Tampere University

Heidi Salo

IT COULD BE WORSE: REPRESENTATION OF HUMAN SURVIVAL BEHAVIOUR IN FROSTPUNK

ABSTRACT

This thesis aims to investigate human survival behaviour with a case example. The amount of survival games has grown considerably during the last decades, which is why it is important to look into the representation of human survival behaviour in a case example. This thesis investigates this matter through three different sociological perspectives: survival behaviour, risk-taking, and group influence & decision-making. A historical example of a similar scenario is also included. The case game in this thesis is Frostpunk, which is a city survival game published in 2018. The method of this thesis is a game analysis, and the matter of survival behaviour was interpreted from the perspective of Frostpunk's non-playable characters. The results showed that even though Frostpunk offers a plausible interpretation of human survival behaviour, many improvements for future games can be proposed in order to create a more realistic game.

Keywords: video games, survival games, survival behavior, risk-taking, group influence

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

Table of Contents

1 INTRODUCTION

Survival games have secured their place as a popular gaming genre, as the struggle for survival can occur anywhere. Therefore, survival games range from the deep seas to outer space. Making these games more realistic has the chance to deepen the immersion and to bring new unforgettable experiences to the players.

New developer platforms and software, including Unity and Unreal Engine, make creating new games easier than ever before due to their real-time development opportunities. Thanks to these platforms, many choose to create survival games, because the combination of horror, survival and what it means to be human are fascinating subjects to people. Survival games hold their position as very popular and appealing games, which is why I chose to investigate how human survival behaviour is represented in a case game.

Humans have survived from many extreme situations in the history, from wars to major diseases. Severity of the situation has high impact on moral and how people behave during crisis and if they are able to overcome the difficulties. Reconstructing these situations in fiction is problematic, as there are many different layers affecting how the situation escalates. Video games have a great potential in this, because due to programming and potential to create emergent gameplay, it is possible to make versatile foundations for reconstructing these situations.

However, despite the popularity of the genre, case examples of survival games and the realism of their character's behaviour are scarce. In this thesis I will look into the subject of survival behaviour, group influence and risk-taking and see how they are represented in 11 bit studio's video game, Frostpunk (2018). In Frostpunk the player must face different moral choices and their consequences in a frigid, post-apocalyptic world. With the unpredictable and frigid weather, the situations often take quick turns to the worse, forcing the player to make the best out of the new difficult circumstances.

The method of this thesis is game analysis. Firstly, I will introduce the theoretical background and clarify important sectors in survival behaviour and risk-taking. I have played Frostpunk myself and collected material through several playthroughs. I will analyse the game through the actions of non-playable characters (NPCs), and I did not take into account the perspectives of the player or their character.

This bachelor's thesis will serve as a collected source of information and inspiration for video game developers who are interested in creating a survival game with a large population of NPCs.

2 THEORETICAL BACKGROUND

2.1 Literature review

In this section I will introduce research about group dynamics. The subject of group dynamics, survival behaviour, risk-taking and the effect of extreme living conditions has been researched quite widely in the fields of sociology, psychology and history, and I used them as my main sources.

I collected my material for the literature review through Tampere University Library's Andor search engine. I searched articles and books with keywords including 'human survival', 'group influence', 'survival psychology', 'risk-taking' and 'crisis behaviour'. I chose the articles and books based on their keywords. I wanted to use Finnish research as well, but I ended up using only English sources as Finnish research on the subjects was quite scarce. I did not filter my references based on their publication year, as my previous experiences have showed me that the fields of psychology and sociology tend to lean on books that are several decades old.

I found out that behaviour in crisis is a collection of several behaviour models and sectors. I will introduce a historical background to my findings and talk about three major factors that affect how a group functions during a crisis. These include risk-taking, survival behaviour and group influence, and I have distributed them in their own subchapters for the sake of clarity. These are important parts of Frostpunk, as the NPCs are never alone and independent when making choices. Every decision is formed within the group of the refugees. To support the group theories, I also chose risk-taking as subject, as living in extreme conditions transforms daily necessities into potential risks.

I have divided this chapter into four subcategories that are all linked together. Firstly, I will introduce real-life situations that are applicable to Frostpunk. After that, I will talk about three different sociological areas that are closely linked to how humans face critical situations: survival behaviour, risk-taking, and group influence & decision-making.

2.2 Historical background: Living on the verge of natural disasters

As Frostpunk represents a dystopian situation, that includes living on the constant verge of severe blizzards I decided to take a look into similar real-life situations. It is not uncommon that people live voluntarily in extreme areas and understanding why these people to choose to do so can be helpful while researching the case of Frostpunk.

It is a natural reaction that people who have faced natural disasters are more prone to think that the world is an unsafe place. Natural disasters change people's beliefs and long-term probabilities are not relevant to people who have experienced, in example, a flood or an earthquake. (Cameron & Shah, 2015, p. 485.)

One example of such real-life event comes from North America. From 1820s to 1920s an area near Mountain West was inhabited by animal trappers. This area was known as Avalanche Country. Due to its location, the area was prone to avalanches and snow slides, and thus the residents of the area had to constantly be aware of their surroundings. The residents had to build a special understanding of the situation and the Mountain West. (Di Stefano, 2013, p. 7.) In the wintertime, their survival was dependant on the trappers' ability to move through rocks and sleek slopes. In addition, the trappers had to deal with hazardous snowstorms, snow blindness and sunburns. In extreme cases, snow blindness was so severe it could impair person's vision permanently. (Di Stefano, 2013, p. 12–13.)

In the extreme living conditions, sharing moments with others becomes very important past-time. The trappers shared tents with six to eight men, shared stories and books and celebrated holidays. These story times had additional benefits, as exchanging stories among the residents also served as an information circle, where new survival tactics were discussed and planned. (Di Stefano, 2013, p. 16–18.) Salons, brothels and gambling also became important past time for the residents, as these small pleasantries made the tough life worth living (Di Stefano, 2013, p. 49).

Over the following decades, the residents of the area learned new techniques to make life easier. The trappers living in the area learned the dangers of snow blindness and how to avoid it with shielding veils and dark clothing and blackening their faces with charcoal. The residents had also learned to mark their trails by cutting trees, as sudden snowstorms could quickly cover up their trails. In addition, the means of travel were important. The

residents used snowshoes and skis to effectively travel in the snow. (Di Stefano, 2013, p. 25.)

Departure from the area took place in the early 1900s. The railway line to the area was shut down completely, because the risk was too great and as North America began to industrialize, living in Avalanche Country was not worth the risk of tragic deaths. (Di Stefano, 2013, p. 120–122.) Overall, the exchange of knowledge was a centrepiece of the mountain experience. Over the passing decades, the residents began to help other people, and share their knowledge on, for example, how to predict avalanches. (Di Stefano, 2013, p. 123.) This aftermath is one of the most important parts of the experience. Even though the former residents were not obliged to help other people, they decided to do so, because cooperation and information sharing is essentially the only way people can survive in extreme living conditions.

2.3 Survival behaviour

The psychology of survival is a fairly broad subject, and there are many ways to interpret different ways and meanings of behaviour. Universal psychological responses that exposure to constant death has five characteristics: psychic numbing, the death imprint, death guilt, suspicion of counterfeit and the struggle for meaning. (Henry, 2004, p. 45.)

It is agreed that one of the most important concepts of psychology of survival is the sense of immortality. This does not mean the denial of death, but the concept of afterlife and spirituality. The idea of immortality and religious concepts are psychologically important. (Henry, 2004, p. 47–48.) However, we always know rationally that we will die, but resist to act upon this knowledge. While the sense of immortality cannot be seen whether as irrational or rational, it reflects one's inner quest for a relationship between self and what lies beyond. (Henry, 2004, p. 50.) Ultimately, we are aware that we are living organisms, but to be able to override these thoughts and believing in a greater purpose plays a major role in how people can survive from seemingly impossible situations.

People also have the ability to become numb to life-threatening situations and even to death. Psychically numb people feel diminished and impaired. It can also come from the overinclusion of stimuli, which leads to being overwhelmed and bombarded of the situation. When psychic closing occurs, people lose the ability to sympathize and in

addition they cannot anticipate future events. Although it affects emotional responses, numbing is functional, as it allows the individual to deal with situations cognitively. Otherwise, overwhelming events could interface the individuals' ability to function and cause their demise during the next life-threatening situation. (Henry, 2004, p. 57–58.)

When talking about survival behaviour, it is necessary to refer to Abraham Maslow's hierarchy of needs, as it is still a valid foundation for survival behaviour studies. Maslow's hierarchy of needs states that needs of humans are divided into five categories. The needs are in ascending order, and the next level of needs are not relevant until the previous needs have been covered. The physiological needs the be fulfilled first, and they are on the bottom of the hierarchy. These needs include air, water, food, shelter, sleep and reproduction. The fourth level is safety needs, which includes security, employment, health and property. Third set of needs is love and belonging, i.e. friendship, intimacy and family. Second is esteem, such as respect, self-esteem, status and recognition. The very first is self-actualization, which is the desire to become the most of themselves. (Maslow, 1943, s. 372.)

2.4 Risk-taking

When talking about survival behaviour, it is necessary to take a look into risk-taking behaviour, as these two are often very closely connected. Risk-taking is also connected to group influence and decision-making, as individuals do not try to make independent choices about great issues, such as big political issues (Lupton, 2013, p. 53.)

Living with a risk involves a certain amount of acceptance of uncertainty and instability (Lupton, 1999, p. 10). Life-threatening situations and extreme living conditions lead to risk-taking and depending on the severity of the situation, even the tiniest decision might include a risk. Research on this field is plentiful, as research on group processes have been focused on group decision-making and risk-taking (Berkowitz, 1978, p. 228).

The emotions of an individual have an effect on risk-taking behaviour. Fearful people make pessimistic judgements and choices, but both happy and angry people are prone to make optimistic judgements and choices. (Lerner & Keltner, 2001, p. 154.) Strong feelings might make it more difficult to perform an important task, for example, finding lost individuals from an avalanche-prone terrain (Lyng, 2004, p. 118). These voluntary

risks also include risks taken for individual's own amusement or in order to experience a dash of adrenaline rush.

The term *edgework* means understanding what drives people to engage in high-risk behaviour. (Lyng, 2004, p. 118.) Edgework and risk-taking behaviour can be seen as a form of boundary negotiation. These boundaries can be seen in various ways, such as sanity/insanity, consciousness/unconsciousness and life/death. Attention should be directed to these while analysing and conceptualizing risk-taking. (Lyng, 2004, p. 4).

Individuals who have recently experienced a natural disaster are more prone to risk-aversion, as these people perceive that they might now face a greater risk of a disaster in the future (Cameron & Shah, 2015, p. 484). However, psychological theories suggest that residents of high-risk environment may not be concerned about smaller risks or they might even exhibit a risk-loving behaviour (Cameron & Shah, 2015, p. 485).

Gender also correlates with risk-taking behaviour. Generally, women are more prone to risk-aversion behaviour than men. (Van den Berg & Fort & Burger, 2009, p. 6.) Women also tend to set low expectations for themselves. It is an emotion-management strategy that has two functions: Firstly, it makes the individual acutely aware of the situation. Secondly, setting low expectations make the individuals believe that they will perform beyond them. Alternatively, male individuals tend to have stronger ego and confidence on their actions which serve as an illusion of control. (Lyng, 2004, p. 124–126.)

2.5 Group influence and decision-making

Group influence and decision-making are parts of survival behaviour that is closely connected to the case of Frostpunk, as none of the decision are made alone. Even in truly personal situations, such as when a resident's child has been hurt, the parent faces the player with a group, demanding actions.

Conflict is an important part of group development process. Conflicts are due to occur when decisions need to be made. If the decision cannot be made in unison, the group faces a conflicting situation. (Haynes, 2012, p. 72.) Group members who are not dependant on group leaders become more assertive in expressing their differences with other group members and their leader. However, conflict is a natural step for groups, and it is

necessary in order to raise the group's performance and effectiveness. (Haynes, 2012, p. 73.) The important part is how the conflict reaches its resolution.

Compromising and collaboration have great influences on group behaviour. The objective of compromise is to find mutually acceptable solution that at least partially satisfies both sides. Compromising addresses the problem directly and does not avoid the subject. However, compromising does not have as much depth as collaborating. (Haynes, 2012, p. 74.) Compromising plays a big role in Frostpunk, as the player will not be able to fill all needs and promises the citizens have and must seek the middle ground in creating a passable solution for all parties.

In addition to leadership, individual characteristics and group size, group member's personalities, attitudes and skills are important factors in how a group form a decision. Authoritarianist characteristics in a group member (such as the tendency to idealize a powerful authority figure and adapt conventional lifestyles) is often beneficial. With a member such as that, the group is able to form stricter decisions and decisions that might cause negative outcomes for individuals, in example, a guilty verdict from a jury. (Swap, 1984, p. 46–49.)

The size of the group has a great effect on how decisions are made. Smaller groups provide greater satisfaction and belongingness, though in larger groups the individuals feel more welcome to express differing opinions. However, there seems to be no clear relationship between problem solving skills or the quality of decisions and group size. Larger groups are often more ineffective. In addition, people in larger groups have tendency to create cliques, which decrease the overall cohesiveness of the group. (Swap, 1984, p. 54–55). In Frostpunk's case the difficulty is that every decision might lead to life-threatening consequences. The group does not have the chance to start over and try different tactics.

3 FROSTPUNK

3.1 Setting of Frostpunk

As a case study example, I will apply my findings to Frostpunk. Frostpunk (2018) is a dystopian video game created by a Polish game studio 11 bit studios, previously known from Anomaly (2011–) series and This War of Mine (2014). Frostpunk is currently available on Windows, MAC OS, PlayStation 4 and Xbox One.

Frostpunk is set in the United Kingdom in the year of 1887. Global temperatures have dropped below freezing due to a volcanic winter. The game is classified as a *Steampunk* game, which is a futuristic subgenre of science fiction that mixes together advanced technology and steam-powered machinery. In Frostpunk all the machinery works with steam power, and the steampunk setting is also implied by the clothing and accessories of the characters. There is little information about the background situation, but some hints of the world can be gathered via exploring the wilderness.

3.2 Gameplay mechanics

Image 1. The city in its prime

Frostpunk is a mixture of survival, exploration and city builder games. The game is a single player game and the player is acting as the leader of the city. A playthrough starts with an empty city, a shut generator and a group of refugees. The number of refugees depends on the difficulty level, map and scenario. The aim of the game is to keep the city warm by running the heater, while dictating jobs for the workforce, such as gathering resources, building structures and exploring the world. The player must also make laws to improve morale. In addition, the player must develop new technologies in order to gain new developments, such as better heaters and more effective mining techniques. The game begins with the temperature of –20°C, but it will lower gradually. *Image 1* is an example of a stable, well-doing city in the first half of a playthrough.

There are many matters to take into consideration. The generator and the heaters will use coal continuously, but the workforce will only work during daylight hours. In addition to the work hour limits, the citizens are able to work only when it is warm enough. Failing to provide safe environment for working will cause frostbites, deaths and will eventually lead to running out of fuel for the heater.

The game starts with the player choosing a pre-generated map for their playthrough. In addition, the player may choose a specific scenario. Choosing a scenario is not compulsory, but they have an effect on the replay value as the player must try out different survival tactics. In the base game there are three available scenarios to choose from. A New Home (standard scenario, where the player has to survive for 48 days), The Refugees (new refugees seek help from the city regularly) and The Fall of Winterhome (the player is appointed as a leader of pre-build city, where the previous leader has been thrown out of power).

The player is faced with moral choices, such as if they will allow child labour or forced amputation for frostbite victims. Each decision will either rise or lower the hope and discontent of the citizens, and every decision has later consequences that occur randomly.

As the game advances, the player must also choose from two ideological paths: Order or faith. The path of order has authoritarian policies and leads to propaganda and harsher methods of maintaining order, including the city watch. The city watchmen are able to assault disobeying citizens, and the player can use them to disperse riots and protests. The path of faith gives the citizens hope and promise of better tomorrow. Prayer becomes an

important part of the citizens daily routines, and churches and chapels will bring the feel of peace and serenity to the society.
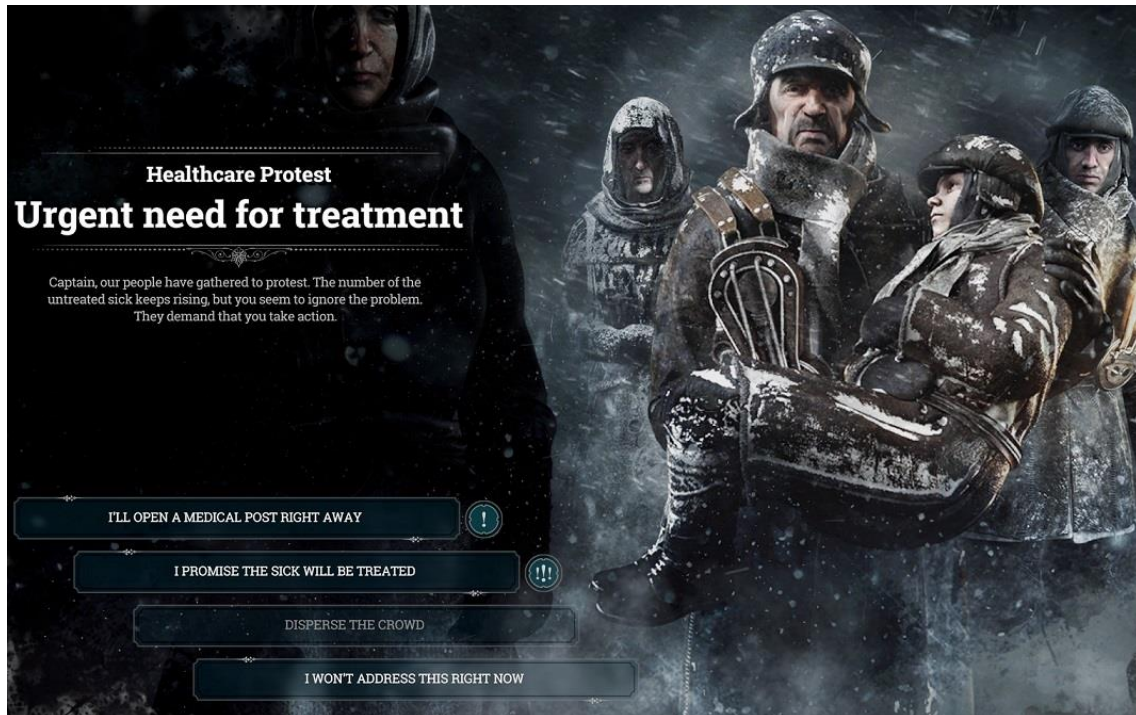
Image 2. Group of NPCs approaching the leader with their demand

During the gameplay, the NPCs will face the player with requests and demands (see *Image 2*). The typical situation is that the citizens will form a group and face the leader together with their request. It is implied that the matter has been discussed without the player knowing about it. The citizens may start riots and protests, and if the player still fails to meet their demands, discontent will rise, and the game will end in coup d'état.

Image 3. A frozen city

The game is lost is the when the hope and discontent counters are completely filled. In *Image 3* there is a city with temperature of −70°C. The city is in shutdown, and it is nearing its final hours. The game has no actual winning conditions. After a campaign reaches a certain day (which is 48th day in the main campaign), the game ends and it is implied that the leader managed to save the city and they managed to stabilize their city and they kept on living. That is practically the only way to win the game.

If the player chose certain decisions, they will get a following message after the ending: "Yet I fear we have gone too far", that implies some crisis might be building up among the residents, now that the city has survived a certain amount of time.

4 RESEARCH FRAMEWORK

4.1 Research question

My thesis will answer the question of "how human survival behaviour is represented in Frostpunk". I will answer my research question from the perspective of the NPCs. I find the topic important, because case examples of survival games have not been made, even though realistic behaviour models in survival games are increasingly more popular among both the players and game developers.

4.2 Research methods

As a research method I used game analysis. I used a qualitative game study method guide by Mia Consalvo and Nathan Dutton (2006) as the framework for my game analysis part. I did not follow it directly as occasionally it focused on subjects that were not relevant for this thesis. Instead, I altered the framework to fit this thesis. In their article, Consalvo and Dutton talk about qualitative study of games and what kind of questions a game researcher could ask while playing for a game analysis. Although their article focuses in several sectors of gameplay and mechanics, and I only focused on representation of human survival behaviour, the article helped me to put together the fragmented information I gathered.

I collected material by playing the game by myself and I wrote notes while playing. I have played Frostpunk previously and my overall playtime was approximately thirty hours before I began to plan this thesis. I limited my play time up to 10 hours, divided into multiple playthroughs. The limitation was made to limit the amount of material. I played the Windows version of the game (patch 1.4.1) on my every playthrough. I played the base game without additional downloadable content.

4.3 Research data

On my first playthrough I played The Refugees scenario with hard difficulty. I chose this scenario, because it involves a lot of helping other people and I wanted to see how my citizens react to the fact that people will eat their food and use their shelters. In other

words, I wanted to see if they show any signs of selfishness. I chose the ideology of order, because I hoped that the neighbourhood watch would keep the city safe in case the constant flow of new people would rise discontent among the citizens.

I made decisions that I hoped would make the citizens work more efficiently. I allowed food additives that would make a same amount of food last longer, and I made a law that frostbite victims must have amputations and prosthetics, hence they are eventually able to go back to work. In addition, I decided to allow child labour, as I had to gather resources faster for building structures for the newcomers.

For my second playthrough I chose the endless mode, which means I could play until I fail without time limit. I chose this mode, because I was hoping to have a longer playthrough and thus encounter more versatile events. I chose Crags as my map, because the rocks hamper city planning, and thus I had to pick different tactic and I could not simply rebuild similar city as on my previous playthrough. This time I chose faith as my ideology and made praying a part of my citizens' daily activities. Giving the people something greater to believe in raised hope.

I found my second playthrough more fruitful, as there was greater chance for random events. I played the endless mode, as I wanted more room for mistakes. I decided to agree to all demands and requests, and I did not make compromises (*Image 2:* The dialogue option "I will open a medical post right away" is an example of a compromise, where the matter is addressed, but not completely fixed).

5 RESULTS

On my first playthrough I was expecting the people to be suspicious of the newcomers, but my citizens welcomed the new refugees to the city with open arms and they immediately became part of our existing society. Discontent in the city rose very quickly when I failed to provide the newcomers shelter, food and healthcare.

I could not control the number of incoming groups, and I had to let everyone in. Thankfully, new people raised hope and the people were determined that we should all stay together in order to survive. However, the amount of people (200 residents at the time) made it difficult to manage resources and have enough houses for everyone. Death of citizens occurred daily. I allowed funeral preparations in order to raise hope.

Allowing child labour had many negative effects, as I predicted. The decision itself caused an uproar, and soon after a child was injured while working. This caused a major loss of hope. The NPCs stated that they want to be reminded of the old times and how in a humane society, children should not be allowed to work.

This playthrough ended up lasting 16 in-game days. I had difficulties to cover the basic needs of my citizens and as the temperature dropped quickly below –50°C, I could not address to their requests and demands. I could not feed all the citizens due to the constant flow of incoming groups. In addition, the hunters who provide food, refused to work due to the freezing weather. The constant lack of food led to extreme measures in survival. One resident was caught feeding human corpses to his family in order to survive. I had to either banish him or forgive him. I decided to forgive him, as the aim of this playthrough was to keep everyone safe. However, allowing one cannibal to live led to more people desperately feeding their families with human corpses.

I also was given the option to secretly use human corpses as a food source. I was planning to allow this as the food situation was critical. However, the hope decreased after a severe blizzard, and my character was banished from the city to the wilderness before I could make the decision.

For my second playthrough I chose the endless mode with faith as my ideology. I found out that choosing the order of faith brought problems with resource management.

Building chapels was expensive resource-wise, and as I had decided to fulfil every wish, I had to build several chapels for the residents.

I allowed amputations for frostbite victims. One frostbite victim refused an amputation. The doctor told me that the person would die if the limb was not amputated; thus, I decided to allow forced amputation for him. Due to this decision the discontent in the city rose. Later, the same amputee decided to end his own life, and the discontent rose, and the hope fell. From this moment onwards, I decided to pay more attention to the citizens' individuals needs in order to maintain hope.

After the basic needs were covered, people became interested in different needs. The citizens asked the leader to let them celebrate Christmas by having bigger food rations and using wood to build toys for the children. Christmas preparations are a randomly occurring event, and unfortunately, I had this event only in my second playthrough, thus I do not know what happens if I prevent the residents the joy of preparing for celebration. The Christmas celebration resulted in a great rise of hope. Many citizens approached the leader to thank him for letting them enjoy the holiday. I was told that whatever happens next, the memory of this wondrous day will stay with the city forever.

In addition, the residents wanted the scouts to find nostalgic heirlooms from the past. "We should gather them so that our children remember who we were once. And who we might yet become", was the reason for the request. The first batch of scouts deceased on the journey. However, the death of the batch had no effect on either hope or discontent. The second batch managed to retrieve a page from an engineer's notebook. The hope rose significantly, as life began to resemble the older, safer days.

I also found blueprints for robotics. Robots can work 24 hours a day without having the need to rest. I used a robot in a coal mine in order to maintain constant flow of coal for the heaters. However, using robots brought other challenges. One citizen was crushed to death because of the robot. This caused a great raise in discontent and discussion on whether the city should allow robotics.

On the 30th day, the temperature dropped to –80°C. The heater ran out of coal, and I lost over 100 residents in a single night. Due to these deaths, the hope decreased, and I was given two days to prove that I am worth of my city's trust. As the discontent increased,

the opinions of the groups began to differ. Some of the residents were very angry, and others tried to calm down these agitated individuals. Some of the citizens even questioned whether the upcoming punishment is too cruel. However, after one citizen angrily stated that it was well-deserved, no one opposed to that, and I was banished into the wilderness.

In both playthroughs, after the physiological needs, such as food, shelter and sleep are fulfilled, the citizens wanted to feel more comfortable. After them became the safety needs, including personal security, health and property. Finally, the NPCs demanded esteem and meaningfulness, such as respect and self-esteem.

The people were usually more content during morning time. Even when there was a crisis, the people seemed to cool down during night-time. Even after protests and demands, the residents were ready to move on and go to work. As the leader I was left with the impression that the people had become numb and succumbed to the reality of the situation.

Many decisions and consequences had a considerable effect on the level of discontent. However, on my playthroughs I found out that the largest discontent boost comes from an emergency shift that forces the citizens to work for an extended sift. Having consistency and stability even in severe situations seemed to play a major part on the residents' hope.

There were no big differences between the paths of order and faith, and the citizens were content in both cases. When playing the order route, they were happy that someone was looking over them, and while playing the faith route, the belief for greater meaning made the people endure the situation. The only difference was that building chapels and praying houses was more expensive than maintaining city watch and spreading propaganda.

Sex did not influence the behaviour of the NPCs, and every NPCs' behaviour follows a similar pattern. However, most of the demands seem to come from male citizens and during uproars and protests, most of the people seen in the pictures (See *Image 2*) are males. The positive feedback usually comes in form of anonymous letters and I cannot guess whether the person is a male or a female.

The age of the citizens had some influence on their behaviour, as the children did not make demands or expressed their discontent aloud. There were times when a child was found grieving in a graveyard or hurting themselves while working, but they never demanded anything nor distrusted me even when their parents were angry.

6 DISCUSSION AND CONCLUSIONS

6.1 Discussion

Overall, Frostpunk offers a good basic model for a society survival game, as many of the behaviour models in the game can be found in real-life situations and in sociological studies. In addition, Frostpunk's survival behaviour could be quite straightforwardly applied into Maslow's hierarchy of needs, as the most basics needs as food and shelter had to be filled before the residents became interested in more tangible matters, such as property.

As discussed in chapter 2.3, some people become numb during a crisis, and I feel this behaviour among the citizens is a symptom of numbness. The NPCs get up to work every morning and press the others to get up as well. I often heard remarks such as "it is not so bad" or "it could be worse", even though the situation was severe and nearly hopeless. Although numbness often completely impairs one's ability to function, I think that submitting to the situations and showing emotional shallowness is a form of numbness as well.

The NPCs' risk-taking behaviour is manifested in couple of bigger decisions thorough the playthrough. Some individuals made decisions that leads to their demise. Developing robotics is an example of a risky decision, as the citizens might get crushed to death. The riskiest decision the NPCs must make is whether to banish the leader when discontent is high enough. Banishing the only person that has experience in maintaining the city is a decision with very high risk and low reward and is the result of utter despair.

Celebrating holidays, sharing stories and other tiny milestones becomes important in situations where survival is not certain, as suggested in chapter 2.2. Allowing people to celebrate, even though it used a lot of resources, resulted in rise of hope, just as it could in a real-life situation. This event occurs in a late part of the game, where the earlier needs have been taken care of. The city must be stable, and the basic needs must be covered before the chance for celebration becomes relevant.

As discussed in chapter 2.5, a group only needs a couple of individuals with strong characteristics. In Frostpunk the final warnings for the leader are often made by couple of individuals. The need for strict punishment for the leader is initially an opinion of an individual citizens, but eventually the word starts to spread and other citizens start to believe as well that the leader deserves a punishment for ruining their lives. This mindset is unforgiving and strict, and it is perfect example of a strong-minded individual that has the ability to turn others on their side.

In addition, according to my theoretical background, belief for greater meaning and the ability to forget that we are simply living organisms that are due to die, plays a major role in how people behave during crisis. However, the paths of order and faith had little difference on how people behaved, and as seen, the reaction to the chosen ideology was similar in both cases.

In a real-life situation, gender and age have an effect on individual's risk-taking behaviour (see chapter 2.4). In Frostpunk age and gender had no effect on behaviour. However, the relationship between risk-taking and gender should not be generalized, as the individual's personality plays the major part on how the they react to the situation. Making an algorithm solely based on NPCs' sex would be too restrictive and unrealistic.

According to my findings, game developers who are interested in creating a survival game should pay more attention to behaviour models. For instance, NPCs should have more arbitrary behaviour models. In Frostpunk the behaviours of NPCs were quite straightforward and easily predictable. Although it is much more difficult to program behaviour models, it should be at least considered if the developers are seeking realistic survival game.

One weakness with this case example was that Frostpunk did not use the environment as thoroughly as it could have. I feel that Frostpunk missed a great opportunity not including more conflicts with snow, even though the frosty apocalypse was the main reason for the occurring situation. As the historical background showed, being near vast amount of snow creates many difficulties. It would have been interesting to be able to develop technologies that prevent sunburns and snow blindness. In addition, it would have been interesting to see a scenario where a resident loses their way from the marked trail, and

the NPCs should arrange a search party for that person (only in the case if the leader allows them to skip the day's work).

6.2 Strengths and weaknesses

The strength of this case was that it was easy to find behaviour models that can be applied to Frostpunk. I was also very familiar with the game before starting I began to plan this thesis, which is why I already had a vague sense of what kind of material I should be looking for. Frostpunk is also quite a new game, as it was published 2018, thus it might act as a hint of which are the future trends of survival game. Furthermore, Frostpunk is the first survival game that classified itself as society survival game.

The difficulty with this case game was that the player must determine the morale and the seriousness of the situation merely from the text boxes and nuances in the text. The NPCs do not have different expressions nor vocal tones; thus, these important ways of showing emotional expression are lost.

The greatest weakness was that most often the consequences and changes in behaviour after a crisis develop over years of time. However, one playthrough of Frostpunk is generally less than fifty days (excluding the endless scenario, that lasts as long as the player manages to survive). In addition, another weakness with this case was that the NPCs do not talk with each other, aside from singular comments.

6.3 Further research

I suggest that further studies should compare two or more survival games and see how different behaviour models are represented in them. In the very best-case scenario, it would be beneficial to compare games that are completed and will not be updated anymore. Frostpunk is getting new downloadable content, but unfortunately, as the publication was postponed, I was not able to include them into this thesis.

Further studies could also research mobile games or non-digital games. Based on my experiences, mobile games tend to focus more on the gameplay and less to the story or NPCs, which would make a case study such as this interesting from that perspective.

6.4 Conclusions

This research aimed to examine how human survival behaviour was represented in Frostpunk. According to my results, Frostpunk includes many human survival behaviour models that would occur in a similar real-life situation. However, some of the behaviour represented appeared more superficial than they would in the real life.

If a game developer wants to create a realistic survival game, they should look into several factors of human behaviour, group dynamics, risk-taking and survival behaviour. Studying these behaviour models from a sociologic perspective is very beneficial for game developers. Attention should be paid especially when programming the behaviour models of NPCs. The NPCs should have versatile reactions for different situations. Environmental hazards have the potential to bring credibility, diversity and varying situations into the game.

REFERENCES

Berkowitz, L. (1978). *Group processes.* Academic Press.

Cameron, L. & Shah, M. (2015). Risk-taking behavior in the wake of natural
    disasters. *Journal of Human Resources, 50*(2), 484-515. doi:10.3368/jhr.50.2.484

Consalvo, M. & Dutton, N. (2006). Game analysis: Developing a methodological
    toolkit for the qualitative study of games. *The International Journal of Computer
    Game Research*. http://gamestudies.org/06010601/articles/consalvo_dutton |
    Retrieved 10.2.2020

Di Stefano, D. L. (2013). *Encounters in avalanche country: A history of survival in the
    mountain west, 1820-1920*. Seattle: Center for the Study of the Pacific Northwest in
    association with University of Washington Press.

Frostpunk. (2018) 11 bit studios.

Haynes, N. (2012). *Group dynamics: Basics and pragmatics for practitioners*. Lanham:
    University Press of America.

Henry, V. E. (2004). *Death work : Police, trauma, and the psychology of survival*. New
    York, New York: Oxford University Press.

Lerner, J. S., & Keltner, D. (2001). Fear, anger, and risk. *Journal of Personality and
    Social Psychology, 81*(1), 146-159. doi:10.1037/0022-3514.81.1.146

Lupton, D. (1999). *Risk and sociocultural theory : New directions and perspectives*.
    Cambridge: Cambridge University Press.

Lupton, D. (2013). *Risk* (2nd ed.). London: Routledge.

Lyng, S. (2004). *Edgework: The sociology of risk taking*. New York: Routledge.
    doi:10.4324/9780203005293

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*(4),
    370-396. doi:10.1037/h0054346

Swap, W. C. (1984). *Group decision making*. Beverly Hills: Sage.

van Den Berg, M., Fort, R., & Burger, K. (2009). Natural hazards and risk aversion: Experimental evidence from Latin America. *IDEAS Working Paper Series from RePEc.* doi:10.22004/ag.econ.51394