. As failure mechanics and character death are found in all type of games for all type of players, it is important to gain insight into how exactly these mechanics affect the overall player experience.

In this chapter, I will describe key concepts, explore the concept of failure in video games in general, investigate relevant studies on the subject, introduce an analysis framework used in this study and present the formalised research questions and hypotheses.

2.1 Key concepts in game studies

Katie Salen and Eric Zimmerman distinguish between *constitutive rules*, *operational rules* and *implicit rules* in their book *Rules of Play* (2004). Constitutive rules are rules that are written in the game's code and govern the structure of the game. Failure mechanics are in most part constitutive rules. The games code states how many hit points does the avatar have, how many hit points of damage enemy hits deal and for how long the player is out of the game after death event. Operational rules are instructions by the game to the player on how the game should be played. The constitutive rules are operationalised in instructions, dialogue or by demonstration. (Salen & Zimmerman, 2004) An example of the operational rules are the tutorial levels in games. In them, they

player is instructed on how to engage in the game's mechanics and occasionally how a failure state is achieved and how to recover from it. Sometimes these instructions are not directly communicated but rather are left for the player to discover. Implicit rules are customs and norms that are followed by the players intrinsically (Salen & Zimmerman, 2004). In online multiplayer games implicit rules are prevalent, for example players often follow the conduct of good sportsmanship. These rules can also be supervised by the community. A silly example from Psyonix's Rocket League (2015) states that if players' cars are locked to each other nose to nose no player can break the lock before a goal is scored. Vahlo (2018) argues that no video game gameplay exists without all these rules being present. The rules are also governing the failure mechanics in video games in varying degrees and therefore are in the interests of this study.

The actions taken by the player in accordance with the game's rules are *game mechanics* (Juul, 2005). Failure and death mechanics need to be defined differently as they are not directly caused by the players actions. Failure and death mechanics are rather actions of the game, following the rules set for itself of course, towards the player. Failure state can be reached by the lack of action from the player or by the player performing an action improperly such as jumping off the map. However, the death is the action of the game stating what happens next.

This thesis does not only explore the game mechanics and rules of the games but also delves into players' perceptions of their gameplay experiences. The players possess a *lusory attitude* described by Bernard Suits (2005). The players are required to have this state of mind when commencing gameplay. It is to accept the rules of the game in order to have the experience of play. This concept is crucial and intriguing in the context of failure and avatar death. When the players start the game, they accept the possibility of failure and in-game death by default in order to enable their experience. Furthermore, the acceptance of the consequences is also implicit. As the players' self-presence and state of mind is altered, it is not reasonable to apply psychological deduction to understand the players' motivations without consideration.

2.2 Concept of failure in video games

In Juul's (2014) later essay he examines in close detail the psychological and mechanical aspects of failing in video games. He describes the paradox of failure in the context of video games as players generally avoiding failure, experiencing failure while playing games and still playing them even though they contain the possibility and probability of failure that we tend to avoid. To solve this paradox, Juul proposes that humans have conflicting interest in different time frames. In short term, we seek to avoid unpleasant experiences but in the long term we understand that it is necessary for the player experience or any artistic expression.

In a paper by Klastруп (2006), the author reports on her study of character death and death penalty in MMOG's. Klastруп describes that in game worlds avatar death most often does not mean the final ending in the life of the character but rather a temporary penalty of being removed from the battlefield. While permadeath is rarely found in MMOG's it can still be implemented as a core gameplay mechanic in roguelike games or as an option in other games such as in Diablo 3's (Blizzard, 2008) hardcore game mode. Furthermore, character death can be trivial or non-trivial depending on the context of the event (Klastруп, 2006). By playing alone, the player might not mind a small setback as much as in a group play setting, where the failure may cause downtime to the whole group. Finally, Klastруп (2006) concluded that no matter the details of the death mechanics themselves, they play an important part in forming the player's gameplay experience and the social interactions within that experience.

In 2013 Carter et al. wrote about the high consequence death mechanics of DayZ (Bohemia Interactive Studio, 2013). The authors proposed a clear distinction between *player*, *character* and *avatar* death where the first one refers to the player dying in real life, second one to the permanent removal of character from the game world with their virtual possessions and acquired abilities and the last one to the player's avatar dying and respawning with little to no losses (Carter et al., 2013). While this distinction may be confusing to the reader as the difference between a character and an avatar is quite subtle, it still has its benefits when discussing the different repercussions of death in video games. Therefore, in this study I will be using the same terminology.

2.3 Effects of failure

There are a handful of studies that have measured the effects of failure events on player experience. Ravaja (2008) studied the effects of violent video game events on the player and discovered that even the player character's own death induced a positive emotion. Continuing that work another research team proposes that avatar death reinforces the challenge of the game and therefore, while not being enjoyable in itself, may invoke positive reaction from the player upon the failure event. (Hoogen et al., 2012)

In another study by Kätsyri et al. (2013) the team measured brain activity using fMRI of first-person tank shooter game players and gameplay watchers. The results show that winning a game induced more brain activity both in active and vicarious gameplay setting than losing. Additionally, the participants reported that the experience of losing was more unpleasant in active gameplay. Finally, the team concluded that players react to wins, losses and external rewards more strongly when they are self-acquired as opposed to watching gameplay and receiving equivalent rewards. This is strong evidence towards the notion that video games as a media are especially potent in delivering experiences when winning or losing. Therefore, I propose that feelings of failure during video game gameplay more closely resemble the experiences of real-life than other traditional media.

A Japanese research team demonstrated a measurement of brain activity of video game players using a mobile EEG device (Yokota et al., 2019). They showed that when a character failed to hit a ball in a baseball game the error-related brain activity was observed in the controlling player. The team also points out that this activation occurred slightly before the miss happened, indicating that the players predict their own errors which induces the brain activity. In addition, it was found that when a player was losing by a little the neural response to failure was at its strongest. In contrast, while winning the missed hits did not cause such a strong response. However, the team reports that it is too early to draw conclusions on this last observation. (Yokota et al., 2019) This research provides further evidence that failures in video games have significant effects on the players. Furthermore, it supports a notion that the failure event is less important than the players perception of it. The perception of failure might change during gameplay and depending on the mental state of the player. Yokota et al.'s (2019) research provides a

setting for an interesting question: What kind of response is invoked when the player initially perceives failure but, in the end, ends up succeeding?

Carter et al. (2013) examined the high consequence death mechanics of DayZ in their study. They found that the permadeath in the game does intensify the social interactions, encourages investment from the player and invokes moral dilemmas. This result does suggest that more severe punishments for character death do enhance the player experience in some areas. However, the study by Carter et al. (2013) does lack in control data. Even though the players reported these enhancements, there is no way to know what the player experience is like for these players in other games. Another study by Allison et al. (2015) proposes that the negative experience of character death in DayZ does contribute to overall positive player experience. This is a concrete example of Juul's (2014) paradox of failure. The players do recognize failure as a negative experience but understand that for exactly that reason the triumphs and victories do feel so memorable.

Petralito et al. (2017) also found a similar phenomenon in Dark Souls III (From Software, 2016). The players reported mostly enjoying challenging game sessions with emphasis on learning and achievement. These elements were made possible with the help from severe punishments for failure. The team suggests that these negative events support the creation of meaningful gameplay experiences. Evident from the presented literature and research many academics agree that negative experiences of failure and avatar death do affect the player experience and the player's physiological state in various ways. However, these studies have not shown how differences in these mechanics affect the result by comparing games with slightly differing mechanics. This research aims to bridge that gap.

2.4 Analysis framework

In this section I will be introducing the analysis framework crafted for this study. The framework will be inspected in three different parts, each comprising of one of the axes of the framework.

2.4.1 Participatory distance as a measure of immersion

Participatory distance refers to how players of third- and first-person games immerse themselves into the playable characters of these games (Vahlo, 2018). As Goffman (2013) explains distance taken by the players ranges from very close to far away. The distance is determined by the willingness of the player to attach themselves to the player character. However, distancing themselves from the character does not equal to rejecting it but rather rejecting the implied virtual self (Goffman, 2013). According to Vahlo's study (2018) players of first-person games are more prone to shifting their self-presence towards the character whereas in third-person games players are content to empathize with them. By this reasoning first-person video game players should exhibit stronger responses to failure as they feel more like they are dying or getting hurt themselves.

However, the empathy third-person perspective game players have towards their character may also provide strong experiences towards their characters. A study by Ganesh et al. (2011) revealed that the bond shared between a virtual character and the player is similar to one towards another close human for longtime gamers.

2.4.2 Goal distance as a measure of competitiveness and flow

As Csikszentmihalyi (1991) wrote a person is at their happiest in the *flow* state, where the person's skill level and the challenge of the task is at balance. In flow state, the person is immersed into the activity and the person's sense of time is diminished. Video games are very capable of producing such experiences as the challenge of the game often increases as the game progresses and the player improves their skills in the game as they play more. (Ermi & Mäyrä, 2005) There are many studies for applications of this theory in the video game domain. For example, a study by Hamari et al. (2016) suggested that the challenge and the skill of the player had a positive correlation on engagement and therefore indirectly to the learning outcomes. From the perspective of this thesis the role of challenge as a predictor for engagement is particularly interesting. As noted by Hoogen et al. (2012) avatar death events reinforce the challenge of the game. Does introduction of more failure mechanics and more severe punishments for those indirectly influence the engagement of the player?

Additionally, the concept of game flow is closely related to the challenge of the game and thus also to the failure mechanics. A study by Gascon, Doherty and Liu (2016) suggests that the perceived flow state differs between various player skill levels and challenge levels of the game. The research team had participants play two different levels of Super Mario Bros. Novice players experienced more flow in the easier level while the expert players experienced more flow in the more difficult level. Therefore, it is important to match the player skill with the game's difficulty for the optimal flow experience. (Gascon et al., 2016)

In another study Sepandar and Head (2018) examined the effects of competitiveness on flow and satisfaction. They collected their data by having participants play in different competition modes: no competition, competition against computer, competition against a stranger and finally a competition against a friend. The participants completed a survey after having reached their expected flow state. Sepandar and Head concluded that the perception of competitiveness in a video game is a strong predictor for flow experience and satisfaction. As the focus of this research is online multiplayer games competition is a strong factor in determining the overall gameplay experience. Even though multiplayer online games usually contain competitive elements, some games might have a stronger effect based on the rules, the community and the players motivations.

Inspired by Vahlo's work (2018) and studies examined above the second axis for my theoretical framework is *goal distance*. Goal distance describes the players distance from the optimal flow state where the skill and challenge are in balance. The longer the goal distance, the less engaged the player feels to their gameplay experience. However, goal distance is not enough to predict the memorability of the game session. When player is not engaged with the game and is failing miserably the negative experience can stick to player as being unfair.

2.4.3 Interpersonal distance as a measure of social interactions

In his thesis Vahlo (2018) argues that readiness to act is increased in video game compared to traditional media such as films or books. Video games provide a character entities, interactions and challenges that brings the players closer to a real social interaction. Therefore, I propose that social interactions between the character avatars also somewhat resemble an interaction between humans in the real world. Furthermore,

players perceive actions they take in gameplay as theirs. This becomes evident when players refer to their characters actions with an 'I' pronoun, altering their self-presence. (Vahlo, 2018). In that sense the players perceive that the actions taken towards other players are taken by themselves, whether they are malicious or encouraging. Regarding failure the players also experience their failings as though they failed themselves possibly letting their co-operative virtual teammates down.

For these reasons, I present *interpersonal distance* as a final axis of my analysis framework. Having a short interpersonal distance from gameplay presents itself as having life-like interactions with other players. In failure situations this means understanding that their failure affects everyone on the multiplayer team. Distancing oneself from social interaction within gameplay allows the players to only play for themselves.

2.5 Research questions and hypothesis

As demonstrated in this literature review there are numerous studies showing that failure during gameplay has effects on a person. However, no research can be found that explore the connection between failure mechanics themselves and their effects on the player. This study aims to show those connections and bring insight into crafting more memorable gaming experiences through the art of failure. Therefore, as the first research question I pose the following: **How does avatar death occur in multiplayer online games?** This question explores the different ways different multiplayer online video games handle avatar death. When discovered, I have the starting point of the failure mechanic – effect connection.

Closely related to avatar death is the punishments for failure. These give the failure and the following successes meaning and their severity levels can strongly influence the gameplay experience. For that reason, I present the second research question as the following: **In which ways are players punished for failure?** The contents of this question do not only include punishments for avatar death but other errors as well. For example, a player might avoid participating in the gameplay to avoid avatar death but still lose if the rules of the game are objective based. However, avatar death remains as a centre of focus in this research and I am especially interested in what happens after such an event. As an example, I am going to be examining the respawn mechanics of different

games. As research questions one and two are in their nature exploratory I have no hypothesis to propose.

To research the connection of cause and effect I need to gather data on the effects. Therefore, I need to gain insight on experiences of players of games with different failure mechanics and punishments for them. More specifically I pose the question: **How do punishments for failure affect the participatory, goal and interpersonal distances?** To put it broadly, the question could be reiterated as “How do punishments for failure affect the immersion, flow and social experiences?”. The interpersonal distance in this case includes the interpersonal communications of players after failure events including both positive and negative tones. Therefore, the research question three does include a sub question: “How do punishments for failure affect the interpersonal communication of the players?”.

Based on research presented in this literature review it is clear that avatar death and failure do affect the players of video games. The balance of player skill and the challenge of the game is important in ensuring optimal flow and therefore game enjoyment. However, based on Juul’s (2014) notion that humans understand the necessity of failure in the context of the whole experience, I argue that more failures and more severe punishments lead to an overall net positive in the player experience. Supporting this is Ravaja et al.: s (2008) research where they provided evidence that players may express positive emotions in the event of avatar death. Therefore, I propose the following hypothesis for the research question three: **More severe punishments for failure decrease the participatory, goal and interpersonal distances.** By having these distances shortened the players feel more immersed in the game, experience more flow and form stronger connections with other players, therefore making their experience more memorable. From that hypothesis we can deduce that the null hypothesis is the following: **Punishments for failure do not affect the participatory, goal and interpersonal distances.**

To summarize, the research questions for this study are as follows:

Q1: How does avatar death occur in multiplayer online games?

Q2: In which ways are players punished for failure?

Q3: How do punishments for failure affect the participatory, goal and interpersonal distances?

And the research hypothesis for Q3 are:

H₀: Punishments for failure do not affect the participatory, goal and interpersonal distances.

H₁: More severe punishments for failure decrease the participatory, goal and interpersonal distances.

3 METHODOLOGY

To answer all the described research questions mixed methods approach was chosen for this study. For questions Q1 and Q2 observations of gameplay situations were required. This could have been conducted by observing other players but due to limitations of resources formal gameplay analysis was chosen. Lankoski and Björk (2015) describe formal gameplay analysis as examining specific elements of a game. For the context of this research those elements are mechanics concerning avatar death and punishments for partaking in such mechanics. The results of formal analysis are useful in that they can be contrasted against other sources of data (Lankoski & Björk, 2015).

However, formal gameplay analysis does pose challenges in being able to distance the gameplay context, such as the player and the environment, from the actual formal features. Lankoski and Björk (2015) identify these formal features in games to be game elements, rules and goals. For this study a focus on game rules for losing were examined in most detail. Observations were made on gameplay situations where avatar death occurred. These observations are not conclusive, but they offer throughout insight into different ways an avatar death may occur in multiplayer online games. The nature of most games is to set the player back or punish them for failure. A close care is put into studying which rules govern the aftermath of avatar death. These findings will answer the second research question.

For the research question on effects of avatar death to the player experience mostly quantitative method was chosen. To gain truer understanding of the experience of the players many more participants needed to be reached. By gaining responses from a more numerous sample size the results of this research gained validity and credibility. Furthermore, they offer a chance to compare the results for different games and therefore different game elements. The desired outcome of the combination of these methods was to be able to pinpoint which failure mechanics and punishments correlate to which type of player experience.

For these considerations an online player survey was chosen as a secondary research method. Online game communities offer many participants, fast deployment and low costs. The survey was posted in three equivalent parts each referencing a single game. It

featured mostly quantitative questions for the convenience of the participants but also offered a change to express their experiences through freeform text questions. As stated above, formal analysis can be used as a base for other research methods (Lankoski & Björk, 2015). For this research the formal gameplay analysis offers both a guidance in crafting the research questions and a framework in which to build the research analysis.

For the formal gameplay analysis ethical concerns were not raised. No participants outside the researcher were observed. The player experience survey required some considerations. For the purpose of this study no personal information was required. Therefore, questions that posed a threat to the participants privacy were not included in the survey. Furthermore, all the participants were recruited voluntarily, and no incentive was provided for participating.

In the following section I will introduce the sample games chosen for this study. Following that I will describe the experiment procedures for both the formal gameplay analysis and the player experience survey.

3.1 Sample games

The games for formal analysis were chosen from current popular online games. Each of the games needed to meet the criteria of being online, featuring a player avatar and for the possibility for the avatar to experience death. This ensures that the analysis results are comparable. However, the titles need to be seemingly different in their failure mechanics for any relevant data to be procured. Further differences may be found during the formal gameplay analysis procedure.

First game for analysis is PLAYERUNKNOWN's Battlegrounds (Bluehole, 2017), referred to as PUBG. PUBG was chosen because it represents a popular Battle Royale - genre but features unique gameplay elements among the other sample games. In the game, the players land on the map with parachutes in teams of one to four players. The players collect weapons, gear and vehicles found in the map and fight other players to survive. The game area shrinks periodically towards the end of the game. The goal of PUBG is to be the last player or team alive. PUBG represents failure mechanic archetype of permadeath where the player's game is over upon avatar death until a new game is started.

The second game for analysis is Valve's Counter Strike: Global Offensive (2012), hereby referred to as CS:GO. CS:GO fits this study as it is a very popular competitive multiplayer online shooter with classical mechanics and a long history. In the formal gameplay analysis, the game is observed in its competitive matchmaking game mode. In it, the players face each other in teams of five. One team starts as terrorist while the other as counter terrorists. The objective of the terrorists is most often to push to a bomb site area on the map, arm the bomb in the area and defend it until it explodes. Meanwhile, the counter terrorists try to prevent this from happening. By succeeding in their objective or eliminating the other team, the team wins a round. The match ends when a team reaches 16 round wins or a tie at 15-15. The teams are swapped half way through. In CS:GO the player is revived upon the start of a new round and thus represents the archetype of *periodical respawns*.

Final game for the study is Overwatch (Blizzard, 2016). Overwatch is also a popular game in its genre and features a more fast-paced gameplay and more juicy visual style than the other games. The game also has a lively e-sports following. In this study, the focus is on the competitive matchmaking game mode. In it, the players face each other in teams of six in various game modes such as assault, control, escort or hybrid. The players choose a character from a wide selection with differing abilities. Depending on the game mode, the players battle to control certain areas or automatically moving objectives on the map. The goal is to complete the objective better than the other team on their turn. Overwatch represents the failure mechanic archetype of *constant respawns* where the player is returned battle soon after death.

3.2 Formal gameplay analysis

The formal gameplay analysis was aided by recordings gameplay sessions as well as my previous experiences of the games. Gameplay sessions were recorded with Open Broadcaster Software with webcam footage in my own personal computer. Recordings were made using my personal Steam and Battle.net accounts. CS:GO and Overwatch sessions were played alone with online teammates while PUBG recording includes a few matches with a friend. In total the recordings consist of approximately five hours of gameplay footage roughly split among these three games.

All the gameplay sessions were played on ranked online matchmaking as it is often mimicking the designers intended experience. Recordings are accompanied by the researcher's minor commentary. Recordings were an important tool because I could focus on playing the game as normally as possible. After the sessions the recordings could be replayed and used to draft notes. Notes were then subjected to content analysis to craft a preliminary classification of different aspects of failure mechanics for each game.

The strength of formal gameplay analysis on recorded gameplay is the preservation of the data. During the analysis process the videos could be watched as many times as needed. Furthermore, this approach allowed me to take advantage of my previous experience of these games as it significantly sped up the process of data collection. A new player might have to familiarize themselves with the game for several hours before any relevant data could be collected. Finally, formal gameplay analysis allowed for collection of data that is rarely explored in this manner in academia. In addition, it supported the second research method.

It must be acknowledged that this method had its limitations in producing conclusive evidence for my hypothesis. Even though they were supported by previous experience the gameplay recordings did not have enough gameplay to fully explore all the mechanics of a given game. Furthermore, the researchers own biases are minimized but not eliminated. A more credible results could have been achieved by observing other players playing these games. The reason a proper laboratory experiment was not conducted was due to time and resource limitations. The vast amount of existing gameplay recordings could have also been a possible source of data. Streams and YouTube videos could have been analyzed instead of recording new gameplay footage. However, as a basis for the player survey the credibility and validity raise no concerns.

3.3 Player experience survey

Based on the results of the formal gameplay analysis a survey was constructed for evaluating the effects of avatar death on player experience. The survey contained 25 quantitative questions where the participants were asked to describe their gameplay experiences on a given game on a scale from 'never' to 'always'. The questions were inspired by the PLEX-framework (Arrasvuori, Boberg & Korhonen, 2010). The PLEX-

categories were utilised similarly to PLEXQ Questionnaire where the questions are based on the category descriptions (Boberg et al., 2015). For example, desiring to gain insight on suffering experiences on a game one might ask whether the participant felt frustrated during gameplay. Then they would answer ‘never’, ‘always’ or something in between.

Additionally, three qualitative free text questions were included in the survey. The goal was to let the participants have a chance to add any additional thoughts that were not asked during the quantitative section. These questions were also built around the PLEX-categories (Arrasvuori et al., 2010) asking the participants to expand on the topics previously discussed.

Google Forms was chosen as a platform for the survey. Google Forms had advantages over other platforms such as being free, easy to use and my previous experience using the platform. Google Forms can easily export the results to a Microsoft Excel file which helped the analysis. Furthermore, Google Drive already contained other research files, so it was natural to centre most of the data in the same place.

The final survey (Appendix 1.) was first launched in three parts with three different titles; CS:GO, Overwatch and PUBG. The plan was to post them on each corresponding subreddit, [reddit.com/r/globaloffensive](https://www.reddit.com/r/globaloffensive), (GlobalOffensive subreddit, 2011) [reddit.com/r/overwatch](https://www.reddit.com/r/overwatch) (Overwatch subreddit, 2012) and [reddit.com/r/pubattlegrounds](https://www.reddit.com/r/pubattlegrounds) (PUBATTLEGROUNDS subreddit, 2016). Reddit was chosen as a platform for the survey due to ease of use and the large audience available. The surveys first launched in November 2019. However, the subreddits turned out to have rules against posting with a new account or with no karma so the survey posts were taken down immediately. Realizing this, the backup plan was to get the surveys out there where ever gamers could be reached. The surveys were posted on survey sharing subreddits such as [r/SampleSize](https://www.reddit.com/r/samplesize) (SampleSize subreddit, 2012) and a Facebook page recommended by another reddit user. Additionally, more participants were reached from Steam Community forums (Valve, 2019).

However, at this point the number of participants fell below expectations by a large margin. To counter this, supplementary survey promotions were made on [r/ludology](https://www.reddit.com/r/ludology) (Ludology subreddit, 2011), a community for study of games. From there I managed to gain a dozen or so participants but more importantly some positive post and comment

karma for my reddit account. After that, I was able to get the survey back up in r/overwatch, r/PUBATTLEGROUNDS and r/csgo (csgo subreddit, 2011). That visibility provided me with a significant number of participants. At that point, Counter Strike: Global Offensive survey still had a lower number of participants than the other two, so I decided to post it one more time to r/GlobalOffensive with a different formatting to avoid spam deleting bots. This time the post stayed up and I managed to get the CS:GO survey participants to an acceptable level. The surveys were closed in December 14th and the data was submitted to analysis.

After the data collection the survey results were exported from Google to Excel. The means of the quantitative results were calculated for each question for each survey. Then the means of the questions were averaged based on which distance it related to: participatory, goal or interpersonal. The remaining questions were distributed into categories of toxic behaviour, general negative experiences, game enjoyment and memorability.

Table 1. Distribution of questions to categories.

	Participatory	Goal	Interpersonal	Toxic	Negative	Enjoyment	Memorability
Questions	1, 6, 8, 18	2, 3, 4, 19, 21	7, 9, 16, 20	5, 13, 22	14, 15	10, 11, 12, 17, 25	23, 24

Table 1 describes the distribution of individual questions into categories. In participatory distance category, we have questions that measure the immersion and engagement the players feel during the gameplay session. A greater score means shorter participatory distance. The second category measures the competitiveness and flow the players reported. Interpersonal distance category measures the readiness of players to have social interactions within the game and the strength of those interactions. A higher score means shorter interpersonal distance and therefore more and stronger social interaction. Negative category refers to questions that measure negative experience during gameplay such as frustration, anger and disappointment. Higher score means more or stronger negative experiences. The toxic behaviour category measures the amount of toxic behaviour the players commit or receive such as harassment, abuse and online bullying. Higher score means more toxicity. Enjoyment category is an inverse to the negative category and measures the overall enjoyment of the players. The final category,

memorability, contains questions not directly related to the research hypotheses but rather those that support them in various ways. As memorability cannot be inferred from an online survey I depend on the reports of the participants.

A player survey is a common and effective source of data game studies. It provides information on the player's perspectives on their experience and can produce a significant sample size. However, being unable to reach the desired sample size hindered the credibility of this research. Having to redefine the target group also needed to be considered in the analysis phase as the original sample size was supposed to be gamers of each specific game. In the end, participants were recruited from multiple online communities so their familiarity with the games could not be inferred. To counter the redefinition of the target group an instruction was added to the survey where the participants were asked to be familiar with the game they were answering for. However, in the end the sample size of all three surveys were sufficient to produce sufficiently reliable and valid data for this type of research.

4 RESULTS

This chapter will present the results of the research methods. First, we will look at the findings of the formal gameplay analysis and then move on to the survey results. Finally, the results are combined to provide the results for the research questions.

4.1 Formal gameplay analysis results

The first research question was tested with a formal gameplay analysis on three online multiplayer games. Overall, we can see that only one way to fail was clearly present in all the sample games. Multiplayer online shooter games require skill to compete with other players and in lacking that skill, failure is imminent. Even though no other categories were present in all the games, some common themes were found in preparation, strategy and objective oriented play.

Table 2. Formal gameplay analysis results composed categorically

	Preparation	Mechanics	Strategy	Luck	Objective	Punishment	Comeback	Abuse
OW	Team composition	X	~	-	X	Minor	Mercy & overtime	~
CS:GO	Economy management	X	X	-	X	Moderate	Loss bonus	~
PUBG	-	X	X	X	~	Severe	Revive	-

Note: X means present, - means not present and ~ means somewhat present in the game.

Table 2 presents the compiled results of the formal gameplay analysis thematically. All the samples provided observations of a comeback mechanic in very different forms. Most importantly for the purpose of this method, three levels of punishment levels were identified: minor, moderate and severe. In the following sections, I will describe in detail how the results of the formal gameplay analysis were compiled.

4.1.1 Failure mechanics

The analysis revealed several gameplay mechanics that resulted in avatar death or a match loss. In Counter Strike: Global Offensive economy management plays a significant role

on how the game plays out. When players mismanage their economy by buying the wrong equipment or buying when they strategically should be saving, they put their team at a disadvantage which often lead to round or match losses. This effect is enhanced when the team fails to work together and cannot agree on the economy strategy.

Bad gameplay mechanics came in to play repeatedly when avatar death occurred. This often happened when a player was out aimed by the opposing team. Failure due to bad mechanics was especially evident when the attacking player had the element of surprise but failed to capitalize because of missing shots. The analysis found strategical failures to induce loss of rounds or avatar-life. On occasion the observed player, or their teammates when observing them, failed to predict or interpret the audio cues for the enemy position resulting in a disadvantage in battle. Friendly fire was observed rarely as well mostly in the form of misplaced grenades.

A common theme found in the Counter Strike: Global Offensive analysis was the players' failure to play the objective of the game. In CS:GO players can win rounds by detonating or defusing a bomb. Teammates and the opposing teams were observed to disregard this objective in favour of avoiding avatar death, thus subjecting the team to a round loss.

The formal gameplay analysis of Overwatch revealed less failure mechanics. Disadvantages in gameplay situations were observed when a team chose characters unsuitable for optimal teamwork. Overwatch features multiple characters for different roles. A healthy mix of roles is the optimal team composition for teamplay. Observations revealed that when the players picked team compositions that missed important roles such as tanks and healers, the game posed more challenge. This led to repeated avatar deaths.

Mechanics wise, misuse of ultimate abilities, the characters most powerful moves, led to disadvantages in gameplay and avatar death. When players used these abilities too early, the enemy team had an advantage in the next team fight. These misuses were caused by either strategical errors or by accidentally hitting the ultimate ability button on the keyboard. Failing to play objective also proved critical in how the matches turned out. In Overwatch the objective can be either a capturable zone in the map or an automatically moving cart that can be sped up or slowed by player character presence. A situation was observed where they players moved too far away from the objective resulting in the

enemy team stealing the win. Favouring combat in place of objective also presented itself as a failure mechanic in less dramatic ways.

Observations of gameplay in PLAYERUNKNOWN's Battlegrounds revealed four types of failure mechanics. Due to the nature of the game rules in game weapons and gear must be found randomly in the game world. In two matches avatar death and a loss were directly caused by players not being able to find weapons at the start of the game. The opposing players procured varied weapons immediately and proceeded to eliminate the observer's team. While it must be acknowledged that likelihood of not finding any weapons can be mitigated with strategy, experience and gameplay mechanics, due to the nature of random loot generation luck can cause the players to be at a disadvantage.

Gameplay skills such as aim and movement played a role in the outcome of the matches. Failing to win battles against other players did directly cause avatar death. Furthermore, efficiency of movement influenced player's position later, therefore giving them an advantage or disadvantage. Inefficient movement was observed to cause the players to flee from the blue zone too rapidly making them end up in an ambush. In PUBG the choice of strategy meant avatar life or avatar death. Planning movement ahead to favourable terrain avoiding the dangers of the blue zone w

as observed to lessen the chance of failure. On occasion a beneficial choice of strategy was to avoid combat, in other words, favour survival. As the objective of the game is to survive as the last player or players, choosing to engage in combat was in some cases taking away from the overall objective.

4.1.2 Avatar death and the aftermath

In the analysis of Counter Strike: Global Offensive I examined the mechanics of avatar death and its effects to the gameplay. CS:GO is a round based game where a player characters respawn at the start of the next round. That can take maximum of about two minutes. Every avatar death directly causes the team to lose one fifth of their members, making the following plays easier for the opposing team. Furthermore, the eliminated character loses their gear and must buy new equipment at the next round. In this manner, avatar death ties into the economy management of the game. Losing a player character first caused the team to have an immediate disadvantage for the rest of the round.

Losing multiple rounds in a row in CS:GO affords the losing team an economical loss bonus. The loss bonus accumulates until it reaches its maximum in five consecutive losses. The loss bonus mechanic mitigates some effects of failure and prevent the other team from snowballing economically. This design allows comebacks to occur even after a losing streak.

Observations of Overwatch revealed a fast-paced gameplay cycle of battle and avatar death. Avatar death in game the means a break of ten seconds before being allowed to respawn back into the game. The respawn timer can be scaled up or down by holding the objective or during overtime. During the game the player spawns' distance from the objective area changes. However, after respawning there is always a delay before the player can be a part of the battle again. This mechanic causes slight disadvantage to the team by removing a one sixth of their members from battle for a time. The death delay can be mitigated if a team features Mercy, a resurrecting character. By using resurrection, the players spawn at the place of their demise, shortening the distance to the battle.

For a PLAYERUNKNOWN's Battlegrounds player, avatar death can mean the end of the match. After true avatar death no respawn is possible and the player is made to watch for the rest of the game. Considering the maximum team size of four, losing a team member means the loss of at least 25% of the squad. In the case of a solo player, the game ends. However, in team games hitting zero hit points causes a knockout state. In this state players can crawl around slowly but cannot attack. If a player is knocked out for too long, they are permanently removed from the match. This time can be sped up by damaging the character or by being knocked out multiple times during the match. Knocked out player can be resurrected by a teammate by standing still next to them and holding the resurrection action, therefore rendering them unable to do combat. As losing a player permanently is so detrimental to the success of a team, the resurrection manoeuvre is very valuable but highly risky. This mechanic can be used strategically by the opposing team by using a crawling player as bait to draw the other team members out.

4.1.3 Social interactions

Additionally, the formal gameplay analysis had a focus on toxic communication relating to failure and avatar death. During the Counter Strike: Global Offensive gameplay session text chat abuse was received from the opposing team after losses. The chat messages

included mentions of 'being bad', 'being noobs' and 'uninstalling'. However, no negative communication was observed from team members.

Overwatch featured minor verbal abuse from the team members in the voice chat. This was related to choosing certain heroes and placed blame on the loss to these choices. PLAYERUNKNOWN's Battlegrounds does not offer a text chat option. However, there is a voice chat function that can be used to communicate with close by players or team members. During the experiment play session, voice chat was not used apart from the spawn zone. No comprehensible communications could be decoded.

4.2 Player experience survey results

In the following sections, I will present the data from the quantitative and qualitative questions.

4.2.1 Quantitative data

After the data collection period I had acquired a satisfactory amount of responses. Counter Strike: Global Offensive survey procured 133 participants, Overwatch survey 1575 participants and the PLAYERUNKNOWN's Battlegrounds survey 109 participants. The data was compiled in Microsoft Excel and means were calculated for each of the categories; participatory distance, goal distance, interpersonal distance, toxic behaviour, negative experiences, enjoyment and memorability.

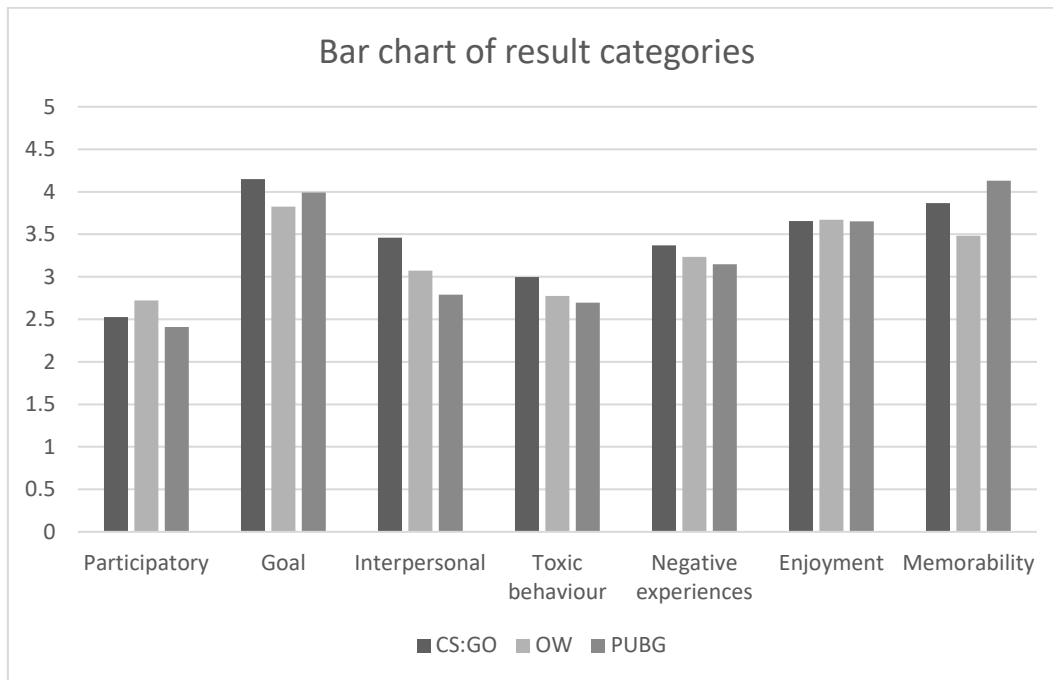


Figure 1. Survey results per result category

Figure 1 presents the results of the quantitative data in a bar chart where X-axis represents the analysis categories and the Y-axis the mean of all the means of questions in that category. The creation of the analysis categories was described in more detail in the methodology chapter. In the participatory distance category means were calculated from questions 1, 6, 8, and 18. Then the mean of those means determined which represented the result of the analysis category. This result will be referred to as the *score* of the category. This procedure was repeated for each game for each category including the survey questions described in the methodology chapter.

In the participatory distance category Overwatch scored slightly higher than the other two games. This result indicates that Overwatch players experience shorter participatory distance than CS:GO or PUBG players. The results of the goal distance category predict that CS:GO players report higher levels of competitiveness and flow experiences. In this category, Overwatch scored the lowest. Interpersonal distance category shows that again, CS:GO players experience higher levels and more social interaction during gameplay. As expected, this result was the lowest for PUBG players.

Negative experience levels were not significantly different among the data set even though CS:GO players reported slightly higher scores. Additionally, the toxic behaviour category produces very similar results. The enjoyment category did not have significant

differences among these three games. Finally, the memorability section shows that PUBG players report their experiences to be more often memorable than CS:GO and Overwatch players.

Generally, the scores were above the middle point of 2,5, meaning that players experience these categories more often than not. All the categories except toxic behaviour and negative experiences can be considered positive so the results show that the players of these games usually have positive experiences during gameplay. The goal orientation of the sample games is prevalent as the goal distance category has generally the highest score. Furthermore, the scores in the memorability category show that the players report a high rate of memorable experiences.

However, the participatory distance category scores are the lowest in the data set rising barely above the middle point in two of the three samples. That result suggests that these sample games were not exceptionally adept at providing immersion. However, many factors can cause this result such as the context of the gameplay and the player motivations. Additionally, the scores in the toxic behaviour category did not rise above 3 in any samples. However, in that category higher score is not particularly better for the gameplay experience so it is slightly interesting that the players of these games receive or engage in toxic behaviour more often than not.

In addition, CS:GO scored the highest in the goal distance, interpersonal distance, toxic behaviour and negative experience categories. This result would suggest a connection between these experiences during gameplay. Being more motivated to succeed in a game encourages the players to communicate with each other. More engagement and communication lead to outbursts of mischievous behaviour which in turn showers the other players with negative experiences. Therefore, a logical bridge between these categories can be built but their true correlation must be inspected in more detail.

4.2.2 Qualitative data

The results for the qualitative questions in the survey were collected by question by game to a text file. Then the occurrences of words were counted in the text and that data was scoured to find different themes. The first question asked how players reacted when their

character died. CS:GO players were observed to write about teamplay, depending on the situation and frustrations. One CS:GO player wrote:

It depends how I am performing overall in the game. If I have been performing poorly and have died a lot and not gotten many kills then I will react with frustration and in some cases might yell or hit my desk. If I have been performing well then I will still be annoyed but won't react quite as extremely.

This participant described their reaction to depend on their performance in the game. Performing poorly made them more susceptible to physical outbursts of anger. However, when playing well the experience is still described as annoying but the reactions are not so extreme. Similarly, Overwatch players reported notions of team, depending on the situation and frustration. Additionally, 'trying again' and 'respawn' were found in the data set. One Overwatch participant compared their experience to getting scored on in basketball or losing a piece in chess. They wrote that they understand it as a negative experience but do not feel any kind of loss or mourning towards the being of the character. This would suggest that some players might view Overwatch more like a sport than an immersive media experience. PUBG players also understood that their reactions depend on the situation. They also wrote about next matches and feelings such as frustration, annoyance and disappointment. Summarizing many answers of the other participants one PUBG player responded that they react 'appropriately' as after all, it is just a video game. This raises a question of what an appropriate reaction to character death in video game is. This particular participant views that a severe emotional reaction to character death is inappropriate.

The second question surveyed the reactions of players when their team loses as a whole. The results for CS:GO indicate that similar themes are present as in individual character deaths. However, experiences of frustration and disappointment were even more pronounced. Additionally, a few participants reported that they accept their defeat or that they see it as an opportunity to improve. One player took a rational approach in their answer. They realised that they lose approximately half of their matches anyway, so they did not get too angry. Overwatch players' results revolved around the same themes as with the first questions. However, like CS:GO players Overwatch players reported about moving on and being better in the next game. One response speculated on the cause of the loss situation. They wrote that often the lack of communication is the reason for the

loss and by communicating more, they would have won the match. Again, PUBG survey results repeated the same themes in second question as in the first one. However, the aspect of the next match was pronounced when asked about in the context of the team losing.

The final question enquired about the players reactions upon winning a match. Results from all three games indicate that the experience depends on the situation. CS:GO players use of words like 'happy' and 'good' were found repeatedly among the answers. Overwatch players also answered using these words often, however they also added a theme of being relieved. However, one participant wrote:

Usually happy and proud of my team. Occasionally I feel overwhelmed and stressed cause I had to put in a tremendous amount of effort to carry a bunch of low IQ players.

This player often feels content in winning the match. However, even when winning they sometimes experience stress as they feel that their teammates did not contribute enough for the win. This statement would suggest that perhaps sometimes winning the match is not the only goal in the game but rather performing well as a team overall. PUBG players used descriptions of positive feelings repeatedly in their answers. Differing from the other two games, these players also used terms like 'excitement', 'accomplishment' and 'rewarding'. A few respondents described how their experiences are based on the context of the match. In public matches some players did not care if they win or lose but in competitive settings such as online or LAN-tournaments they get very excited.

4.3 Combined results of mixed methods

H₁ was tested by utilising both formal gameplay analysis and the player experience survey. Formal gameplay analysis was used to determine how severe the punishments are for failure in the occurrence of character death. The analysis shows that Overwatch had the most minor punishments, CS:GO had moderate punishments and PUBG featured the most severe punishments for failure. By reflecting H₁ on these results we expected that PUBG will score the highest on all the distance categories, CS:GO in the middle and Overwatch the lowest. However, the results of the analysis (see Table 3) show that H₁ was not confirmed as PUBG had the lowest means in two of the three distance categories.

CS:GO scored the highest in the goal and interpersonal distance categories while Overwatch had the highest score of participatory distance at 2,72.

Table 3. Punishment ratings and distance scores for each game

	Punishment severity	Participatory distance	Goal Distance	Interpersonal distance
Overwatch	Minor	2,72	3,82	3,07
CS:GO	Moderate	2,52	4,14	3,46
PUBG	Severity	2,40	3,99	2,72

In addition, the results suggest that punishment severity had no significant impact on the communications of the players as CS:GO scored the highest and PUBG the lowest. However, the results for the memorability category proposes that PUBG players experience their gameplay experiences as the most memorable while CS:GO results place in the middle and Overwatch memorability results score the lowest. This suggests that punishment severity is a predictor of a memorable player experience. As this result was not directly hypothesised nor directly related to other hypotheses, H₁ remains unconfirmed.

5 DISCUSSION

The study demonstrates that failure and character death can occur for several reasons and in several ways in multiplayer online shooter games. The punishments for these failures also vary from minor to severe. The main research question of this study explored the relationships of these punishments and the player experience. This was done using participatory, goal and interpersonal distances as a tool to categorize the player experience in sections. The results of the survey show that no correlation of punishment severity and scores in participatory, goal and interpersonal distance categories can be found as the game with the most minor punishments scored the highest in the participatory distance category, while the game with moderate punishments scored the highest in the other two categories. The game with the most severe punishments scored the lowest in almost all of the distances. Thus, H_1 was not supported by the findings of this study.

However, by further studying the data from both the formal gameplay analysis and the player experience survey it is clear that there are several factors at play which affected the results of this study that were not taken into account when first designing the research questions and hypotheses. Overwatch had the highest mean for the results that indicated the shortness of participatory distance meaning that the players reported being more immersed into gameplay. Overwatch features juicy characters with names and personalities while the player characters in CS:GO and PUBG are more generic soldier types. These characters may play a part in how the self-presence of the players is altered within the game world.

In the goal distance category CS:GO scored the highest even though the punishment severity was rated as moderate. Again, there are several elements that can shorten the goal distance that were not in the scope of this study. As demonstrated by Sepandar and Head (2018) the perceived competitiveness of the game is a predictor for flow experiences and player satisfaction. CS:GO has a strong e-sport community and competitive matchmaking game mode in the game promotes gameplay similar to professional e-sport players. These factors can affect especially the perceived competitiveness of the game, thus increasing flow and therefore the score in the goal distance category. However, Overwatch and PUBG also feature a lively e-sport community and results for all games show that

competition is present in the majority of the players' experiences. Additionally, PUBG scored higher in the goal distance category than Overwatch which is in accordance with H₁.

Interpersonal distance was reported to be the longest in PUBG gameplay experiences. This result was not predicted by the hypothesis, but it is explained by the findings of the formal gameplay analysis. It was observed that PUBG featured almost no communication elements which leaves little room for interpersonal interactions. This would suggest that H₁ was misinformed not considering the communication elements provided by gameplay. However, interesting result is that the interpersonal distance, negative experiences and toxic behaviour categories seem to have a correlation. Having more and stronger social connections with other players also promotes toxic behaviour in players. Adding more reported frustration, anger and negative feelings into the interpersonal communications might cause them to become toxic in nature.

Giving support to H₁ are the results of the memorability category. The severity of punishments of failure does influence the reported memorability of gameplay experiences of multiplayer online shooter games. Furthermore, the difference between the scores of PUBG and Overwatch, the highest and lowest scoring data, is 0.65 which suggest that this result is more or less significant. However, H₁ stated that more severe punishments for failure shortened the participatory, goal and interpersonal distances thus resulting in more memorable experiences. Again, it can be concluded that the assumptions included in the hypothesis particularly stating that shorter distances result in a more memorable experiences were misinformed. This study demonstrates that the punishment severity does not affect the distances, but it does affect directly the memorability of the player experience.

5.1 Interpretations

This study found several ways in which players can fail in multiplayer online shooter games. Firstly, preparation was observed to have a significant effect on the outcome of the match in two of the three games. Mechanics of the player had a role in the result of the game in all the data samples. However, it was observed that strategy played a less significant role in the game with the lowest rated severity of punishment for failure. Juul

(2010) wrote that hardcore games tend to punish the player more severely than casual games, thus implicating that based on the results of this study, Overwatch is a more casual game than CS:GO or PUBG. In this case, the most casual game of the group has the least amount of emphasis on strategy as a tool for success or failure.

Luck had very little impact on character deaths in CS:GO and Overwatch while PUBG featured a handful of luck-based mechanics that affected the outcome of the game. As observed in the formal gameplay analysis the randomly spawning loot and vehicles caused losses that were in no control of the player. By pairing this luck factor with the most severely rated punishments for failure a higher score of frustration, anger and negative feelings could be expected, however no such thing was observed. However, some of the responses for the qualitative questions directly contradict this data. When asked about the participants' reactions to character death, several reported that they accepted their defeat if it was perceived fair. On the other hand, if the character death was caused by luck, cheaters or other things not in their control they reported being annoyed, angry or frustrated. CS:GO players did not report any negative emotions due to being unlucky but Overwatch players responded with some notions of blaming luck for their failure and thus being frustrated even though no luck factors were observed during analysis of the game. This discrepancy in the data with PUBG could be explained by considering that the questions contributing to the frustration category were more generalized. Therefore, player experiences of PUBG overall can be lacking in frustrating occurrences but be pronounced when remembering their experiences in the context of character death. For the discrepancy in the Overwatch data, I must consider the fact that the players might perceive some gameplay experiences and situations as luck based even when they were not identified in the analysis of the game. Overall, the results for the frustration category were very close to one another, suggesting that frustrating experiences are present in all the sample games caused by different factors.

During the analysis a common element was found in all the samples that can be described as a comeback mechanic. CS:GO has an economy system that provides a sort of rubber band effect where the other team cannot get too far ahead economy wise. Overwatch had a character that can resurrect players in their place of elimination, thus circumventing the punishment for character death in large part. In PUBG teamplay, players were not instantly removed from the game when their hit points hit zero but were given time to be

resurrected by teammates. I call these type of mechanics *leniencies*. Leniencies are a way to balance the systems failure mechanics. This is evident from the Counter Strike blog (2019) where the patch notes stated that the loss bonuses were adjusted to reduce the negative feedback loop caused by losing streaks. Leniencies can also be used to promote teamplay by focusing these mechanics on helping the players teammates.

Even though H₁ was unconfirmed there were several factors in the data that support the underlying notion that failure mechanics and their punishments with their severity affect the player experience. Firstly, the results for the memorability were in full support of this idea. The results were in the exact order predicted, however it was not implicitly stated to be a part of the hypothesis. Additionally, supporting this idea were the responses to the open-ended questions by the PUBG players. When asked about what it felt like to win in PUBG one participant wrote:

Unlike other games when I win a game I feel a sense of accomplishment, it feels like I've genuinely succeeded. The way you get into the game, and feel the intensity, the gun battles, clutching a 3v1 that is what makes this game so good when it come to winning.

This participant described winning in PUBG as unlike winning in any other game. In the responses there were many other participants describing similar notions as well as participants reporting physical reactions such as increased heartbeat and cold hands. Furthermore, no reports of physical reactions to winning in the results for CS:GO or Overwatch. Therefore, it can be interpreted that failure mechanics present in PUBG, such as permanent character death, are a predictor for a memorable gaming experiences and physical reactions to winning matches.

5.2 Implications

Previous research has explored failure in video games from several angles. Juul (2014) proposed as a solution to the paradox of failure the conflict of interest in different time frames. The results of this study support that notion as many of the participants of the player experience survey reported that they accept their defeat and move on in the longer timeframe. In addition, the results show that even though the participants described negative experiences towards character death and losing, they still reported the gameplay to be enjoyable and memorable.

Studies by Ravaja (2008), Kätsyri et al. (2013) and Yokota et al. (2019) demonstrated that failure events in video games does cause a reaction in the players' brains, thus having a significant effect on the player. This study provides new insight into how these reactions are translated into player experiences. Even though the severity of punishment for failure does not have a correlation on the participatory, goal and interpersonal distances the results demonstrate a relationship with the punishments and the perceived memorability. In the scope of this research, memorability was not clearly defined as it was not on the focus of the research questions, therefore making this result unable to produce valid conclusions. However, it does show that it is something that should be looked further into in other studies.

Furthermore, this study is in support of Sepandar and Head's (2018) research on effects of perceived competitiveness on the flow experience. As previously noted, CS:GO scored the highest in the goal distance category and I argued that the result is explained by the perceived competitiveness of the players. Therefore, in some ways I was able to replicate Sepandar and Head's (2018) result which states that perceived competitiveness is a strong predictor for flow state and satisfaction. Klastrop (2006) suggested avatar death is a building block for social interactions in the game world. However, I was not able to find a connection between the severity of death mechanics and the interpersonal distance, thus suggesting that the meaning of avatar death does not evolve with the mechanics in the context of social interactions. My result directly contradicts the findings of Carter et al. (2013) in that they argue that the permadeath in DayZ enhances the social interactions and invokes moral dilemmas while the only game in my sample that featured permadeath had the lowest score in the interpersonal distance category. However, it must be acknowledged that the formal gameplay analysis revealed that PUBG did not have a strong support for in game communications. As CS:GO rated the highest in that category and features more severe punishments for failure than Overwatch, it can be argued that severity of the death penalties can have an effect on the strength of the social interactions. Additionally, there are other factors in play such as the competitiveness of the game that can encourage more interactions with other players.

A practical implication of this result is present in the game industry. Even though player experience is a very complicated phenomena that is difficult to design for I have provided new insight into how failure mechanics and punishments for failure can be used to build

a memorable gaming experience. In doing that I have also shown that there are many factors in play when constructing that experience by not confirming H₁. However, for specific player target groups in multiplayer online shooter games designers should experiment with punishing the players more severely after character death.

5.3 Limitations

This study is perceivably different in topic and methodology than other studies in the field of game research. Therefore, certain choices posed limitations for the reliability and validity of the results. Firstly, Q3 and its hypothesis H₁ made misinformed assumptions about the relationship of the participatory, goal and interpersonal distances and the overall memorability of the gameplay experience, as well as the relationship of the distances themselves. This was evident in the results of the formal gameplay analysis where it was observed that PUBG features little to no social interaction elements within its gameplay. Therefore, it would have been more fruitful to examine the distances separately each in their own research question.

Formal gameplay analysis was a powerful tool in exploring the games and identifying specific gameplay elements. I as the researcher, the observer and the participant cannot distance myself from all biases related to these games. Therefore, the data from the analysis should be taken with some reservation. However, in the case of this study, the findings relating to the severity of the punishments for failure are objective and can be replicated by any observer and participant.

An online survey as a data collection method caused some problems for this research. As it was difficult to get the surveys posted as planned, the target group had to be redefined. However, in the end, most of the participants were recruited right after posting the surveys on the game specific communities so the target group redefinition should not have skewed the data in significant amounts. The survey also imposed another problem where the sample size for Overwatch players was tenfold over the other sample sizes. This was not expected as it was assumed that the game communities were similar in activity and interest in surveys. Additionally, some survey participants commented that some of the questions were unclear and up for interpretation. Even though the questions were initially

carefully selected, some considerations could have been taken to phrase the questions in unambiguous manner.

Finally, the result categories for the analysis data were developed after the survey questions as a method for compiling the survey data into more concise form. The categories contain a certain amount of overlap as for example the first question could be interpreted to belonging to participatory distance or goal distance category. Therefore, the analysis categories should have been developed in conjunction with the survey itself, providing a more cohesive picture. However, as the purpose of the data was to be compared to another data sets it did not cast significant amount doubt into the validity of the results.

6 CONCLUSION

This research aimed to identify different failure mechanics in multiplayer online shooter games, explore and categorize punishments and finally to show their effect on the overall player experience. Based on the formal gameplay analysis of Counter Strike: Global Offensive, Overwatch and PLAYERUNKNOWN'S Battlegrounds it was found that failure and character death could occur due to preparation, strategy, mechanical skill or luck in varied levels in each game. The punishments were also found to be varying from simply removing the player from the battle for a minute to eliminating the player from the match altogether. The analysis of the qualitative data determined that no correlation could be found between the severity of the punishment for failure and the immersion, flow and social interactions in gameplay sessions. However, the results do suggest that the severity of punishments directly affect the memorability of the gameplay experience.

In this chapter I will first summarize and reflect on this study chapter by chapter and then propose avenues for further studies in the subject.

6.1 Summary and reflections

The purpose of this study was to patch a gap in game studies research in failure and player experience. To formulate the thesis questions, I examined previous literature in topics of failure, character death, flow, engagement and the alteration of self-presence in digital games. Based on the findings of the literature review, I constructed a framework of distances in which to frame the research questions. The first two questions were aimed to provide an understanding in what kind of different failure mechanics can be found in the games I was studying, therefore being able to compare the results of the player experience survey among different data sets.

Based on the previous literature I proposed a hypothesis which stated that more severe punishments for failure shorten the participatory, goal and interpersonal distances thus enhancing the overall player experience. Additionally, I argued that these also reflect on the memorability of the gameplay experience, but it was not implicitly included in the hypothesis.

Formal gameplay analysis was chosen as an initial method to answer the first two research questions. Even though the method had its limitations discussed in the previous chapter, it proved to be an effective tool in this research. As a standalone method, it would require more consideration into the validity of the data. For the second method a mostly qualitative online survey was chosen. I was expecting to reach a large targeted audience with ease but amassing a satisfactory number of participants turned out to be challenging. In the end, the number of responses for Overwatch exceeded my expectations while the other two surveys provided a sufficient number of participants. Reflecting on that, I could have limited the number of responses to an amount each of the surveys were expected to reach. However, as the estimates were proved incorrect the other approach would have been to select a smaller sample from the larger datasets. This could have provided more valid comparisons between them.

The results showed that the hypothesis for research question three was unconfirmed and thus no positive correlation between severity of punishments and the distances of the framework could be found. However, the results on the memorability category proved to be exactly as expected. As a side-effect of that discovery, it was inferred that immersion, flow and social interactions do not directly contribute to the memorability of the gameplay experience.

From the quantitative section of the player experience survey I expected only a handful of results as I assumed most survey participants would leave them empty. Therefore, the results were not planned to be used significantly in exploring the research topic. However, the percentage of participants that answered the open-ended questions far surpassed expectations and I was not prepared to analyse such a large amount of data. Therefore, it was only used in support of other results as it provided interesting insight into the minds of the players.

6.2 Future research

As the main hypothesis of this study remained inconclusive and it was proposed that it was in part due to the miscalculations in the research methodology, game scholars should consider repeating this type of research with more refined assumptions and methodology. The formal gameplay analysis could be arranged with outside participants who are

observer in laboratory conditions, thus removing any uncontrollable variables in the experiment. Furthermore, different sample games from different video game categories can be chosen to broaden the spectrum of discovery. Even though the player experience survey was a successful method in the end, some improvements could be made. More consideration could be added into formatting the survey questions to more specifically gain knowledge into the research questions. Furthermore, the survey could be used to provide mostly qualitative data. As I showed in my study, open-ended questions can provide rare valuable insight into the experiences of the players.

To confirm the relationship between failure mechanics and gameplay experience memorability I propose that a study should be conducted where aforementioned topics are in focus. The failure mechanics could be inspected using formal gameplay analysis as was done in this research. However, a broader spectrum of digital games could be chosen. The memorability of the gameplay experience could also be more clearly defined, thus allowing insight into how such a thing is constructed during gameplay.

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APPENDIX 1. PLAYER EXPERIENCE SURVEY - COUNTER STRIKE: GLOBAL OFFENSIVE

This survey is a part of my master's thesis on game design and player experiences. The aim of the survey is to gain insight into Your experiences when playing Counter Strike: Global Offensive.

The answers are anonymous and no personal information is asked or recorded.

Please describe your gaming experience by choosing the option that best suits you

When playing Counter Strike: Global Offensive...

(Answers are from 'Never' to 'Always' in a five-step scale.)

1. I forget my surroundings
2. My abilities are tested
3. I compete with myself or other players
4. I enjoy dominating the opposing team
5. I enjoy causing distress to my opponents
6. I enjoy finding new things in the game world
7. I express myself through my playstyle
8. I imagine being my player character
9. I socialize with other players
10. I encounter funny situations
11. I feel relaxed
12. I enjoy images and sounds of the game world
13. I break social rules and norms
14. I feel frustrated or angry when my character dies
15. I feel frustrated or angry when my team loses
16. I express my feelings with other players
17. I feel thrill
18. I feel bad for my character when they die
19. I feel my characters deaths are fair
20. I feel I have disappointed my team when my character dies
21. I am punished fairly for dying in the game
22. I receive abuse from other players
23. I have memorable experiences
24. Winning a match feels memorable
25. I enjoy my play time overall
26. If you have the time, please answer the following questions about your gaming experience in Counter Strike: Global Offensive
27. (Open-ended questions.)
28. How do you react when your character dies?
29. How do you react when your team loses?
30. How do you feel when you win?

Thank you for your time!