

What factors create intrinsic and extrinsic motivations in video games?

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Vilka faktorer skapar inre och yttre motivation i spel?

Abstract

The aim of this study is to find out what factors generate intrinsic and extrinsic motivations in video games. A stimulated recall method is used to conduct a study, where nine participants played *The Legend of Zelda: Breath of the Wild* (Nintendo, 2017) for 20 minutes before participating in an interview about their game session. The interviews are later transcribed and analyzed using thematic analysis. The conclusions drawn from this study are that game systems and intrinsic integration have aspects which generate both intrinsic and extrinsic motivation, while behavioural components such as the *Immersion*, *Achievement*, and *Social* components, can influence which of those aspects players will be drawn to. This has implications for research into education, where several discovered factors of creating motivation (game systems and intrinsic integration) can be used into creating more motivation for students to play education games.

Abstrakt

Målet med denna studie är att ta reda på vilka faktorer skapar inre och yttre motivation i spel. En stimulerat återsamling (översatt från *stimulated recall*) metod används för studien där nio deltagare spelar spelet *The Legend of Zelda: Breath of the Wild* (Nintendo, 2017) i 20 minuter och deltar sen i en intervju som handlar om deras spel session. Intervjuerna är senare transkriberade och analyserade med hjälp av tematisk analys. Studiens slutsatser är att spelsystem och inre integration (översatt från *intrinsic integration*) innefattar aspekter som skapar både inre och yttre motivation, medan olika beteende komponenterna *Nedsänkning* (översatt från immersion), *Prestation* (översatt från achievement) och *Social* komponenter, påverkar vilka av de aspekter som spelare dras till. Detta har implikationer för forskning inom utbildning eftersom flera upptäckta faktorer för att skapa motivation (spelsystem och inre integration) kan användas för att skapa motivation för elever att spela utbildningsspel.

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Introduction

Video games have been an ongoing phenomena for decades now, from arcade games in the 80's to modern day consoles today, people have continued to play games for a long time. For players to want to continue playing games, there must be a motivation. The motivations for the players could be extrinsic, meaning it is created from the game, or intrinsic, where it is created from the player themselves (Schoenau-Fog, 2011, p.7).

This study is a qualitative study that explores various aspects of motivation such as intrinsic and extrinsic motivation in games and how said motivations are created. The reason behind researching this topic is to figure out what elements cause players to play and continue playing video games, allowing developers to develop their games in ways which increase the player experience and their game's longevity. In a previous study, we've researched the factors which create intrinsic motivation, and this paper intends to further expand upon the previous study, where the focal point is not just factors that create intrinsic motivation, but factors that create extrinsic motivation as well.

Related Research

Kellar et.al. (2005) discusses motivational factors as to why people play complex video games in their study. Kellar et. al. comes up with a framework of important motivational factors, the factors in this framework are divided into: control, context, competency, and engagement factors. Control factors include game interactions, encouragement and providing rational goals. Context factors are rationales from the storyline and feedback. Competency factors stand for the scaffolding of tasks (as in conducting and structuring multiple tasks), doable challenges and models for successful strategies. Finally engagement factors means factors which can immerse a player such as rewards, role playing, personalizations and much more.

Because we are discussing what creates motivations in video games, having these papers which have frameworks for enhancing motivation will help our analysis as we can refer to the frameworks when drawing our conclusions.

Player Behavioural Components

One particular theory originates from Yee's (2005) paper, where Yee explores motivations of players to play MMORPGs. Yee's (2005) paper indicates "10 motivation subcomponents grouped into 3 overarching components" by further expanding on a pre-existing description model called the *Bartle's Player Types*, a taxonomy of player behaviours used in other studies such as Volkmar's et.al. (2019) study, to describe a player's behaviours based on 4 different types: *Achievers*, *Socializers*, *Explorers* and *Killers* (Bartle R., 1996). From *Bartle's* model, Yee (2005) defines several behavioural components as specific types of player behaviour which players exhibit while playing games, and defines subcomponents parts of the behavioural components as they represent more specific behaviours within the main behavioural components. The main behaviour components are *Achievement*, *Social* and *Immersion*. The subcomponents are *Advancement*, *Mechanics* and *Competition* for *Achievement*, *Socializing*, *Relationship* and *Teamwork* for *Social*, as well as *Discovery*, *Role-playing*, *Customization* and *Escapism* for *Immersion*.

Yee (2005) explains that the *Achievement* component describes people who enjoy accomplishing a goal as well as accumulating resources that come in several forms. Players who fit in the *Achievement* behavioural component and its subcomponents also enjoy the process of analysing and learning mechanics within games as well as being competitive against other individuals in order to dominate others or overcome some other individuals. Furthermore, Yee (2005) describes that players who fit in the *Social* behavioural component and its subcomponents enjoy socializing with other individuals, having relationships with said individuals as well as helping other individuals when it is needed. Finally, Yee (2005) defines the *Immersion* behavioural component as individuals who enjoy being immersed in game worlds or stories. Those individuals often like to role-play or like being relaxed while playing

video games. It also encompasses people who enjoy customizing their character in many forms as well as discovering things in the game world or its assets.

Yee's (2005) well-quoted study states that Bartle's Player Types is not aligned with the results seen in the paper as different types of motivation seem to affect each other (Yee, 2005, p1,6). Yee's (2005) publication has been used in multiple other publications which indicates that Yee has managed to create an information-rich publication about the different types of motivation in video games.

Schoenau-Fog (2011) writes about player engagement, and how different players engage themselves in different ways. The results give objectives as one of the primary reasons for continuing to play games, as they trigger activities for the player to complete. Schoenau-Fog (2011) discusses a number of other reasons as to why different people play games, which will help our study as it gives us insight on how factors for motivations will differ depending on the person.

The origin of a player's motivation can vary from person to person. These different origins were observed to be categorized into different archetypes in Volkmar's et.al. (2019) study. Volkmar et.al. (2019) explored the possibility of using adaptive game design to invoke intrinsic motivation on an extrinsic based game by creating dynamic achievements that align with a player's motivation in a video game. In order to assign player's with a dynamic achievement that aligns to their motivation, Volkmar et.al. (2019) developed a player behavioural typology called BrainHex, which is a combination of previous taxonomy models such as Yee's (2005) model and Bartle's model to name a few. Volkmar et.al. (2019) used this model in a test to figure out which of the pre-defined archetypes as Volkmar et.al. (2019) has defined in the BrainHex model exist within players. The archetypes that Volkmar et.al. (2019) has compiled are *Survivors* (individuals who enjoy terror-like experiences), *Daredevils* (individuals who enjoy taking risks), *Socializers* (individuals who enjoy helping others) and *Achievers* (individuals who focus on completing objectives) (Volkmar et.al., 2019, p.748-749). Using a questionnaire based test called *BrainHex* to get the participants' player archetype as well as assigning each

participant with a tailor-made achievement of their player archetype using the dynamic achievement system, Volkmar et.al. (2019) concluded that there was an increase in some motivational aspects.

Volkmar's et.al. (2019) result can be further supported upon analysing Przybylski's et.al. (2012) study. The study itself focused on the reasons why people play video games, concluding that video games provide unique experiences and the means to express oneself in a way that is not possible in the real world (Przybylski et.al., 2012, p.70,74). Upon further comparison of results between Volkmar's et.al. (2019) study and Przybylski's et.al. (2012) study, it can be deduced that the player archetypes seen in Volkmar's et.al. (2019) study originate from a person's ideal self. As such, the conclusions of Volkmar's et.al. (2019) study indicate that there is no single origin or causation of intrinsic motivation in video games since said causations are based on players' personal desires. This is further supported by Przybylski's et.al. (2012) results, where the study concluded that people play video games to experience novel and unique experiences as they idealize their ideal selves into the game world (Przybylski et.al., 2012, 74). This can be a point of discussion and exploration in the study as specific factors of intrinsic and extrinsic motivation tailored towards specific players can be discovered.

Game Systems

While players motivate themselves to express and experience novel and unique experiences Przybylski's et.al. (2012), certain game systems and mechanics are also able to affect or even invoke motivation to players during gameplay. This was observed in numerous publications where each publication experimented with certain game systems or mechanics such as Mekler's et.al. (2013) paper about leaderboards and levels and the aforementioned Volkmar et.al. (2019) study that explored the possibility of turning an extrinsic oriented game system such as achievements (not to be confused with Yee's (2005) *Achievement* behavioural component) to be more intrinsic using an adaptive game design philosophy.

A common theme observed is the exploration of game systems and their effects on motivation. The game systems mentioned in Volkmar's et.al. (2019) study and Mekler's et.al. (2013) paper are inherently extrinsic, as in it is something that the game has set as a goal for the player to accomplish.

Mekler's et.al. (2013) paper in particular explored the possibility that game elements such as leaderboards and levels, game systems that are extrinsic in nature, could "undermine intrinsic motivation" (2013, p.66). The paper itself explored the established topic that game elements could undermine intrinsic motivation in players and concluded that people felt motivated and satisfied in playing and completing the experimental game regardless of game element (Mekler et.al., 2013, p.70).

While there are certainly flaws that were explicitly stated in Mekler's et.al. (2013) paper, such as using a better method in testing out the theories mentioned within the study, one can deduce that game systems such as leaderboards and levels can act as overarching goals for players to accomplish and improve upon as these systems tend to exist for the sole purpose of rewarding the player for their effort. Furthermore, these systems can be aligned towards certain player groups who fit in one of the player archetypes established in Volkmar's et.al. (2019) study which would increase their motivation and effort when it comes to playing a video game with these game systems.

Overall, one commonality between the conclusions drawn on the aforementioned studies of Volkmar et.al. (2019), Mekler et.al.(2013) and Przybylski et.al (2012). is how game systems such as achievements and leaderboards can affect player motivation depending on how each system was designed. It is this commonality that could be used as a discussion point as well as further explore any other factors that game systems have that invokes or affects motivation of players in video games.

Wang and Sun (2011) give an overview on how reward systems in videogames function, how rewards give positive experiences to players and provide reward

characteristics. Wang and Sun conclude that there are four main points as to how rewards provide positive experiences, these points being: Rewards establishing status and attracting attention, rewards set goals for players, rewards arouse curiosity and finally rewards give players a sense of achievement. The reason we have chosen to use this paper is because reward systems can be a factor for creating extrinsic motivation in gaming, as they can function as a goal to strive to and a reward.

Competition

Hulaj et. al. (2020), in their study, discuss the phenomenon of performance in games. The study looks into how players are not only satisfied by performance, but also what motivates them to perform well. Hulaj et. al. find both intrinsic and extrinsic factors which motivate players, such as interest, satisfaction, rewards, ego-involvement and many more. Song et. al. (2013) also discuss performance in gaming as competition. Their study examines competition in exercise based video games and how it motivates people to exercise. Results showed that player motivation matched the *Self-Determination Theory*, which is a theory on how people's motivation and personality reflects their growth tendencies and how people can be self motivated, and that competition brought both positive experience or no experiences depending on the individual.

Similarly Abuhamdeh and Csikszentmihalyi (2009) explore the relationships between both types of motivation and the competitive environment using various theories such as *Self-Determination Theory* and research to predict an outcome. Abuhamdeh and Csikszentmihalyi (2009) conclude that intrinsic motivation and the strengthening of relationships between challenge and enjoyment could be correlated. Furthermore, Abuhamdeh and Csikszentmihalyi (2009) also found a correlation between extrinsic motivation and competitive outcome. These results were, according to Abuhamdeh and Csikszentmihalyi (2009) within their predictions.

Hulaj et. al., Song et. al. as well as Abuhamdeh and Csikszentmihalyi all discuss performance and competitiveness in video games, this itself could function as an intrinsic factor as to why people play games, however apart from that they also provide many answers of why that is, which itself will provide insight for our study on why people play games, even if just in a competitive manner.

Education and Intrinsic Integration

In 2011, Habgood & Ainsworth discuss how intrinsic integration can be used as a way of creating a more productive relationship between learning content and educational games by making it easier to teach in educational games, with intrinsic integration being a method of integrating factors to create intrinsic motivation into a game. Results showed that intrinsic integration of educational games helped teach children more than no integration. This article delves into using intrinsic integration to motivate people which is why this article will be useful, because it will help illustrate intrinsic factors that are most effective in motivating players, along with the other literature.

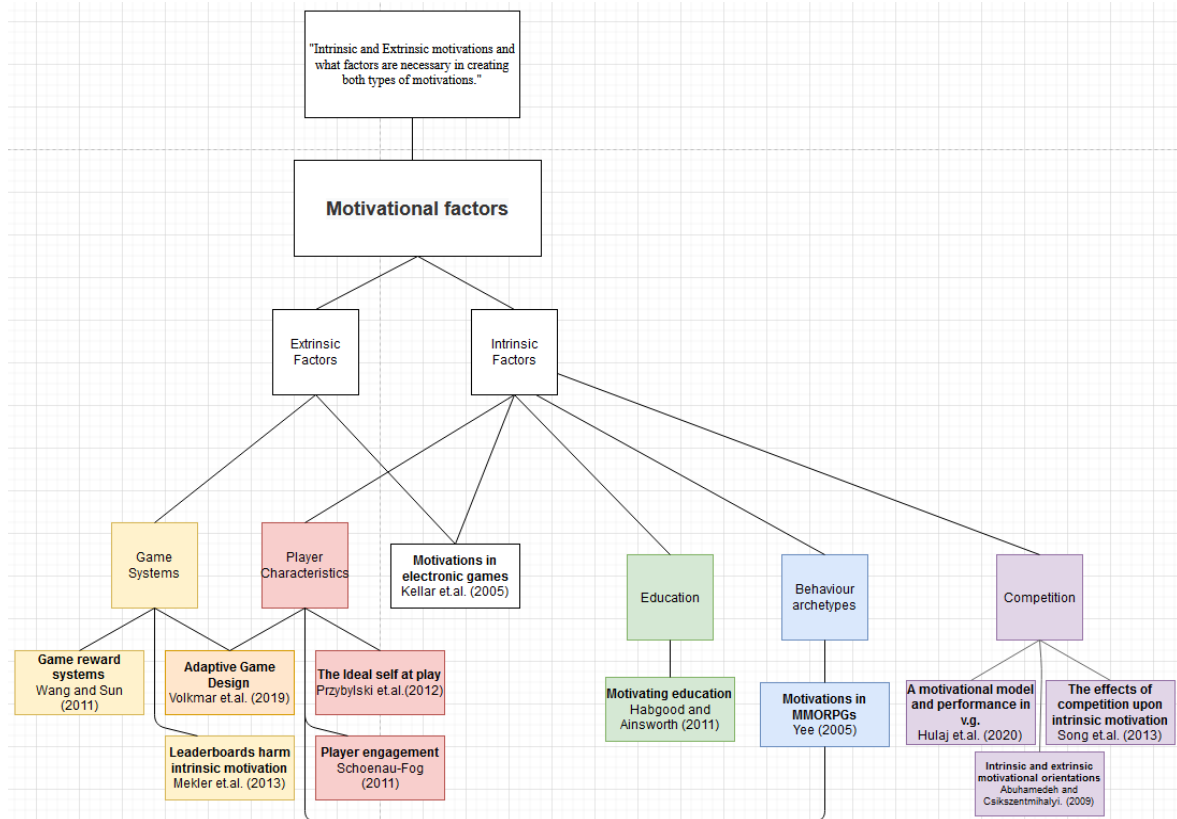


Figure 1: Literature map

Lastly, in conjunction of finding publications of various topics, we have created a map of said findings that showcase their themes and how interconnected some of said themes are with each other.

Research Question

This study focuses on the factors of creating motivation in a specific singleplayer, open world game called *The Legend of Zelda: Breath of the Wild* (Nintendo, 2017) and how both extrinsic and intrinsic motivations can be invoked, with extrinsic motivations referring to the game motivating the player and intrinsic motivation referring to motivations created by the players themselves, this study aims to find out:

- *What factors of a singleplayer, open world game create intrinsic and extrinsic motivation?*

Method

Data Gathering

For this study, convenience sampling was used to gather participants required for stimulated recall. In total, 9 participants were gathered where 4 were interviewed in person and 5 were interviewed online using the Discord (Discord Inc., 2015) platform. All 9 participants played some form of video games regularly with the majority of the participants preferring computer based games such as First Person Shooters (FPS) which also exist in other consoles. The online participants were required to have some form of camera in order to stream their gameplay to the interviewers as the footage is needed for stimulated recall.

Stimulated recall was used to gather data relevant to the study's topic. Stimulated recall is a method that involves participants playing a video game for a certain amount of time and afterwards participating in an interview that talks about the events that unfolded in the game (Pitkänen, 2015, p. 117). The game used for stimulated recall was *The Legend of*

Zelda: Breath of the Wild (Nintendo, 2017). During the game session each player played through the first area, the great plateau, until the title card for the game appeared, after which the participants played for more 20 minutes while having their gameplay recorded.

Afterwards, each participant would participate in a semi-structured English interview talking about the recorded gameplay footage. The interview itself was structured in the following way:

- Starting by asking two warm up questions
- Asking questions in relevance to the events seen in the game footage
- Ending the interview by asking two conclusionary questions.

The warm up questions are as follows:

- *What type of game do you usually play?*
- *What do you usually do in games similar to the one that you have played?*

And the conclusionary questions are as follows:

- *How did you feel throughout the game session?*
- *Was there anything else you felt you achieved during this session?*

There were also some questions that were asked depending on what the participant did during their game session, as such, the following questions are not used in the order seen below:

- *(On Exploration) How did you feel when you found x?*
- *(On Exploration) Why did you go after x?*
- *(On Progression) How did you feel when you accomplished x?*
- *(On Progression) Why did you decide to do x (quest/dungeon)?*
- *(On Combat) How did you feel when you (survived/died)?*
- *(On Combat) Why did you decide to fight x?*
- *(General) How did you feel when x?*
- *(General) Why did you do x ?*

Some of the aforementioned questions contain certain tags like *On Exploration* or *On Progression*. These tags are meant to clarify when said question is going to be used in

relation to the events in the game, such as “*Why did you decide to fight x?*” being used primarily in combat scenarios in the game. It is also noted that the letter *x* was used as a placeholder to be replaced by a specific action, goal or entity.

Data Analysis

Thematic analysis (Terry et.al., 2017) is used for this study is used for this study. After each interview was completed they were transcribed, then the transcriptions were coded. The coding process itself was a mixture of a theoretical coding process and a data coding process. The theoretical aspect of the coding uses Yee’s (2005) theory of player behavioural components as its basis where certain events or phrases that fit in at least one of the existing behavioural components are documented. This was then used with codes that were created from the data itself. Once all the coding was completed, the codes were grouped into themes, these themes were then all placed into a thematic map and had connections drawn between them. After the first thematic map was completed, two more simplified thematic maps were made where a lot of the themes were combined into one theme. After all three iterations of the thematic map were completed, new conclusions of the data was able to be drawn because of the thematic analysis.

Methodological Implications

However, the method of gathering participants and conducting interviews explained in the Data Gathering section could have been better. The biggest challenge specifically consisted of pandemic restrictions due to covid-19 that involved social distancing, which meant that inviting people from different places in Stockholm, Sweden into one place, would have too many risks. Because of this, we felt it was most appropriate to use convenience sampling, as neighbours could be asked to assist in the study, as well as making it easier to find participants in general during these times. Convenience sampling allowed some people to be able to participate in the study in person, however because *The Legend of Zelda: Breath of the Wild* (Nintendo, 2017) is a paid, home console game, participants playing from a distance required them own the console and the game which severely limited the people who could be in the study.

Overall, the game specifically had design choices suited to our study’s focus on motivation since the game provides a sense of freedom of gameplay, allowing for a selection of alternative paths of gameplay to be observed, something which we were trying to find or replicate in other games for the study. The game’s popularity among gamers and industry professionals makes the game suitable for this study, so it is not that unlikely that someone may have the game and its console, provided said individual is experienced with video games.

Results

The stimulated recall and its semi-structured interviews provided a number of data which has been categorized into codes. Using these codes, certain themes emerged in a thematic map (see Method). Using a process of iteration, codes were able to emerge and be combined to simplify or display a broader theme. The first iteration contained a lot of codes that described certain events in the game as well as player decision and emotion. The second iteration merges said codes into other codes based on each code’s similarity in their theme. Finally, the third iteration further merges the codes into themes represented by codes named after said themes.

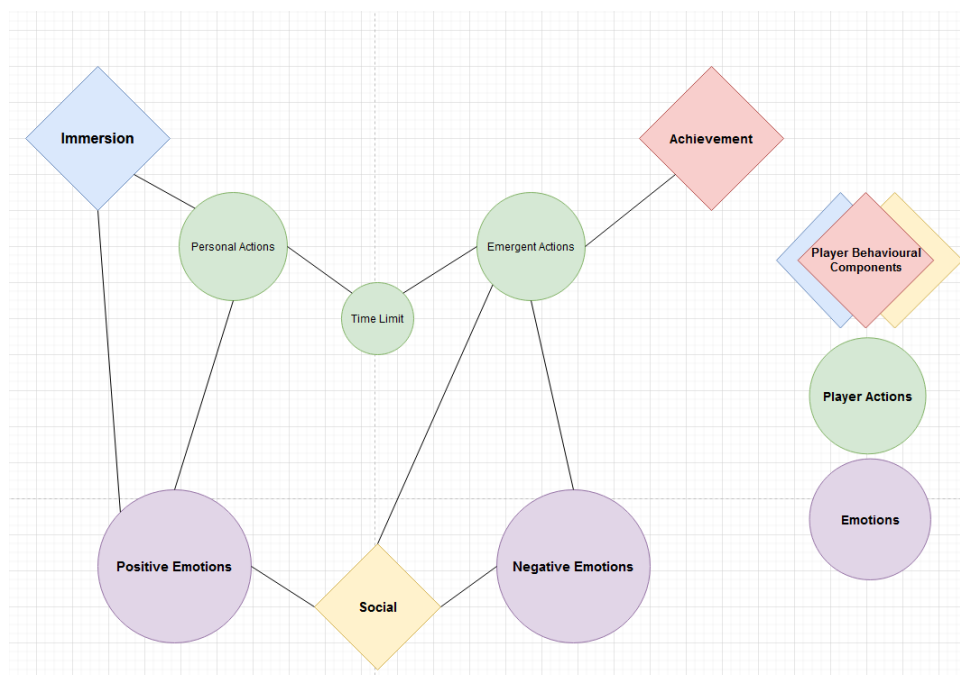


Figure 2: Thematic Map

Main themes
Player Behavioural Components
Player Actions
Emotions

Figure 3: Table of the main themes

Figure 2 shows the three main themes, *Player Behavioural Components*, *Player actions* and *Emotions*. The *Player actions* and *Emotions* themes were found from the thematic analysis itself as those emerged from various codes of their respective themes. The *Player Behaviour Components* theme originates from Yee's (2005) method of describing a player's behavior in a video game and refers to the different types of said behaviour. Player actions refers to the different types of actions participants did during their game session. Finally emotions refers to the different types of emotions participants felt.

Player Behavioural Components	Player Action	Emotions
Immersion	Emergent Actions	Positive Emotions
Achievement	Personal Actions	Negative Emotions
Social	Time Limit	

Figure 4: Table of the sub-themes

Figure 3 shows all of the sub-themes that exist in the thematic map. *Player Behavioural Components* theme's sub-themes originate from Yee's (2005) theory as *Immersion*, *Achievement* and *Social* themes are also behavioural components per Yee's explanation in his study. Similarly, the *Player Action's* sub-themes describe the different types of player actions that were observed during the participant's game session as well as in interviews. Lastly, *Emotion's* sub-themes describe the

participant's emotions that were observed during the game session as well as in the interviews.

Player Behavioural Components

The *Player Behavioural Components* theme represents the different player behaviours that were observed from the simulated recall and interview alike. The sub-themes of the *Player Behavioural Components* theme are based on Yee's (2005) study, the themes therefore share the same names and represent the same behavioural components. In contrast, the sub-themes of *Player Action* and *Emotions* are based strictly from the data gathered from this study.

Immersion

The *Immersion* theme describes a player's behavior of immersion in a video game. These behavior patterns can be explained by the sub-themes of the *Immersion* behavioural component in Yee's (2005) study, which are; *Discovery*, *Role-playing*, *Customization* and *Escapism*. The *Discovery* sub-theme explains a player's behavior of exploring a game world and finding artifacts along the journey for their own enjoyment. The *Role-playing* sub-theme describes a player's behavior of being immersed in a game's story as well as role-playing their characters and/or their character's fantasy for their own enjoyment. The *Customization* sub-theme describes players who enjoy altering their character's appearance to fit their own unique style. Lastly, the *Escapism* sub-theme describes players who want to relax from the stresses of the real world using video games. Each one of these sub-themes defined in Yee's (2005) study are used as sub-themes in the thematic analysis as well.

The majority of these patterns reflecting behavioural components were observed during stimulated recall, where certain participants seemed to explore either the game world or how the game's mechanics would work. Certain participants also seemed to be immersed into the game's story as they would often not skip any conversational dialog with the NPCs of the world.

During the interviews, some participants expressed that they enjoy exploring the game world:

<i>Interviewer; What do you do in games similar to the one you played just now?</i>
<i>Participant 5: Uh. I usually explore a lot and watch the graphics and collect materials.</i>
<i>Interviewer: Why?</i>
<i>Participant 5: [...] I want to discover small details and easter eggs [...].</i>

<i>Interviewer; [...] In games similar to the one you just played, what do you do in those games?</i>
<i>Participant 6: I run around and explore and try to complete the challenges in the game and try to do fun things in the game.</i>

<i>Interviewer; [...] Can you explain to me why you weren't following the objective?</i>
<i>Participant 3: [...] I like sidetracking and I like exploring. [I] found shiny things along the way and pretty landmarks so i decided to explore.</i>

Furthermore, when asked about story-related events, some participants answered the following:

<i>Interviewer; [...] Is there any particular reason why you started talking to [the NPC]?</i>
<i>Participant 8: I thought that the dialog was mandatory but[...] I mean, I do like the storyline of video games, especially if it is really good like this [game], so i usually try to enjoy that part.</i>

<i>Participant 3: Because I really like these [guardians], [I] just go into the mood like "Hey! I'm going to parry these [attacks from the guardian]!". [And with that mood, i went here] and i parried almost [all of them] for no other reason other than its fun!</i>

Participants 3, 5 and 6 were observed both in the game footage as well as in the interviews to have some form of enjoyment in exploring a game world for a variety of reasons. In this particular example, Participant 3 seems to fit the *Discovery* sub-theme the most as said participant was vocal about finding interesting artifacts around the world that pick their interest. Participant 3 also seems to fit in the *Role-playing* sub-theme as well, as said participant was observed to be playing a character's fantasy of being an unstoppable warrior as seen in the game footage and how said participant seemed very enthusiastic when it came to explaining their actions. Participant 8 was observed to somewhat fit into the *Role-playing* sub-theme, stating that they do enjoy a well-crafted story, but this particular instance is created by a misunderstanding of how the game worked at that specific event for that specific participant.

Overall, after observing and further analysing the data, a few conclusions can be drawn on the *Immersion* behavioural component. The behavioural component itself seems to be very correlated with *personal decisions* and *actions* as some participants such as the ones seen above, all acted upon their own, personal desires, such as exploring the world or being immersed by the story. Furthermore, the majority of the participants that were observed to fall right into the *Immersion* behavioural component were also observed to have some form of *positive emotions*, indicating that a correlation between the *Immersion* behavioural component and *Positive emotions* exists (see *Positive Emotions*).

Achievement

The *Achievement* theme describes a player's behavior of progressing towards a goal or achieving said goal. These behavior patterns are described by three sub-theme as seen in Yee's (2005) study, which are; *Advancement*, *Mechanics* and *Competition*. The *Advancement* sub-theme describes a player's motivation and satisfaction of progressing or reaching certain goals that exist in a video game. This sub-theme also describes a player's desire to accumulate power in a form given by a video game. The *Mechanics* sub-theme describes a player's desire to analyse a game's inner systems in order to optimize a process or improve one's ability to progress in a particular activity or event. Lastly, the *Competition* sub-theme describes a player's behavior of competition and the desire to dominate other players and/or themselves.

Much like the *Immersion* theme, the majority of these behavioural components were observed to align with the participants' behaviors in certain events during gameplay. Moreover, these behaviors were also described by the participants during interviews.

<p>Interviewer: <i>What do you usually do in games similar to the one you just played?</i></p>

<p>Participant 1: <i>Explore [as well as] trying to [improve] and learn the game to [easily accomplish a goal]. So yea.</i></p>
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<p>Interviewer: <i>And then, as soon as you made it into the shrine, you ran out of time. How did you feel?</i></p>
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<p>Participant 4: <i>Frustrating.</i></p>
--

<p>Interviewer: <i>Because?</i></p>
--

<p>Participant 4: <i>I could have continued to get my power glider to get to the next area.</i></p>
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Interviewer: What were you trying to do here, why were you doing this?

Participant 5: [...] I wanted to get the first part done because I can get an item [called the power glider] that you can use. [Without it, the game] feels pretty limited [since] you can glide with it, so yea.

Interviewer: Why do you want this enemy's material?

Participant 5: Because i like having things to craft with and i assumed that since it dropped it, i would have used it at a given point later in the game.

A common theme in these interviews is the desire to progress in the game. In *The Legend of Zelda: Breath of the Wild*'s (Nintendo, 2017) first area, the player is required to obtain the power glider, an item that allows the player to glide over vast amounts of space. The first area the player exists in is a massive cliff that would spell certain death should the player jump off of. Participants 4 and 5 were very vocal about getting this power glider to progress through the game as seen above and during gameplay, both were trying to optimize their gameplay by being as efficient with their resources and movement as possible. Furthermore, Participants such as Participant 1 and 5 displayed a desire to accumulate power and knowledge in the forms of gathering materials to craft items or learning the game's systems to further improve upon one's gameplay.

As this particular behavioural component was observed as much as the *Immersion* behavioural component, a few connections can be observed. For one, the *Achievement* behavioural component seems to appear in scenarios where the player is heavily focused on clearing objectives and events created by the game itself, making the activities within said events heavily *emergent* (see Emergent Actions). However, as mentioned before, some individuals wanted to accumulate power and knowledge in various forms, with the primary source being killing monsters, making some decisions and scenarios a bit more *personal* as hunting to gather these sources are not a requirement from the game itself but rather a player choice to get stronger in the game.

Social

The *Social* theme describes a player's behaviour of socializing and working together with other players in video games as explained in Yee's (2005) study. The *Social* behavioural component contains three sub-theme related to it. These are: *Socializing*, *Relationship* and *Teamwork*. The *Socializing* sub-theme describes players who enjoy socializing with other players as the name suggests. The *Relationship* sub-theme describes players who desire to create a relationship that is meaningful to them as well as sustainable. These players often self-disclose how they feel as well as seeking support should a problem arise, whether it is inside a video game or in the real world. Lastly, the *Teamwork* sub-theme describes players who enjoy working together with other players, as the name implies.

However, due to the nature of *The Legend of Zelda: Breath of the Wild* (Nintendo, 2017), particularly how the game itself is a single-player game, meaning that a player cannot play with other players in the game's environment, nearly no participants ever were observed to have some form of behavior that aligns with the sub-theme in this player behavioural component.

There was one participant who was observed to have a behavior that aligned with one of the sub-theme:

<i>Interviewer: Were you avoiding the enemies?</i>
<i>Participant 9: Yes, I was.</i>
<i>Interviewer: And why is that?</i>
<i>Participant 9: Because they make me stressed and I feel like that's my weakness playing, fighting off the enemies, and yeah it stresses me out. I feel like my health was too low also to tackle on any monsters, I knew if I died I would end up on the top of the tower again.</i>

Interviewer: *What do you usually do in games similar to the one you played just now?*

Participant 9: *Run around, explore the scenery and ask [my brother] for help.*

As seen above, Participant 9 was observed to self-disclose their emotions during the interview and even go as far as to disclose the relationship that this participant has with one of their family members. Given how this particular participant was asking for help during gameplay and how they answered some of the questions in the interview, a strong connection can be made that Participant 9 exists in the *Relationship* sub-theme.

Overall, an observation was how this particular behavioural component was observed to exist in the data. Yee's (2005) study indicates that this distinct behavioural component appears in scenarios where players interact with each other in a multiplayer-based game. However, *The Legend of Zelda: Breath of the Wild* (Nintendo, 2017) game is no multiplayer game and as such, this was not expected to appear. This observation of this particular behavioural component in this style of game indicates that this distinct behavioural component can appear no matter the game genre and type as long as a relationship between players, in game or in real life, exists. Lastly, this specific behavioural component was observed when the participant in question was having problems in the game and being overly *negative* about it.

Player Actions

The *Player Actions* theme refers to a player's various types of actions as well as the meaning behind said actions. *Player Actions* has two main sub-themes, emergent and personal reasons, however the theme was split up into three different sub-themes, with time limit being the third one as it has aspects which are both emergent and personal.

Emergent Actions

Emergent Actions refers to player actions that happen due to the game's influence. Examples of emergent reasons include overcoming a roadblock/obstacle and trying to get rewards. Overcoming a roadblock is an *Emergent Actions* because the game places this roadblock which forces players to overcome it, and trying to get rewards is emergent due to completing the game's challenges in order to be rewarded.

Participants' expressed their reasoning for doing certain actions in the following examples from their interviews:

<p>Interviewer: <i>Why did you want this enemy's material?</i></p>
<p>Participant 5: <i>Because i like having things to craft with and i assumed that since it dropped it, i would have used it at a given point later in the game.</i></p>

<p>Interviewer: <i>You said you prefer to explore in these kinds of games but here you were following the main objective, why was that?</i></p>
<p>Participant 9: <i>[...] I realized I spent the first ten minutes cutting grass and it gave me nothing, I thought it would be more interesting if I followed the main quest.</i></p>

<p>Participant 1: <i>They said that you should go to this point of the map and when you got there, there was a thing you could activate.</i></p>
<p>Interviewer: <i>So you did it because the game told you to?</i></p>
<p>Participant 1: <i>Yeah, i was told so.</i></p>

Some participants didn't have very many personal goals they wanted to complete during their game session or didn't know what they wanted to do, so they simply followed the game's directions as shown through participant 1. Another reason for following the goals set by the game was because it seemed more interesting than own, intrinsic goals, as seen in participant 9. Emergent goals aren't just following the games instructions step by step however, as participant 5 shows. They went out of their way to gather materials and collectibles because they thought that would help them in the future challenges of the game, making it an emergent reason for gathering them.

The results showed that emergent actions were much more prevalent than personal actions. Despite the game being very open ended, the majority of the participants followed the game's goals with the intent of *progressing* the game, with some participants barely having any personal actions at all, indicating that participants who fall under the *Achievement* behavioural component tend to act *emergently* in the game (see *Achievement*). Furthermore, participants who were unfamiliar with the game or didn't have any goals in mind chose to follow the game to give themselves something to do, some participants also followed the game in order to unlock more of the game, this led to a lot of emergent actions.

Personal Actions

Personal Actions refers to player actions that stem from the player itself in some form. When participants weren't following the game's directions and hints they could come up with their own goals or have their own ideas of what they wanted to do during their game session and keep themselves intrinsically motivated. *Personal Actions* found during the game session includes: exploring the games mechanics, doing something for convenience and something catching the players interest.

Interviewer: *Moving along, once you got the marker and you made your way to the area, you ran into an enemy. However, while fighting the enemy, your [weapon] broke. And up until now, every enemy you had seen, you had fought. Why is that?*

Participant 4: *Just exploring mechanics, I suppose*

Interviewer: *Since you already played the game, you went ahead and started marking the other three shrines. Besides the game basically implying you to do so, was there any other reason why you would do such a thing?*

Participant 7: *Well, i didn't want to fast travel back to the tower every time.*

Interviewer: *Hmm, this is more of a convenient sake-*

Participant 7: *Yeah, this marks all of them on the map so you can do them back to back.*

Interviewer: *Instead of following the objective, you went and set more things on fire, then you went into the temple and started climbing around there. Can you explain why you weren't following the objective?*

Participant 3: *Mainly because I like sidetracking and I like exploring. And I found shiny things along the way and pretty landmarks so I decided to explore.*

Interviewer: *And why did you want to set things on fire?*

Participant 3: *Because I found it fun.*

Some participants didn't do any *Emergent Actions* immediately and instead did some side tracking to personally get more accustomed with the controls, such as participant 4. Participant 7 followed the main objectives of the game mostly, which is emergent, however they claimed they didn't want to backtrack to the tower very many times, they did all of their objectives up there in one go with the reason for their action being to save time for the future. Most participants when they weren't following the main quest of the game were just exploring or going to certain areas because they seemed interesting, such as participant 3, who wanted to spend their time exploring because of the pretty landmarks, and set things on fire because it was simply fun for them.

While personal actions weren't as common as emergent actions, there were still a good few to find from some of the participants. Personal actions stemmed from many different reasons ranging from improving at the game to something being funny to simple exploration of the area. That being said, the majority of the participants lacked any *personal* reason, making their decisions and actions more *emergent*. Lastly, participants who fall into the *Immersion* behavioural component are observed to *act* based on *personal* desires, indicating that there is a correlation between the two (see *Immersion*).

Time Limit

Time limit referred to having a goal that the participants wanted to complete before the time limit of their play session was done, or just as fast as they could. Time limit is a sub-theme within the *Player Action* theme which wasn't able to be categorized within *Emergent Action* or *Personal Action* as the goal related to the time limit varied from being emergent or personal. Many participants wanted to complete the main quest, an emergent objective, within the time limit while some had specific, personal goals in mind they wanted to complete as fast as possible.

<p>Participant 6: <i>I was rushing because I wanted to get the nintendo t-shirt. That was everything.</i></p>
<p>Interviewer: <i>Was that your main goal throughout this entire playthrough?</i></p>
<p>Participant 6: <i>Pretty much. I wanted that Nintendo T-shirt.</i></p>

<p>Interviewer: <i>Can i ask you how you felt when the timer ran out just as you were about to complete the second dungeon?</i></p>
<p>Participant 6: <i>I felt a bit disappointed because I wanted to atleast get the orb.</i></p>

Participant 6 initially had a personal action of getting a specific item as fast as they could, however later on wanted to just complete as much of the main quest as they could afterwards and was disappointed when they came up short of their emergent objective.

Time limit was a factor prevalent for both emergent- and personal action. Time limit not only influenced the goals of the participants but also created some too, such as the participant who wanted to get a t-shirt within the time limit. Furthermore, because of the game session only being 20 minutes long, many participants felt pressured in playing the game as quickly as possible, ultimately influencing their decisions inside the game.

Emotions

The final main theme, *Emotions*, referred to all the different emotions participants felt during their game session. *Emotions* was split up into two main sub-themes, positive and negative emotions.

Positive Emotions

Positive emotions refers to all the different kinds of positive emotions participants felt during the study. Different kinds of positive emotions included: *Accomplished*, *Proud*, *Happy*, *Entertained* and *Relief*. Participants usually felt some sort of positive emotions after completing a goal or objective that they had in mind, some emotions also simply occurred after certain events. Here are a few examples:

<p>Interviewer: <i>And then how did you feel when you finally defeated your first enemy with the magnet?</i></p>
<p>Participant 2: <i>Well, I was proud of myself. I didn't know I could do that.</i></p>
<p>Interviewer: <i>And how did you feel when you completed the first shrine?</i></p>
<p>Participant 2: <i>Yeah it was.. [...] a relief actually. Because [i felt so] much stress when [i was there].</i></p>

<p>Participant 3: <i>Because I really like these [guardians], so I just go into the mood like "hey! I'm going to parry these!" [like] so [i went here] and i parried almost [all of them] for no other reason other than its fun!</i></p>
<p>Interviewer: <i>[...] And you tried to do it once again with this one and had a slightly different result. How did you feel after dying to this enemy?</i></p>
<p>Participant 3: <i>My first reaction was laughter.</i></p>

Interviewer: *Alright. How did you feel when you got the apples?*

Participant 1: *Successful, happy. Because i could keep on going [as i have finished].*

Participant 2 felt relieved after beating a powerful enemy, and proud of themselves for completing the shrine thereafter. Participant 1 felt both happy and accomplished after completing a goal they had. Finally, participant 3 felt entertained after what they thought as a funny event.

The results showed that participants who were observed to have some form of a *positive emotion* tend to fall into the *Immersion* behavioural component (see *Immersion*). Furthermore, participants who overcome obstacles created by the game or by the their own shortcomings also show some form of *positive emotion* as observed in the above examples, since participants often mentioned that they either learned something or that they managed to progress or accumulate some element, indicating that *positive emotions* can appear in participants who fall right into the *Achievement* behavioural component, albeit to a smaller degree in comparison to the *Immersion* behavioural component.

Negative Emotions

Negative emotions is a main theme of all of the negative emotions that the participants experienced during the game session and interviews. The observed emotions that were found during these instances and exist as codes are the following: *Stress*, *Nervous*, *Frustrated* and *Disappointed*. The majority of these emotions tend to appear in scenarios where the player is in some form of disadvantage during an event such as when a participant is facing an obstacle or being pressured to do something quickly. Some examples are:

Interviewer: *How did you feel when you were fighting any monsters?*

Participant 9: *My heart rate doubled and i feel like i panicked, and i forgot the attack button and started pressing A instead.*

Interviewer: *[...] How did you feel when the timer ran out just as you were about to complete the second dungeon?*

Participant 6: *I felt a bit disappointed because I wanted to atleast get the orb. I shouldn't have spent that much time trying to push rocks.*

Interviewer: *Were you nervous [when you were making your way to the tower]?*

Participant 2: *[...] I was nervous because there were many enemies around which i [couldn't manage] and then... yea.*

Much like the above interviews, there are many more instances of similar emotion during similar events to the ones that were asked about in the said interviews. All participants felt some form of negative emotion and these emotions often get caused by obstacles or due to the game session's limited time.

The results gathered indicate that participants who fail to overcome an obstacle or a personal shortcoming such as not knowing the controls of the game, tend to be

observed having *negative emotions*. These obstacles often are *emergent* in nature, being mostly created by the game itself. Furthermore, many of the reasons why participants face these obstacles in the first place is due to them needing to *progress* the game or to *accumulate* resources, indicating that participants who fall into the *Achievement* behavioural component tend to also have more *negative emotions* than *positive* (see *Achievement*).

Overall Results

The results point towards a strong connection between several themes. *Positive Emotions*, *Immersion* and *Personal Actions* all are connected as they all were observed in the same events that originate from *personal* reasons. Furthermore, many of the actions observed in those events fall into the *Immersion* sub-theme as *exploration*, *being immersed by the story* as well as *customizing* are all part of that behavioural component. Similarly, the *Achievement*, *Negative Emotions* and *Emergent Reasons* are all connected in a similar way to the previous group of themes, where the events that cause negative emotions all originate from *emergent* reasonings. The actions observed during the aforementioned events all fall into the *Achievement* sub-theme as many players want to *progress* the game itself by completing quests or want to *accumulate* power in the forms of crafting and/or finding powerful items . Finally, the *Time Limit* sub-theme fits both *Personal* and *Emergent Actions* as this theme can be both *personal* and *emergent* in its reasoning of making the player play fast, which in turn also can be connected to the other themes respectively.

Discussion & Analysis

Upon further analysis of the results gathered in this study in conjunction of comparing different studies for any similarities, multiple points of interest have been discovered. In particular, Habgood and Ainsworth (2011) study's result points out how intrinsic integration invokes intrinsic motivation within players, with intrinsic integration meaning that a game includes aspects that cause intrinsic motivation such as fantasy, curiosity or challenge. However, our study's analysis has proven otherwise, showing that many other factors such as game systems affect both intrinsic and extrinsic motivation within players. The results have shown many different factors which create motivation both intrinsically and extrinsically.

Game Systems and its Importance

One pattern found within our results is the importance of game systems and their effects on motivation within participants. This pattern has been observed in other studies that talk about game systems found within the majority of video games such as in Volkmar's et. al. (2019) study.

Volkmar et.al. (2019) explored the possibility of a dynamic game system that adapts to specific player behavioural components as well as what motivational effects said system has in players as said players play the game. The study itself used Yee's (2005) player behaviour as a basis in creating its own categorical list of behaviours in order to create achievements that are tailor made for players that behave in a specific way during gameplay. While Volkmar et.al. (2019) has claimed that their methodology requires more work in terms of creating better achievements or validating their own categorical list of player behaviours, the studies result indicate that players put more effort into completing achievements that are tailor-made with their specific player behavioural component. These results indicate that game systems such as the one present in Volkmar's et.al. (2019) study can affect player motivation depending on how said game system is designed and created as seen within our results as well as how *The Legend of Zelda: Breath of the Wild* (Nintendo, 2017) is structured. As mentioned before in our results section, the *Emergent Actions* and *Personal Actions* sub-themes

are observed to be equal in relevance, indicating that participants of all skill-levels, i.e. level of competence in terms of playing the game well, got motivated in some form or way. This can tie to the fact that *The Legend of Zelda: Breath of the Wild*'s (Nintendo, 2017) game systems are designed with player freedom in mind, allowing the player to choose how to play the game. As an example, players in *The Legend of Zelda: Breath of the Wild* (Nintendo, 2017) can play the majority of the quests present in the game in out of order if they so choose to. Players can also engage in combat and kill all enemies they come across, explore any corner of the game world or accumulate certain forms of power such as powerful swords, bows or armor that exist within the game in various ways, such as crafting, killing enemies and/or exploring. All of these described game systems and actions are directly corresponding to the descriptions of the different player behavioural component described in the conclusion section of the Results section, where combat, exploration and customization all seem to be describing a player behavioural component, indicating that game systems that are designed in certain ways motivate a player that prefers to play the game in their own personal way.

However, not all game systems are designed to motivate the player but rather, said game systems are used more as indicators or tools for the player to gauge their progression. Such observations can be found in Mekler's et.al. (2013) study about analysing game systems that track progression and/or performance in a video game and see if said game systems motivate players in an extrinsic way. Upon further analysis on the empirical data gathered, Mekler et.al. (2013) discovered that these particular systems, i.e. progression trackers on their own such as level trackers, point trackers and leaderboards, do not have any major effect on player's extrinsic or intrinsic motivation, stating that these game systems function as a means to showcase and reflect a player's performance and/or effort. The data gathered in the Results section further suggests this point, as participants who have never played *The Legend of Zelda: Breath of the Wild* (Nintendo, 2017) on the *Nintendo Switch* had problems trying to control their character as well as figuring out where to go and/or what to do. The game has certain game systems that indicate progression in certain ways, such as how the health amount the player has corresponds to progression as getting more

health in the game requires to explore more hostile areas or complete harder quests later down the line. The quest system itself can also be considered a game system that tracks progression, despite being non-linear in its structure as quests give concrete information on what to do as well as where to go. Furthermore, quests that have been completed before can be seen grayed out in the menu, which players can interpret as a checklist of things done in the game. Overall, these game systems help new players get extrinsically motivated to progress through the game while allowing the freedom of letting the player explore and complete other quests in any way said players want.

All the aforementioned game systems mentioned before have been observed to be important in player's motivation and guidance, but the most important game system so far is the reward system. This is seen in Wang and Sun's (2011) study about the reward systems, as Wang and Sun (2011) explores the different ways one can present a reward and effects said game system has on a player's motivation and experience. These presentations can range from a simple pop-up message to music queues and cinematics. The study concluded that rewards can affect player motivation in various ways, such as increasing a player's collaboration with other individuals to get said rewards, or making player's set goals to work towards getting a reward in the future. The study also concluded that the reward system increases the enjoyability of other game systems precisely due to player's setting goals for a specific reward. These conclusions can be observed in the Results section, where some *emergent actions* have been executed by the participants as some had set a certain reward in mind, such as getting a bow and a few arrows from a horde of enemies. Furthermore, the *Time-limit* sub-theme has showcased that the majority of the participants who have played the game very quickly did so due to desiring a reward, whether or not to be the quickest or to gain an exclusive item during the limited time they had.

Overall, all of the aforementioned examples and studies demonstrate how important it is to design a game system that motivates individuals in certain ways, with the primary goal to motivate a specific or multiple player behavioural component in order to motivate said individuals in playing the game. This can be further indicated by Przybylski et.al. (2012) study, where the study concluded that players project their

ideal selves onto fictional characters such as the main character of the game. A case can be made where players can project their ideal selves more strongly as game systems allow the player to conduct a desired action, such as fighting a horde of enemies, which further helps the individual experience their fantasy of their ideal self. Likewise, Kellar et.al. (2005) discusses similar points to what our analysis has concluded thus far, where Kellar's et.al. framework of motivation, *control*, *context*, *competency* and *engagement* factors all seem to be connected towards the different behavioural components and game systems, from the *control* factor's general game interactions to allowing the player to use different strategies or allowing multiple tasks to be done in a succession with its *competency* factor. These factors have been observed in this analysis as similar points have been discovered as seen with the ability to allow users to use different strategies and its connection to how an open-ended game system allows for such possibilities as well as how certain, designed game interactions can allow for different strategies to emerge as said game interactions are designed in an open manner, with connectivity to other game systems or elements. Lastly, the reward system can be used to further motivate individuals by designing well earned rewards or making the journey to said reward satisfying.

Competition

While this study doesn't highlight competitive motivation, apart from the behavioural sub-component found in the *Achievement* behavioural component, the time limit sub-theme shares many similarities with competition as some participants had to beat the clock in a sense to reach their desired outcomes from their sessions. Time limit also aligned with competition as both them and the players reasoning behind their actions can be viewed as intrinsic and extrinsic. Many of the motivational factors of competition according to Abuhamdeh and Csikszentmihalyi (2009) and Hulaj et. al. (2020) also intersect with the results of our thematic map. The study found participants who did certain actions in their session because rewards they would get, or because they thought it would be entertaining, aligning with Abuhamdeh and Csikszentmihalyi. Hulaj et. al. and their motivational factors of improvement aligned with the participants who were exploring mechanics, and the socialization factor can be seen as an behavioural component from Yee's (2005) study as well as this one.

Connections Between Themes

Upon analyzing the thematic map and the interviews, the results start to show that when participants were doing Emergent actions, then they were shown to be part of the *Achievement* behavioural component. Meanwhile when participants were doing personal actions, then they fell into the *Immersion* behavioural component. The results here show that whatever behavioural component a player is connected to, is a factor which influences what actions players take in a game session. Extrinsic motivation leads to extrinsic/emergent actions and intrinsic motivations lead to intrinsic/personal actions, therefore the behavioural component of a player can be seen as a factor for both extrinsic and intrinsic motivations in a game. While player behavioural components do not explicitly create motivation, they are a factor that influences whether the motivation being created is intrinsic or extrinsic, as the behavioural component will draw players to those different kinds of actions.

In the thematic map, positive emotions was connected to personal actions, while negative actions was connected to emergent reasons. On the other hand the emergent theme was connected to negative emotions and not positive. While participants did feel some form of positive emotion in conjunction with doing an emergent action, they were not nearly as prevalent as they were with negative emotions. These results might signify that when players are completing objectives on their own accord, then they feel more positive emotions, as they are doing what they want to be doing in their game.

Intrinsic Integration

The Legend of Zelda: Breath of the Wild (Nintendo, 2017) is an open ended game that has a large focus on the intrinsic opportunities possible within the game. The game's intrinsic nature allows for players to be motivated to not only do certain actions in the game but continue to play it as well. Habgood and Ainsworth (2011) explain how intrinsic integration into games can motivate people to play and continue to play certain games, where intrinsic integration, as mentioned in the introduction of the discussion section, is defined as including aspects that cause intrinsic motivation such as fantasy, curiosity or challenge into a game. Fantasy helps keep players immersed

into the world of the game, while curiosity keeps the players intrigued as a player's own curiosity can motivate players to do certain actions. Habgood and Ainsworth (2011) explain further why challenge is necessary for intrinsic motivation because of factors such as clear goals, achievable challenges and accurate feedback. On the other hand, our study finds that challenge is a factor for extrinsic motivation, rather than intrinsic. The *Achievement* behavioural component includes aspects of challenge such as *Mechanics* and *Competition*, and *Achievement* is a factor for influencing motivation to become extrinsic rather than intrinsic opposite of what Habgood and Ainsworth conclude. The *Immersion* behavioural component is the one which reflects intrinsic motivations, however it does not include any behavioural component which relate to challenge at all. While our studies differ in results in this aspect of intrinsic integration, the other aspects such as curiosity and fantasy parts which our studies agree upon, as such we can conclude that intrinsic integration is a factor which helps create intrinsic motivation in players because it helps immerse and intrigue players, however according to our results it can also create extrinsic motivation as well.

Intrinsic integration in combination with game systems which motivate individuals with different desires can be used in creating a game that motivates the individual in various ways, where individuals who enjoy certain activities can get motivated in doing the activity and overcoming it. For example, an individual who likes exploring can be motivated to explore a space while keeping some form of challenge that is related to the activity. This can be used in any context, including education games where motivating students in playing education games is important for their education. Habgood and Ainsworth (2011) show that when it comes to educational games, people learn more and continue to play them more when the games have some form of intrinsic integration. Different types of game systems such as the rewards systems are also a big factor for motivation which, when combined with intrinsic integration, as it increases motivation of players playing education games. This is already seen in *Minecraft: Education Edition* (Microsoft, 2016), where the game has several elements that differ from the original versions of the game, such as adding custom blocks to demonstrate different scientific concepts as well as giving the teachers power to create their own demonstration.

Conclusion

This study has concluded on multiple different factors that create motivation in players.

One of the major factors that creates motivation is how different game systems create different kinds of motivations within players. As seen in results and analysis, several game systems such as exploration mechanics, combat, progression indicators and so on, can motivate people of different behavioural components in different ways. People who fit the *Immersion* behavioural component tend to have more intrinsic motivations and reasons for playing the game as game systems such as exploration mechanics and customization systems create intrinsic motivation. Meanwhile, people under the *Achievement* behavioural component are more extrinsic as many progression systems and combat systems tend to create extrinsic motivation. Lastly, the *Social* behavioural component is able to be both intrinsic and extrinsic as individuals socialize with other players which creates either intrinsic or extrinsic motivation depending on the relationship between players and context of the game itself.

Intrinsic integration is an effective manner for creating intrinsic motivations by integrating elements such as fantasy and curiosity into a game as shown by Habgood and Ainsworth (2011) as well as ourselves, however it also works as a method for creating extrinsic motivation as we find that integrating some forms of challenges creates extrinsic motivation. Game systems and intrinsic integration, in conjunction with our study, have been shown to create both intrinsic and extrinsic motivation, and while they use different factors to create different kinds of motivation, the process in creating motivation in general is the same in any context.

Ultimately, game systems motivate individuals either intrinsically or extrinsically depending on each individual's desires. Furthermore, with Intrinsic integration, elements of fantasy, curiosity and challenge further creates both intrinsic and extrinsic motivation.

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