

Immersion in Persuasive Gaming

A qualitative investigation about immersive experiences and their role in persuasion from players' perspectives

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Abstract

Persuasive video gaming is perceived as a potentially powerful way to change attitudes and knowledge of players and to possibly induce social change. This assumption stems from the interactive nature of video games as well as the wide-reaching popularity of the medium. Yet, there still exists a lack of empirical research about the actual effectiveness of persuasive gaming. Former research found that immersion into interactive media environments heightens players' susceptibility to persuasion of messages embedded within the game world. The main theoretical framework of the present study derives from previous studies about transportation into narratives and immersion in entertainment gaming, which understand immersion as a multidimensional experience.

*To contribute to fill the gap in literature about the effectiveness of persuasive gaming, this thesis aims to uncover how players experience immersion in persuasive gaming and how these experiences influence players' susceptibility to persuasion of messages embedded within the game world. The present study presents empirical findings of player experiences of *My Life as a Refugee*, developed by the United Nations High Commissioner for Refugees (UNHCR), and *PeaceMaker*, developed by ImpactGames. All research participants played both persuasive games and were interviewed in-depth about their playing experiences via semi-structured interviews.*

The results indicate that players mainly experienced immersion in the narrative, ludic, affective, and spatial dimensions, as well as various barriers to immersion. Perceived realism and depth of the gaming environment played important roles in the immersive experiences. Further, it emerged that if players felt immersed in several dimensions and felt like experiencing the game's events first-hand, this heightened their susceptibility to persuasion within the gaming environment. Identification with the game's character intensified that effect. The thesis concludes with discussing the theoretical implications of the findings and the implications for game developers.

KEYWORDS: *Persuasive Games, Video Games, Immersion, Involvement, Attitude Change*

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1. Introduction

For millennia, games have been used by humans to teach each other skills (Abt, Krüger & Potratz, 1971). For at least over 200 years, people have created and played games to change knowledge, attitudes or behaviours (ibid.). In recent years, video games have been developed by a wide array of individuals, organisations, corporations and others to help achieve their goals (Lavender, 2008). These goals include to motivate people to buy products, support charities or change their behaviours (ibid.). Video games that primarily aim to educate, raise awareness or modify attitudes or behaviours of players are widely referred to as persuasive games (Raessens, 2010; De la Hera, 2015). In a world that faces humanitarian crises as well as major political struggles, persuasive video games¹ are seen as a promising way to educate and empathise people towards struggles individuals or societies go through and to possibly mobilise them (cf. Raessens, 2010; Neys & Jansz, 2010; Alhabash & Wise, 2012).

The increased spreading of this persuasive media form stems from the overall development that video games have emerged as one of the most popular entertainment media forms (Alhabash & Wise, 2012). Video gaming has become the media industry with the highest revenue, grossing over 70 billion dollars (Diele, 2013). In Europe, 25% of the population² play video games at least once a week (ISFE, 2012). Worldwide, more than 44% of people with internet access play video games, a number expected to grow (Diele, 2013). As many people play video games this frequently, game developers aiming to promote socio-cultural change hope to reach and persuade them by means of the messages included in the games (Raessens, 2010).

1.1 Persuasion through Persuasive Gaming

The science of persuasion has been studied ever since the ancient Greece. Aristotle argued that persuasion is inextricably linked with rhetoric — by gaining trust, appealing to emotions as well as the rational mind, humans can persuade others about their argument (Lavender, 2008). Initial research about video games and persuasion was concerned with entertainment games and potential negative persuasive effects, such as violence (Anderson & Bushman, 2001; Sherry, 2001). Persuasive games that promote positive socio-cultural change have only recently started to receive attention from academia as media in their own right (cf. Bogost

¹ in this thesis referred to as persuasive games

² survey run in 16 European countries, targeted respondents aged between 16 and 64

2007, Sicart, 2011). Given their potentially wide-reaching social significance, game scholars started by focusing on the unique persuasive features of video games compared to other media forms. Ian Bogost (2007) was the first scholar to develop a comprehensive theory about persuasive games. He built on Aristotle's rhetoric to develop the procedural rhetoric native to video games. This theory posits that video games are persuasive because of their expressive power, which means that games can represent complex real-life systems in a simplified version through a set of rules that are determined by a software developer. As players follow this set of rules, they have to make decisions within a simplified version of reality and thus they are persuaded by experiencing how real-world processes work.

Procedural rhetoric has been considered as a helpful yet limited approach in the understanding of the persuasiveness of games by other scholars. One of the major criticisms was firstly posited by Sicart (2011) who argues that procedural rhetoric does not account for the active and creative role of players. Players are not ideal as imagined by game designers in the process of developing the game. This means, that players do not simply follow the rules of the game which would teach them the represented process. They rather bring their own political values and virtues to the game play and try to avoid rules and make their own ones when possible. This can then lead to another outcome of the game instead of the persuasive outcome intended. De la Hera (2015) developed a theoretical model about all potential persuasive dimensions of video gaming. Next to the procedural persuasion and individual player experiences, De la Hera identified linguistic, visual, sonic and haptic persuasion as well as narrative and cinematic persuasion. There exist various theories on how persuasive messages embedded in these dimensions successfully change attitudes of players. One explanation that accounts for an interrelation of game design and individual player experiences is that players get persuaded by persuasive messages more likely if they feel immersed into gaming environments.

1.2 Immersion

Immersion describes the experiential phenomenon when players become virtually a part of a gaming experience themselves (Pine & Gilmore, 1999). When the attention, thoughts and emotions of players move from the physical into the gaming world, this can make the world generated by the computer seem all-encompassing (Cairns, Cox & Nordin, 2014). Janet Murray (1997) theorised immersion in digital narratives. Based on her research of narrative

structures in novels and films, she observed that narratives with multiple contradictory alternatives require the active participation of audiences. As audiences pose mutually exclusive choices to themselves, they can get immersed into a narrative through feeling like an active part of it. Such immersive experiences are enhanced by interactive digital narratives (ibid.). To make this digital experience seem more real and pleasing, people aim to not let the experience incite doubts about whether the digital environment is portrayed correctly and according to their own attitudes. Consequently, these dynamics enhance the experienced persuasiveness of the characters and stories within the digital narratives (ibid.). Following Murray's rationale, players of video games long for diving deep into a game environment and aim to forget about the real-world while doing so. It follows that for an optimal digital playing experience, there exists less cognitive resistance towards persuasive messages embedded within the game (cf. ibid.). This theoretical approach was supported empirically by various scholars such as Burrows and Blanton (2015) who researched entertainment games. They argue that individuals are more likely to lose their cognitive capacity to defend themselves from persuasive messages, when they feel transported into virtual environments. Transportation hereby denotes a similar experiential phenomenon as immersion.

While there exist strong indications that immersion and persuasiveness are linked, immersion itself has often not been clearly conceptualised. The concept of immersion has been relatively vague and often not clearly separated from concepts such as flow, presence and transportation that describe similar player experiences (McMahan, 2003; Calleja, 2007; Herrewijn, Poels & Calleja, 2013). Calleja's (2007) player involvement model enables an analytically precise approach to immersion. The model describes how the players' involvement in video games is mainly shaped along six dimensions, that are kinesthetic, spatial, shared, narrative, affective and ludic involvement. Those dimensions are not always clearly separated, but rather overlap. The argument goes that when players feel involved within one of these dimensions to the point that they internalise the dimension, this is a similar cognitive and emotional experience like immersion as discussed by previous scholars. Internalisation means that players do not think about a particular dimension, but rather experience it naturally and feel like a part of it. Calleja proposes the concept incorporation to describe the experience players go through when they reach an internalised state within all relevant involvement dimensions of a game. Incorporation thus describes the optimal multidimensional experience immersion can be or in other words the most profound kind of immersion.

Calleja built this model upon qualitative research about player experiences within entertainment video games, more specifically Massively Multiplayer Online Games. No study so far has been primarily dedicated to researching immersive experiences in persuasive gaming. Player experiences of persuasive gaming may exhibit different dynamics, mainly because of persuasive games' primary persuasive purpose (cf. Ritterfeld, Cody & Vorderer, 2009). Yet, in general persuasive games share most of the characteristics of entertainment games. This is emphasised by De la Hera's (2015) model about persuasive dimensions of persuasive games and Calleja's (2015) player involvement model, as both models display dimensions that are partly similar. Therefore, Calleja's player involvement model was well-suited as a theoretical framework to explore immersive experiences of persuasive gaming.

1.3 Research Questions

The relationship between persuasion and immersion in entertainment games observed in former research sparked the initial interest to conduct the present study. As persuasive games can be differentiated from entertainment video games because of their primary persuasive purpose, in-depth research taking media-specificities into account was needed to study how persuasive games can successfully transmit their messages. Because there exist strong indications that persuasion and immersion closely interrelate, and immersion in persuasive gaming has not been extensively researched, this study set out to qualitatively explore how players experience immersion in persuasive gaming. Therefore, the first research question guiding this thesis is as follows:

Research Question 1: *How do players experience immersion in persuasive gaming?*

Moreover, with the first research question as a necessary grounding, this study explored the influence of immersive experiences on players' susceptibility to persuasion from players' perspectives. In contrast to entertainment gaming, player experiences in persuasive gaming may be different, as players are usually aware that a persuasive game aims to transmit a certain message. As a consequence, players may be more alert and feel less immersed. This assumption is linked to the theory that people usually try to shield themselves from obvious persuasive messages (cf. Burrows & Blanton, 2015). To research the players' experiences of

the role of immersion in persuasion, the second research question guiding this thesis is as follows:

Research Question 2: *How do players perceive the influence of their immersive experiences on their susceptibility towards persuasive messages embedded within persuasive games?*

In this study, 12 participants played two persuasive games with a socio-political message and were interviewed in-depth about their individual playing experiences and perceptions in regard to the research questions. Both games are briefly introduced in the following paragraphs, a more detailed description is provided in the methods chapter.

My Life as a Refugee (2012) is a single-player game developed by UNHCR, the United Nations' refugee agency, to raise awareness of tough experiences refugees worldwide have to go through. Players of the game can choose a displaced character and then have to make a number of uncertain decisions based on authentic situations which affect their character's fate.

PeaceMaker (2007) is a single-player game developed by ImpactGames, aiming to sensitise people worldwide about the Israeli-Palestinian conflict and to encourage educated discussions about the topic. Players can choose the role of either the Israeli Prime Minister or the Palestinian President and have to react to in-game events in order to create a peaceful and stable resolution to the conflict.

1.4 Social and Scientific Relevance

The understanding of the social relevance of this thesis starts with the issues both persuasive game cases address, namely the refugee crisis and the Israeli-Palestinian conflict. Both issues are ongoing global challenges, as many societies are affected by them and try to find suitable ways to tackle them. At times when no far-reaching stable and peaceful solutions are found, the willingness of individuals or communities to show empathy and offer help to the more vulnerable is invaluable. Persuasive gaming is seen as a promising way to induce social change by raising awareness and changing attitudes. As gamers comprise almost half of all people with online access worldwide (cf. Diele, 2013), persuasive games have a potential wide reach and huge social significance. Persuasive gaming can be seen as a way to create a dialectic between player communities and socio-political issues to find new ways to confront

those challenges (cf. McGonigal, 2011). This may lead to the development of new discourses which in turn may influence how other individuals and whole societies deal with those issues (cf. Castells, 2007). However, the actual effectiveness of persuasive gaming is still under-researched. As the aim of persuasive gaming can be considered beneficial for democratic societies, it is therefore highly relevant to research its effectiveness.

The premise of this research is that persuasive games aim for social change that is beneficial for democratic societies. Yet, the persuasive power may also be exploited by game developers with harmful intentions. Also in this case it is crucial to understand how persuasion can take effect, in order to identify games that are potentially harmful for democratic societies.

While interactivity and immersion are often cited as the unique selling points of persuasive games, there does not exist extensive prior research about immersive experiences and their role in the effectiveness of persuasive games. The rich qualitative findings of this research may partly fill that gap and deliver insights into these dynamics. These insights may also be valuable for game developers to understand how players experience immersion and how this affects their susceptibility to persuasion. A deepened understanding of these dynamics may help game developers to create games that successfully change players' attitudes. Also, the findings may not only be applicable to games with socio-political messages, but as well to persuasive games that promote other issues such as health or environmental ones. This is because persuasive games of different topics often display similar approaches to persuade players.

The present study is a part of the national PGIC project (Persuasive Gaming in Context) that aims to contribute to this field of study by conducting research on validation, characteristics and design principles of persuasive gaming. The four-year project (2013-2017) involves a collaboration between the University of Utrecht, the Eindhoven University of Technology, the Erasmus University Rotterdam as well as partners in the Dutch gaming industry. The findings of this study contribute valuable insights for further research on persuasive gaming specifically and cognitive dynamics regarding persuasion more generally. Its focus on player experiences is especially relevant for the gaming industry who can use the generated findings to enhance game design.

1.5 Thesis Outline

The remaining thesis is structured as follows. The next chapter is the theoretical framework which builds the basis for the research questions and an informed research design. It discusses literature on attitude change and persuasion, the main differentiators between entertainment video games and persuasive games, including a review of the persuasive dimensions of persuasive gaming. Moreover, conceptualisations of immersion informing the first research question and past research about the dynamics between persuasion and immersion which informs the second research question, are discussed. The theoretical framework concludes with a summary of the literature review in form of a conceptual model which served as the main guidance in the operationalisation.

The thesis then continues with the methods chapter in which all methodological choices are accounted for. This includes an argumentation for a qualitative approach, more specifically qualitative semi-structured interviewing and thematic analysis, the units of analysis and the operationalisation of the key theoretical concepts in an interview design. Additionally, the rationale behind the short questionnaires that were used to measure knowledge and attitude changes due to the game playing session is presented.

The results chapter starts with a brief report on how much the knowledge and attitudes of the players changed in regard to both games. Then, the results of the thematic analysis conducted on the interview transcripts are presented.

The conclusion starts with an answer to the research questions, followed by a discussion of the theoretical implications. Finally, limitations of this study and suggestions for future research are discussed as well as practical recommendations for game developers.

2. Theory and previous research

This chapter is divided in five parts. The first two sections discuss persuasion and persuasive games. The section on persuasion primarily serves to give a context to the parts that follow by discussing generally desired outcomes of persuasion and by presenting the origins of the intellectual debate on persuasion. The part on persuasive games discusses unique properties of video games and how they may be used for persuasive purposes. The third section delves into the relationship between persuasion and immersion, the latter denoting an experiential phenomenon expected to enhance persuasive effects of video games. The fourth section further conceptualises immersion and discusses which conceptualisation is considered most suitable for the research of player experiences of persuasive games. Finally, the chapter's conclusion discusses how the insights gathered throughout this literature review collectively form the theoretical guidance of this study.

2.1 Persuasion

To make sense of the world, humans form attitudes about themselves, other people and issues. These attitudes are based on beliefs, this means assumed facts, and a subjective valence, this means whether humans perceive something as positive or negative (Petty & Brock, 1981; Miller, 2002). As attitudes do not necessarily remain the same, but rather change, they are closely intertwined with the concept of persuasion.

O'Keefe (2004) is a leading scholar in the research of persuasion and defines persuasion as a process that changes mental states of people, usually to induce a behavioural change. While people may be persuaded to believe new facts, changes can also occur in the valence, as well as in the extremity of a positive or negative evaluation (for instance, a change from very positive to slightly positive). Another desired outcome of persuasive communication can also be that people are reinforced in their own attitudes (Miller, 2002). Other kinds of persuasion can for instance involve a change in the accessibility of certain knowledge (O'Keefe, 2004). Yet, the mental states most often researched in light of persuasion are attitudes, which is why persuasion is often equated with attitude change (ibid.).

The conceptualisations of desired outcomes of persuasion, such as a change of attitude, are relatively straight-forward. In contrast, the dynamics that precede a successful attitude change, namely persuasion, have been explained by various theories, yet continue to

be a complex field of research. The origins of the intellectual debate as well as the theoretical starting point of this study are shortly outlined in the following.

As humans usually articulate attitudes through verbal and non-verbal language, rhetoric has often been linked with persuasion (Lavender, 2008; Bogost, 2007). The figure that has started and guided that line of thinking throughout the centuries was Aristotle (cf. Lavender, 2008). Aristotle argued that persuasion can be achieved through rhetoric. He divided rhetoric into three parts - ethos, pathos and logos, which translate into gaining trust, appealing to emotion, and appealing to the rational mind by the means of language (ibid.). Also Kenneth Burke, an influential literary theorist of the 20th century, argued that “wherever there is persuasion, there is rhetoric” (Burke, 1969, p. 172). Yet, Burke noted that rhetoric is not limited to verbal language, but can also be applied to other modes of communication, such as visuals. While over time many other academic approaches to explain persuasion developed in varying disciplines, rhetoric was also used as the starting point to explain the persuasive power of video games (Bogost, 2007). Before discussing in more detail how various scholars explain the persuasiveness of video games, definitions of games in general and of persuasive video games in particular are given.

2.2 Persuasive Games

Playing games is something natural for people - Huizinga (1949) coined the term “homo ludens” which translates to “playing man” to account for people’s desire to play. According to Huizinga’s theory, play enables people to act freely according to their individual abilities and ideas which is invaluable for their personal advancement and the generation of culture. In general, there have been identified five main characteristics of games, namely game-oriented, rule-based, feedback-driven, competitive and voluntary (cf. Prensky, 2001a; Salen & Zimmerman, 2004). This framework of an entertaining as well as stimulating pas-time has increasingly been blended with educational purposes (Ritterfeld, Cody & Vorderer, 2009). This kind of games has widely been labelled serious games (ibid.). The main differentiator between pure entertainment games and serious games is that the primary motive of serious games is to educate players rather than to entertain them (ibid; Abt, Krüger & Potratz, 1971). Generally, serious games share all above mentioned characteristics of games except the voluntary participation as they are often used in educational settings or training environments (Lampert, Schwinge & Tolks, 2009).

Ever since Huizinga's observations about the playful nature of humans in the first half of the 20th century, people have developed a wide-reaching new kind of game — video games (Taylor, 2002). Video games can be defined as games that are “interactively played with visual (and often audio) components on some digital device” (Baranowski, Buday, Thompson & Baranowski, 2008). Since the persuasive potential of video games has been discovered by game developers, persuasive games evolved as a type of serious games. Persuasive games are digital games that as their primary purpose “aim to shape, reinforce or change the perceptions, emotions, beliefs, behavioural intentions and/or behaviours of players” (De la Hera, 2015). Most persuasive games are designed to raise awareness and change attitudes regarding health, environmental, political or social issues (Lampert et al, 2009; cf. PGIC, 2016).

Several scholars have researched ways in which persuasive messages can be embedded in video games and successfully be transmitted to players. Bogost (2007) researched the persuasive power of video games extensively and was the first scholar to analyse persuasive games as media in their own right with unique properties. He also coined the term ‘persuasive games’ to clearly differentiate between entertainment video games and video games with a persuasive purpose. Bogost built on Aristotle's rhetoric - ethos, pathos and logos - to develop the ‘procedural rhetoric’ theory which aims to explain a unique feature of video games compared to other media to embed persuasive messages. The procedural rhetoric posits that video games transmit persuasive messages to players due to their expressive power. The game's software can express complex systems in relatively simple ways, by implementing a set of rules players have to follow. The argument goes that by going through simplified real-world processes that abide to the rhetorical tools of ethos, pathos and logos within a virtual world, players get persuaded. In this scenario though, players are conceptualised as being simple objects of the game. Procedural rhetoric does not account for differences in players' individual cognitive capacities or creativity as well as the context in which games are played (cf. Sicart, 2011; De Grove, Looy, Neys & Jansz, 2012).

Sicart (2011) advocates that for any procedural analysis of game play, there must also be an analysis that accounts for individual player experiences. This is because players have the capacity to influence the game with their own virtues, as well as values and political ideas (ibid.). This means that persuasive messages that are embedded via procedural rhetoric may not effectively persuade players, if players unleash their own creativity and ideas that counter these messages. Moreover, the socio-spatial context in which players play a game influences

the persuasive effect of games. This includes aspects such as environmental factors, game settings, and the presence of co-players (De Grove, Looy, Neys & Jansz, 2012). Thus, the persuasive power of video games may stem from an interplay between specific game properties, individual playing experiences and the conditions in which games are played, rather than from one-way effects of game design on players.

This study takes Sicart's (2011) critique as an argument to focus on individual player experiences to research how effectively persuasive games transmit their messages. What kind of player experiences is discussed in greater detail later in this thesis. Although individual player experiences are an invaluable perspective to understand the persuasiveness of games, specific game design and contents have to be taken into account as well (ibid.). This is because the representation of content is always affected by the specific medium (Ruggiero, 2014). Simply put, individual persuasive gaming player experiences are only enabled through the provision of a game which makes use of specific persuasive dimensions. Therefore, to understand processes of persuasion, it is also important to analyse the persuasive game dimensions (ibid.). This will also include the procedurality as proposed by Bogost (2007). As discussed in the previous section, persuasiveness can be implemented in numerous verbal and non-verbal ways. Procedurality may be seen as a unique feature video games can provide to media users. Though, video games can also make use of several other persuasive elements such as visuals or sounds known from many other kinds of modes of communication (De la Hera, 2015). De la Hera developed a theoretical model which demonstrates what dimensions can be used by game developers to embed persuasive messages in video games. She did so by conducting a qualitative content analysis of a sample of persuasive games in the light of theories developed by persuasive gaming scholars. To ensure validity, she discussed the results of the analysis with game designers. De la Hera identifies three persuasive levels on which persuasive games can convey meaning and thus persuade players: 1) signs, 2) the system, and 3) the context.

1. The signs level is located in the contents and game design and consists of four persuasive dimensions, that are linguistic, visual, sonic, and haptic persuasion.
2. The system level also stems from specific game design and contents and consists of the following three persuasive dimensions: procedural, narrative and cinematic persuasion.
3. The context level, that includes actual gameplay, consists of four persuasive dimensions which are sensorial, affective, tactical and social persuasion.

De la Hera's model is well suited to study persuasive communication within video games; this study made use of this framework to analyse which persuasive game dimensions respondents found persuasive. De la Hera's model shows which dimensions may contain persuasive messages to induce an attitude/behaviour change in players and also takes the playing experience into account by means of the context level. However, it does not explain under what conditions persuasion actually takes effect on players. One popular theoretical approach is that immersion into media environments heightens the susceptibility to persuasion. The concept of persuasion through immersion is discussed in the following section.

2.3 Persuasion and Immersion

The term immersion is widely understood as a metaphor that relates to the experience of being submerged in water (Murray, 1997). Murray describes the virtues of technology, namely "its power to appeal to the senses of vision and hearing with stunning immediacy" (p. 21). When people engage with an interactive media environment, they can focus all their cognitive resources on it and forget their actual views and surroundings in order to make the media environment seem more real and pleasing. While any medium can elicit immersive experiences through narratives, participatory media can intensify the effects. According to Murray's theory, immersion into game worlds translates into the perceptions of players of being surrounded by the participatory medium reality, rather than by their physical reality. As virtual objects or stories become real through interacting with them, players may actively create new beliefs based on those representations.

Research concerning narrative transportation and persuasion has supported this theory and has been used as a theoretical guidance to study immersion into video games. Green and Brock (2002) researched transportation into narratives and developed the transportation imagery model which suggests that transportation and persuasion are closely linked. Transportation is understood as a similar experience like immersion. The model predicts that the more transported readers feel into a narrative, the more persuasive it will be. This means, readers are more likely to change their attitudes to beliefs intertwined with the narrative. Green and Brock identify at least three processes through which narratives can influence and persuade people. First, transportation decreases the cognitive capacity to formulate counterarguments towards persuasion as this makes it easier to perceive the whole narrative

as real. Second, when the narrative becomes a personal experience, stronger and more enduring attitudes can emerge. Third, deep affections towards the narrative's protagonists, for instance through identification, can enhance a persuasive effect of transportation. Subsequent research on narratives confirmed the transportation imagery model and highlighted that attitude changes are mainly based on emotional responses that often correlate with identification (Mazzocco, Green, Sasota & Jones, 2010; Busselle & Bilandzic, 2009), and a reduced critical thinking (Escalas, 2004). Green (2004) found that narrative transportation and the narrative's persuasive power positively correlate with perceived realism. This was also supported by findings of Busselle and Bilandzic (2008) who posit that violations of external realism, that means whether the story matches the external reality, and violations of narrative realism, that means coherence within a story, may disrupt narrative transportation. Fictionality, on the other hand, does not affect transportation.

Research specifically concerned with virtual gaming environments further highlighted the persuasive potential of immersion. Guadagno and her colleagues (2007) describe digital worlds as a two- or three-dimensional representations of natural or imagined environments, which also contain representations of objects and humans. They argue that especially virtual human representations can influence and persuade users. Thereby, immersion plays an important role as it elicits the perception that users are enveloped by the same environment as the virtual human representations rather than by their physical surroundings. If users feel immersed as well as identify with the human representations, they are likely to perceive messages within the virtual environment as more persuasive.

Burrows and Blanton (2015) tested and confirmed the hypothesis that transportation into a virtual game makes players more susceptible to persuasion by means of in-game health communication. In turn, low transportation might produce boomerang effects when persuasive messages are present. Generally, people have a tendency to try to shield themselves from obvious persuasive messages (*ibid.*). Burrows and Blanton found that if players do not feel very transported, they tend to be more alert and as a result feel similar like in the real world. This means they are more bothered and resistant towards persuasive messages. Their research focused on transportation into entertainment video games and subtle health promotion. According to their findings, persuasive messages should be worked into the broader narrative of entertainment games or placed into the background, such as on billboards (e.g. in sports or racing games), in order to enhance rather than disrupt potential immersive experiences.

As was stated in the beginning of this chapter, according to Burke (1969) persuasion is inextricably linked to rhetoric. Following his line of thinking, persuasion through immersion can be subsumed under (persuasive) rhetoric as follows: Ideally, game environments are designed in a way to gain the trust of players, so that they dive into a new environment and perceive it as real without mistrust, which corresponds to ethos, the first step of rhetoric. When players feel immersed, components of the game environment may elicit various emotions in players, i.e. pathos. Finally, it is supposedly easier to appeal to the rational mind, namely the logos, when cognitive barriers are lowered. While these parallels support Burke's argument about the deep link of persuasion and rhetoric, later in this chapter it is discussed how immersion is conceptualised as a more multi-faceted experience than simply 'diving' into a game environment.

Past research has shown that both immersion and persuasion involve cognitive as well as emotional mechanisms (McMahan, 2003). Most research has been concerned with how immersion is experienced by players of entertainment games and how it can be measured (Cairns, Cox & Nordin, 2014). Yet, while valuable insights into an interrelation between persuasion and immersion have been provided by numerous scholars, most research concerned with immersion has worked with conceptualisations of immersion that remain analytically vague. As a consequence, immersion has remained a rather all-inclusive concept (McMahan, 2003; Calleja, 2007; Herrewijn, Poels & Calleja, 2013). In order to contribute to a more thorough understanding of the relationship between persuasion and immersion, an analytical detailed approach to immersion is necessary. For this reason, the following section provides an overview of past research and clearer conceptualisations of immersion, followed by an argumentation about which conceptualisation is used as the main theoretical framework for this research.

2.4 Immersion

2.4.1 Conceptualising Immersion

While the metaphor of being submerged in water illustrates the all-inclusiveness of the concept, immersion has also often not been clearly analytically separated from other concepts such as engagement, flow, transportation, or presence which are quite similar in nature (McMahan, 2003; Ermi & Mäyrä, 2005). Engagement mainly refers to cognitive challenges that are posed to players during game-play, while transportation and presence are often used

in the same meaning as immersion (*ibid.*). Transportation describes narrative experiences of readers who feel transported into another world, who experience the feeling of ‘being there’ — in the world produced by the narrative (Gerrig, 1993; Lu, Baranowski, Thompson & Buday, 2012; Qin, Rau & Salvendy, 2009). Presence was originally developed in the context of tele-operations and relies on the metaphor of transportation to denote a psychological experience of non-mediation (Kim & Biocca, 1997; Ermi & Mäyrä, 2005; Lee, 2004). Flow was coined by Csikszentmihalyi (1990) and describes the process of the optimal experience in an activity. Flow is an extreme experience characterised by several components, that are a loss of the sense of self, high concentration, a balance between one’s own ability and the level of challenge, control, immediate feedback, intrinsically rewarding, a distorted sense of time, and a high degree of concentration. Immersion has mainly been used to describe a very similar experiential phenomenon in studies of participatory media such as video games (McMahan, 2003). Also, Ermi and Mäyrä (2005) view immersion as the most suitable concept to describe the relevant mental processes involved in game-play. Immersion can be characterised as how involved players are with different game dimensions and how their attention, awareness and thoughts move from the real world into the game world (Cairns, Cox & Nordin, 2014). Several scholars have proposed more analytically precise conceptualisations of immersion to demonstrate which gaming dimensions are relevant for immersion.

McMahan (2003) differentiates between the diegetic and the non-diegetic level where immersion can occur. The diegetic level refers to the story of the game, whereas the non-diegetic level refers to how much a player likes the game as well as strategic elements of gameplay. Player involvement on both levels can produce a feeling that the virtual world they are in is actually real and all-encompassing, which describes the immersive experience. McMahan argues that although many game developers aim for a photo- and audio-realism in video games, those are not necessary prerequisites for immersion to occur. Rather, a more important condition to be met in order to facilitate a sense of immersion is a consistent game world. Brown and Cairns (2004) identify three levels of immersion: Engagement represents the lowest level which means that players need to invest time, effort and attention into a game. Engrossment refers to the second level of immersion on which players invest a high level of emotions in the game which makes them less self-aware and less aware of their surroundings. The level of total immersion is equated to presence, when players feel cut off from their physical reality and perceive the game as the only thing that matters. By not

clearly differentiating between immersion and presence, hereby arises the analytical challenge posed at the beginning of this section (cf. Jennett et al, 2008). Ermi and Mäyrä (2005) differentiate between sensory, challenge-based and imaginative immersion. Sensory immersion refers to how virtual game environments may provide the impression of highly realistic audiovisual presentations. Challenge-based immersion corresponds to challenges players are confronted with in a game and how well they develop their skills to do well. Imaginative immersion refers to the degree of emotional involvement players invest in a game. Cohen (2001) argues that emotional involvement is often elicited through players' identification with in-game characters. When identifying with characters, players rather feel with them than about them (ibid.). This observation emphasises the notion of immersion where all thoughts move from the real into the game world (cf. Cairns, Cox & Nordin, 2014). Jennett and her colleagues (2008) build on the preceding conceptualisations and define immersion as a cognitive process which is dependent on five main conditions, including person and game factors. Person factors involve emotional involvement, cognitive involvement and real-world-dissociation. Game factors mainly describe how much challenge and control a gaming environment enables.

Former qualitative research about immersion and entertainment video games has identified several barriers that may limit the sense of immersion. These barriers include human, computer as well as contextual factors, that is gamer preferences (e.g. whether players like the style of a game), game construction (e.g. whether players perceive that game designers put effort into construction, this includes a consistent game world) and environmental distracters (e.g. bad light in a room) (Brown & Cairns, 2004; Cairns, Cox & Nordin, 2014). Moreover, former research suggests that immersion may be seen as a gradual experiential phenomenon that increases over playing time (Brown & Cairns, 2004; Nacke & Lindley, 2008). One common denominator of the discussed conceptualisations is that they understand immersion as a potentially sub-optimal experience, this means it is very often not extreme, but there are rather different degrees of how immersed people can feel.

For the purposes of this study, whose aim it is to research the relationship between immersion and persuasion in persuasive games, Calleja's (2007) conceptualisation of immersion is particularly suitable. He researched player involvement in entertainment games, specifically in massively multiplayer online games (MMOGs). Based on extensive qualitative studies, he developed a player involvement model which views immersion as a multidimensional experience. Calleja stresses the importance to take the specificities of video

games into account when explaining immersion. Therefore, the player involvement model is explicitly designed for entertainment video games, more specifically MMOGS, and aims to cover all involvement dimensions that players can potentially experience. Although it is designed for MMOGS, the player involvement dimensions closely connect to the persuasive dimensions which can be found in persuasive video games as discussed above (cf. De la Hera, 2015). Furthermore, in principle persuasive games can share all characteristics of entertainment games, with voluntary participation as a main potential exception (cf. Lampert et al, 2009). While actual playing experiences may differ substantially between MMOGs and persuasive gaming, the analytical approach and labelling of Calleja's (2007) model is therefore well-suited for the study of persuasive games. In the following section, the player involvement model as well as its relevance and limitations for the study of persuasive games are discussed in greater detail.

2.4.2 Player Involvement Model

Calleja views attention as a prerequisite of player involvement, and player involvement as a prerequisite of cognitive processes such as immersion. According to his findings, immersion is an experiential phenomenon that combines multiple dimensions of involvement. The player involvement model by Calleja (2007) identifies two temporal phases and six dimensions of involvement. The macro and micro level describe the time frame in which players feel involved with a video game. The macro level refers to the offline-involvement with games. It is not limited to the game-playing session, but refers to an ongoing engagement with games before and after playing them. In contrast, the micro-level of involvement describes the involvement with games while playing them. Both temporal phases require the cognitive involvement of players on several dimensions. Calleja identifies the following dimensions along which players can be involved both on the micro and the macro level: narrative, affective, ludic, spatial kinaesthetic, and shared involvement.

1. Narrative involvement is about the way players engage with the scripted story of a game as well as the personal narrative they create while playing a game, namely the alterbiography; an alterbiography is generated through ongoing associations between narrative's characters and events and players' personal perceptions and experiences.
2. Affective involvement is concerned with various forms of feelings players experience within a game. In MMOGs this may relate to calming sensations elicited through

aesthetically beautiful sceneries, or also adrenaline rushes in fighting scenes. (In persuasive games, other forms of affective responses may be more relevant).

3. Ludic involvement mainly refers to decision-taking and the repercussions of the choices players make. Decisions on playing actions can relate to an overarching goal or to specific situations. If actions are made and have no repercussions, they lose their meaning.
4. The spatial involvement represents the location of a player within a game environment. In MMOGs, it refers the sense of players to inhabit the game space rather than seeing it as a representation of space. Moreover, it refers to the geographical orientation of players within the game world. (In persuasive games, without extensive 3D gaming landscapes through which players can move, this spatial involvement may take on different forms).
5. The kinesthetic involvement refers to how players internalise how the controls work and become fluid at making necessary movements. In MMOGs, controls are often complex and it requires more conscious attention if players learn to master them. (In persuasive games, it may take much less attention as they often are simple click or tap games.)
6. Shared involvement describes the presence of other player's avatars or artificial-intelligence-(AI-)controlled agents. (This may be particularly different for persuasive games, as usually there are no other players and only limited AI-controlled agents.)

Calleja's model explains immersion as a multi-dimensional concept. The dimensions all interrelate with each other, the boundaries between them are often blurred. Each dimension can be experienced with full attention or internalised, the latter meaning that players do not think about a dimension when being involved with it, but rather experience it internalised (ibid.). The model posits that the more naturally involved players are in any one of the dimensions, the more likely they feel dissociated from the real world, and as a consequence feel immersed within that specific dimension. While Calleja refrains from using the term immersion to describe this experience, this study continues to use the widely used term immersion to describe the phenomenon when the attention, thoughts and emotions of a player move from the real to the game world. To describe the psychological process when players are fully immersed in all involvement dimensions at the same time, Calleja proposes the concept of incorporation, which is also used with the same meaning throughout this thesis.

Based on the player involvement model, players' perceptions of immersion can be researched in analytically separate dimensions. Further, the experienced persuasiveness of specific persuasive dimensions can be researched in light of De la Hera's (2015) model

whose labelling closely corresponds to Calleja's player involvement model. This made it possible to analyse whether patterns emerged linking immersion within specific involvement dimensions to a heightened persuasiveness of corresponding persuasive dimensions. The study of each dimension individually while taking into account overlaps with other dimensions contributed to a deepened understanding of immersive experiences in the present study.

Despite its analytical value, Calleja's player involvement model is focused on in-game dimensions and it does not include external or environment factors that may influence immersive experiences of players. Several scholars researched factors such as screen size or audiovisual quality on immersion, as well as the contextual conditions in which players play video games (Nordin, Ali, Animashaun, Asch, Adams & Cairns, 2013). Current research about immersion has mainly been concerned with player experiences of entertainment games. It has been observed that larger screens tend to facilitate immersive gaming experiences (Hou, Nam, Peng & Lee, 2012). In MMOGs' playing experiences, relatively big screens, good audiovisuals and an optimised gaming environment (comfortable seat, snacks, headphones) are often given conditions (cf. McMahan, 2003). In contrast, persuasive games are often played in specific contexts such as institutional settings (Lampert et al, 2009). Also, most persuasive games are online games mainly developed for laptop, tablet or smartphone screens or browser games instead of native applications (cf. PGIC, 2016). Hence, screens are relatively small, and so is the audiovisual quality compared to games such as World of Warcraft (cf. McMahan, 2003). It is however also possible to become immersed in browser and smartphone games, as research has shown that immersion is not completely dependent on physical properties of technology (ibid.; Thompsom, Nordin & Cairns, 2012). Yet, the discussed aspects are several indications why immersive experiences may have to be explained differently in regard to players of persuasive games compared to players of entertainment games.

2.5 Conclusion Theoretical Framework

In general, persuasive games aim to change the valence or extremity of how players evaluate certain issues, which ideally leads to a behavioural change (cf. Raessens, 2010; De la Hera, 2015). The literature review has shown that the persuasive power of video games may partly stem from the ways in which players feel immersed in game environments. So far, most

studies researched entertainment media and video games and found that immersion and persuasion involve complex cognitive mechanisms, which are not fully unravelled yet.

In order to analyse immersive experiences in persuasive games, this study uses Calleja’s (2007) player involvement model as a main framework, because of its clear analytical dimensions grounded in extensive research. Moreover, it is well suited to analyse in what ways immersion within specific involvement dimensions may relate to the persuasiveness of specific persuasive dimensions. This is because De la Hera’s (2015) model about the persuasive dimensions of games is used as a framework to analyse the experienced persuasiveness of the games. De la Hera’s model is suitable because of its strong theoretical backbone as well as its labelling which closely corresponds to Calleja’s labelling of player involvement dimensions

Figure 1. visualises the theoretical backbone of this study and summarises the literature review. Figure 1. shows that when playing a persuasive game, immersion in one or several of player involvement dimensions may enhance the persuasiveness of one or several of the persuasive dimensions, which may eventually lead to an attitude change of a player. The extent to which attitude change actually happens and which dimension is or which dimensions are most influential is an empirical question.

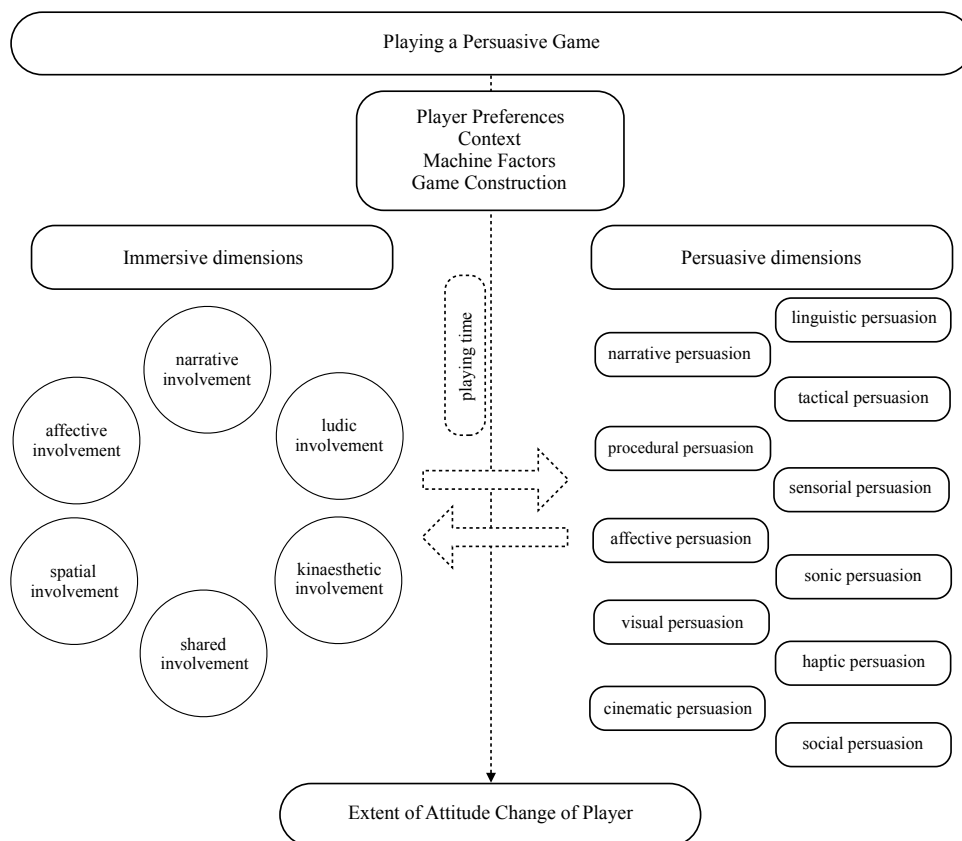


Figure 1. Summary Literature Review - Conceptual Model

Figure 1. shows that players may experience immersion in the narrative, ludic, spatial, affective, shared, and kinesthetic dimension (Calleja, 2007). Persuasive messages can mainly be transmitted via the linguistic, narrative, tactical, procedural, sensorial, affective, sonic, visual, haptic, cinematic, and social dimension (De la Hera, 2015). This study makes use of this conceptual model to analyse whether immersion within specific dimensions enhances the persuasiveness of corresponding dimensions (for instance, whether immersion into the narrative enhances narrative immersion), whether immersion into certain dimensions is more crucial to persuasiveness than others, and whether incorporation maximises persuasiveness. Moreover, external factors such as player preferences, game construction such as audiovisual quality, machine factors such as screen size, the playing time and the context in which a game is played are widely considered as factors that may influence immersion (and as a consequence persuasion) (McMahan, 2003; Nordin et al, 2013; Thompson et al, 2012; Cairns, Cox & Nordin, 2014; Nacke & Lindley, 2008).

To narrow the focus of this study, only one temporal phase was analysed, that is the micro-level of involvement as discussed by Calleja (2007). A qualitative analysis of the macro temporal phase would require player involvement with video games in the long-term, which was not compatible with the time frame of this thesis. This also means that the persuasiveness of games was only analysed at one certain point in time, and it was not analysed whether the knowledge or attitudes of the respondents changed beyond the interview session.

As discussed earlier, not all persuasive games make use of all persuasive dimensions as well as the main player involvement dimensions differ from game to game. In most persuasive games, the kinesthetic as well as the shared involvement are rather limited. Controls are usually very easy to use (such as click and tap), and most of the persuasive games are single player games (cf. PGIC, 2016). Also, for the two cases chosen for this study, which are discussed in the next chapter, it was assumed that the most relevant player involvement dimensions are the narrative, ludic, affective, and spatial ones. As a consequence, this study focused on analysing immersive experiences and persuasiveness relating mainly to these four latter dimensions.

With these theoretical insights as a guidance, the following chapter provides a detailed discussion of the methodology. A well-defined adequate research design is invaluable to gather the best possible data to answer the research questions.

3. Methodology

In April 2016, the researcher conducted interviews with 12 research participants, to gather the data to answer the research questions. Building on the theory review, this chapter covers the methodological choices for this study. The chapter starts by discussing the reasoning for a qualitative approach, why semi-structured interviews were considered the most appropriate qualitative method and why thematic analysis was chosen to analyse the transcripts. This is followed by a discussion of how the respondents were found as well as how the cases used in this study were selected. Then, the operationalisation of the key concepts is described which includes the interview and questionnaire design, and the interview procedure is outlined. This chapter concludes with a thorough description of the steps taken during the thematic analysis.

3.1 Choice of Method

3.1.1 Qualitative Research

The main aim of this study was to explore individual perceptions of respondents about how they experienced immersion and how those experiences influenced their susceptibility towards persuasive messages in persuasive gaming. Usually, studies about relationships between variables are researched via quantitative approaches (Creswell, 2013). However, this study adopted a qualitative approach to research immersion and its influence on persuasiveness. This was done, because so far the phenomenon has mainly been researched for entertainment games, while this research focused on persuasive games. Former research has shown the deeply varied nature of gaming experiences (cf. Nacke & Lindley, 2008; Calleja, 2007). Therefore, a quantitative approach with pre-defined categories may have been limited in explaining such experiences in persuasive gaming (cf. DiCicco-Bloom & Crabtree, 2006). It is mainly qualitative methods that enable researchers to explore in-depth how people make sense of their inner world (Smith, 2007). Hence, existing theory was used as a framework to analyse in what ways it is applicable to explain players' immersive experiences and its influence on their susceptibility towards persuasive messages in persuasive gaming. In the same process, the inductive characteristic of a qualitative approach enabled the exploration of meanings that go beyond existing explanations (cf. Hyde, 2000). It is however important to note that no generalisations about the object of inquiry can be drawn from this qualitative study (cf. Creswell, 2013). Within the qualitative research tradition, qualitative

interviewing was considered the most suitable method to learn about people's interior experiences.

3.1.2 Semi-structured interviews

Qualitative interviews were chosen as they offer a suitable way to find out what respondents perceive and how they interpret their perceptions (Weiss, 1995). Several previous studies quantified immersive experiences in video games, through the use of questionnaires (cf. Cairns, Cox, Berthouze, Jennett & Dhoparee, 2006) or via techniques such as eye-tracking (Cox, Cairns, Berthouze & Jennett, 2006). In contrast, this study aimed to find out how individuals made meaning of their immersive experiences and what factors they perceived played a role therein. A standardised questionnaire would have not given respondents the opportunity to share their perspectives in detail and let new aspects emerge that were not foreseen by theory (DiCicco-Bloom & Crabtree, 2006). By the means of qualitative interviewing, respondents could tell the researcher in-depth about their perceptions (ibid.). Qualitative interviewing was also beneficial for the validity of this research as immersion and persuasiveness are complex concepts and individual interviews provided the room for clarifications, both for the interviewer and the interviewee (cf. Ritchie & Lewis, 2003). This connects to a potential limitation of qualitative interviews, namely that respondents often find it difficult to describe their experiences in a precise manner. What they say may therefore not accurately reflect what they think or experience, and at times they also go off-topic (Turner III, 2010). In the present study, the researcher aimed to mitigate this limitation by means of clarifications and follow-up questions (cf. ibid.).

While the style of the interview may resemble a conversation, the researcher guides the conversation in a way to get the interviewee to provide detailed information (cf. ibid.; Weiss, 1995). When a study is partly theory-driven like this one, researchers often create a topic-list that helps them guide the conversation in a way to cover all relevant aspects addressed in the theory (Witzel, 2000). Questions are usually phrased open-ended which gives interviewees the opportunity to share their perceptions extensively and probes can be asked to follow up on questions to dig further into deeper meanings (Turner III, 2010). This kind of qualitative interviewing which is characterised by a strong interrelation between a deductive and inductive approach is widely referred to as semi-structured interviewing (Longhurst, 2003; Drever, 1995). This elasticity aims to ensure that the theory-driven

problem-view of the researcher does not cover the one of the respondents (Witzel, 2000). In this study, the literature review was operationalised in order to create a topic list for the semi-structured interviews conducted with the research participants, which is discussed later on in this chapter.

Often, a short questionnaire is part of semi-structured interviews to gather demographic data or for questions that aim for short informative answers (Witzel, 2000). Questionnaires have also previously proven to be useful tools to measure explicit attitudes towards a certain topic before and after playing a persuasive game (cf. Alhabash & Wise, 2012). As attitude change is often the main goal of persuasive games, questionnaires were used in this study to quantify how effectively the two cases changed attitudes of players. Moreover, the questionnaires enabled the researcher to take into account different backgrounds and demographics in the analysis of the playing experiences. While the analysis of the questionnaires provided quantifiable insights about attitude change and insights for further analysis, the findings are not generalisable, because of the overall qualitative nature of this research and the low number of respondents (cf. Boeije, 2009).

3.1.3 Thematic Analysis

All data collected through the semi-structured interviews was eventually evaluated using thematic analysis. In thematic analysis texts are analysed through coding data extracts and by identifying themes or patterns, which makes a rich description of the data set possible (cf. Hsieh & Shannon, 2006; Braun & Clark, 2006). This form of qualitative content analysis was deemed most appropriate because its explanatory power can capture well the richness and variety of gaming experiences. Braun and Clarke (2006) also strongly encourage not to ignore possible tensions and inconsistencies within the data but rather enrich the dominant story by including them, which further highlights its appropriateness for the analysis of deeply varied gaming experiences. In accordance with Braun and Clarke's (2006) as well as Boeije's (2002) approaches to thematic analysis, a more detailed account of the steps taken in the analysis to maximise validity is discussed later in this chapter.

3.2 Units of Analysis

The units of analysis of the present study are players of persuasive games. This section first discusses how the participants were found, followed by the reasoning that resulted in the selection of the two persuasive games used in this study.

3.2.1 Selection of Respondents

The selection of the participants for this research was based on a selective sampling strategy as known from Coyne (1997). This means that potential interviewees had to meet several pre-defined criteria to make the interviews more comparable. The three main criteria that emerged were age, education, and a good mix of both genders. The age of the participants was supposed to be between 20 and 30 and the minimum level of education a high-school degree. In summary the criteria were:

- aged between 20 and 30
- minimum level of education: high school graduates
- similar amount of males and females

The age criterion was set as this group belongs to the generation of digital natives, this means that they grew up with all kinds of digital media (cf. Prenksy, 2001b). This was considered important for this study, as it could be expected that respondents were experienced in using the kinds of digital devices needed to play the games (namely laptop and smartphone).

Additionally, it could be expected that 20 to 30 year olds all have a certain level of awareness about the socio-political issues of the games and their scope. They may all share a sense that the Israeli-Palestinian conflict has been on the news for decades, whereas refugees have received widespread attention in very recent years. Moreover, by having graduated from high school, being enrolled or having completed a secondary education, they may all share a minimum level of basic knowledge about socio-political affairs. These factors — digital media experience and basic awareness about the issues — were considered important because of the aim of the study to explore immersion. With the limited time available in the scope of an interview and playing session, it may help to know what the game's topic is about and how to use the technology in order to experience immersion. Furthermore, as most probably the participants were already confronted with the issues, they may have formed certain attitudes towards the issues. This made it possible to research attitude change based on game-play, which also relates to another point in argumentation. The age group was limited to 30 years

of age because people are usually highly susceptible to attitude change during early adulthood whereas the susceptibility drops and remains low thereafter (cf. Krosnick & Alwin, 1989). This argumentation suggests that this demographic group shares many characteristics which makes their playing experiences more comparable, as well as heightens the probability to obtain rich data about immersive experiences (cf. Coyne, 1997).

In order to capture a range of experiences and perceptions as wide as possible within this demographic group, different sub groups were identified therein (cf. Jensen, 2012). Past research about gaming experiences highlighted differences between female and male players (Jansz, Avis & Vosmeer, 2010; Lucas & Sherry, 2004). This study used this differentiation to aim for a wider range of rich findings than would possibly emerge by focusing solely on male or female players. Yet, it was not the aim of this study to compare male with female players. In addition, this study included both experienced gamers and people with little or no experience in gaming, as former research also highlighted differences between them (Boot, Kramer, Simons, Fabiani & Gratton, 2008)

Lastly, all respondents were required to have a high command of the English or German language, in order to make an in-depth conversation about their subjective perceptions possible.

Initially, the researcher aimed to recruit participants via social media such as the Facebook group ‘Commodity Market Rotterdam’, as those groups have many group members that share the desired characteristics. After some unsuccessful attempts, the researcher decided to invite people in her wider personal network to participate in the study as well as to ask them to refer to other potential participants (fulfilling the criteria), who were then contacted by the researcher. Therefore, a selective sampling was combined with a snowballing approach (cf. Coyne, 1997; Marshall, 1996). Wider personal network refers to the fact that the researcher refrained from interviewing close friends or family members as this may have lead to unwanted dynamics during the interviews, such as an inability to preserve integrity (cf. Hermanowicz, 2002).

3.2.2 Cases Persuasive Games

The aim of this research was about identifying more general factors that influence immersion and the way immersion may influence the persuasiveness of games, rather than about the validation of a specific persuasive game. To research this, players were asked to play two games, namely *My Life as a Refugee* (2012) and *PeaceMaker* (2007).

Both persuasive games are single-player games in which players are put into the shoes of a character and have to make choices based from the perspective of that specific character. In *My Life as a Refugee* players can choose among three displaced characters on their way to a safe place, whereas in *PeaceMaker* players can choose between the Israeli Prime Minister and the Palestinian President. As the character options show, both games cover issues that have received extensive news-coverage. While the Israeli-Palestinian conflict has been a constant in the news for many decades, the hardship of refugees has received an increased attention in recent years in light of the current refugee crisis. Overall, both games display a similar premise which makes them comparable. Yet, the topics differ which lowered potential desensitisation issues towards the topic of the second game respondents played. Also, both games differ in the focus on possible dimensions players can get involved with. An analysis of both games applying De la Hera's (2015) model about persuasive dimensions suggests that *My Life as a Refugee* has a stronger focus on the narrative dimension and a weaker focus on the ludic dimension. *PeaceMaker* has a strong focus on both the narrative as well as the ludic one. Albeit the focus, other involvement dimensions as proposed by Calleja (2007) can be relevant, possibly to a lesser degree. Most persuasive games' focus often lies on only few dimensions that may elicit immersive experiences rather than leveraging the whole potential bandwidth (De la Hera, 2015). Therefore, it seemed only appropriate to explore participants' playing experiences in regard to two cases, as this made it possible to explore a more nuanced spectrum of experiences.

3.3 Operationalisation

The key theoretical concepts guiding this study have been discussed in the preceding chapters. This section explains how the concepts were translated into an interview design that was applied to explore in what ways respondents perceived the key concepts and beyond. In addition to the interview design, the rationale behind the questionnaire design is presented. Lastly, the interviewing procedure is briefly outlined. Before the actual interview sessions, three test interviews were conducted using a preliminary topic list and questionnaire, which were important to identify and revise any kind of weaknesses (cf. Turner III, 2010). Based on the evaluation of those test interviews, the interview design, questionnaire design as well as the procedure were optimised in order to better capture the player experiences relevant to

answer the research questions. The following paragraphs discuss the operationalisation including the main adjustments stemming from the evaluation of the test interviews.

3.3.1 Interview Design

The interviews were about how players experienced immersion as well as the experienced persuasiveness of the messages embedded in the games. This is why almost all questions were how-questions aiming for the respondent to reflect in-depth about his or her experiences (Turner III, 2010).

The first set of questions related to the first research question to explore how players experienced immersion within various player involvement dimensions (cf. Calleja, 2007). Guided by Calleja's argumentation, questions were asked to uncover whether respondents felt involved with specific dimensions, and if so how immersed they felt within them. This included questions about how much they internalised the dimensions, how realistic the dimensions seemed, what thoughts and emotions they elicited and how respondents perceived their own role within the dimensions (cf. *ibid.*; Green, 2004; Jennett et al, 2008). Building on the literature review, it was assumed by the researcher that in the chosen persuasive games three involvement dimensions - narrative, ludic, affective - are the most relevant dimensions. The spatial dimension was included following the test interviews, as two respondents talked about their spatial involvement. Moreover, questions about temporal involvement were included as it emerged in one test interview that the respondent was involved with the time dimension embedded in the game environment. Players were not asked specifically about their kinesthetic involvement, as it was expected that this would rather emerge as an answer to questions concerning what players found distracting. Other questions about potential barriers included aspects such as environmental distracters, game construction and personal preferences (cf. Brown & Cairns, 2004; Cairns et al, 2014).

Furthermore, respondents were asked which game dimensions they found persuasive and how they perceived the influence of their immersive experiences on their susceptibility towards the persuasive messages. The question about the susceptibility refers to research that highlighted a positive influence of immersion (cf. Murray, 1997; Burrows & Blanton, 2015).

The interviewer posed the main questions of the topic list first and asked prompts to uncover deeper meanings only when needed, which is in agreement with Turner III (2010). Hermanowicz's (2002) tips about a good interview design, such as starting off with easier

questions, were taken into account to create a good interview dynamic. The entire topic list can be found in Appendix A.

3.3.2 Questionnaire Design

One aim of the short questionnaires was to gather demographic data of the respondents as well as measure their gaming experience with entertainment as well as persuasive games. The question about gaming experience was changed after the test interviews to how experienced players feel, rather than how frequently they play. It emerged that some people do not currently play video games but used to play very frequently, and it would have been misleading to put them into the same category with people who have never played. The data in this section of the questionnaire was taken into account when analysing the transcripts of the interviews to help interpret different playing experiences.

The other aim of the questionnaires was to measure the respondents' perceived knowledge and attitude about the issues as well as potential changes therein elicited through playing the respective game. The questionnaires were designed in a way to elicit meaningful answers of the respondents about their knowledge and attitudes. One common way to ask respondents about their knowledge and attitudes is the use of rating scales (Matthew & Ross, 2010). The choice of self-reporting rating scales was already used in a number of studies about knowledge and attitude changes elicited by playing persuasive games, such as Neys and Jansz (2010). While rating scales can make use of percentages or other interval answers, this research made use of rating scales from 1 to 7. The odd-numbered scale gave respondents the possibility of choosing neutral midpoints (Matthew & Ross, 2010). Both the pre- and the post-gaming-questionnaire included the same questions with the same rating scales as an answer. This made a comparison possible of whether, and if so, to what extent the knowledge and/or attitudes changed.

For the game *My Life as a Refugee* questions about the attitude concerned the empathy towards refugees as well as the intention to become active in supporting refugees. For the game *PeaceMaker* questions about the attitude concerned the attitude towards Israeli's and Palestinians demands and actions respectively. As the game can be played either from an Israeli or a Palestinian perspective, research by Alhabash and Wise (2012) found that players' explicit attitude change about Israelis or Palestinians was influenced by the perspective chosen in the game. Therefore, a question about which perspective the respondents chose was included. The complete questionnaires can be found in Appendix B.

3.3.3 Procedure

A total of 12 respondents were interviewed in April 2016. They were between 23 and 30 years old, with 7 males and 5 females. The distribution about self-reported experience in playing entertainment video games is as follows: 2 females had no experience at all, 2 females had poor experience, 1 female and 1 male felt fairly poorly experienced, 1 male felt fairly experienced, 1 male fairly well experienced, and 4 males very experienced. 3 males had some experience with persuasive gaming, with the other 9 respondents stating of never having played a persuasive game. Overall, the distribution of the sample shows that male and experienced players tend to overlap, as well as female and unexperienced players. An overview of the anonymised respondents can be found in Appendix C.

The majority of the interviews was conducted in the houses of the respondents, except for two interviews that were conducted in the house of the person who referred the researcher to those two participants. Before the interview sessions, participants were asked to agree to the terms of the study by signing an informed consent form. The informed consent form mainly included an explanation of the study's purpose, an assurance of confidentiality and the respondents' right to refuse to answer any question and/or stop the interview.

The interviews (including both games) lasted between approximately 35 and 70 minutes, seven were conducted in English and five in German. All interviews were recorded using a laptop. Each respondent played and was interviewed about one game first, followed by the same process with the other game. Interviews during breaks in the gameplay action is a widely used method of gathering players' insights (cf. Nacke, Drachen & Göbel, 2010). To avoid potential ordering effects such as desensitisation towards the topic of the second game which may lower the susceptibility to persuasion, half of the participants played *My Life as a Refugee* first, while the other half started with *PeaceMaker*. *My Life as a Refugee* was played on a smartphone and *PeaceMaker* on a laptop, as the games are optimised for different screen sizes. To make the playing experiences more comparable, all players played the games for the same amount of time. To limit the session to a reasonable amount of time in which participants could stay focused, the playing time of each game was limited to approximately seven minutes. While the short duration may limit an optimal playing experience, research has shown that immersion can also be experienced sub-optimally with different degrees of intensity (cf. Jennett et al, 2008).

The first part of the session was introductory and took place before respondents were asked to play each game. The session started with some friendly sentences to establish a

rapport between the interviewee and interviewer (cf. Hermanowicz, 2002). The goal of the interview was explained to the interviewees as well as a basic concept of immersion. Immersion was described to them as a process in which the perception of oneself decreases in the real world, and the attention, thoughts and emotions all move to the game world. This was important so that in the interviews respondents could talk about how they experienced this within the various game dimensions.

Then, the respondents were asked to fill out the questionnaire about their personal characteristics, as well as the first pre-game questionnaire. This was followed by playing the first game, filling out the post-game questionnaire and conducting the interview. All interviews were audiotaped. The same procedure applied for the second game. In the test interviews it emerged that *PeaceMaker* was perceived as a relatively complicated game, which made it hard for the respondents to understand it within the short playing time. Therefore, it was decided to shortly explain the game mechanics to the interviewees, so that it would be easier for them to find their way around the game. No potential compromising effects were expected, as players frequently read game instructions before playing a new game.

At the end of the session, the respondents were asked if they had any additional questions and then they were thanked for their valuable contributions.

3.4 Method of Analysis

In qualitative content analysis, it is very important to reflect on the role of the researcher in her interplay with the data. This is because the researcher's task is to analyse the data and her own experiences will shape this interpretation (Silverman, 2011). On the one hand, an intense involvement with the data is usually considered beneficial for the validity of a research, as the data can be analysed in-depth to find the soundest possible answers to the research question(s) (ibid.). On the other hand, the subjective interpretation often leads to concerns over the reliability of a study, this means how trustworthy, credible and replicable a study is. It mainly refers to the question whether a different researcher using the same research design would reach the same (or similar) conclusions in the analysis (ibid.). To maximise this study's reliability, transparency was provided throughout all steps of the research design, including a systematic explanation of all steps taken during the analysis in the following paragraphs.

To answer the first research question about how players experienced immersion, the thematic analysis followed the steps outlined by Braun and Clarke (2006). This analysis encompassed all transcripts of both games. If certain codes or themes only emerged in one of the two games, this was taken into account in the analysis.

The first step concerning one's familiarisation with the data proved very fruitful, as the researcher already gained some initial ideas about recurring themes when transcribing the data and re-reading the transcripts carefully. Then, all transcripts were coded, this means a code was applied to data fragments that seemed interesting in relation to the first research question. All codes were then put in one long table in order to prepare for the next step. In phase three, all codes were carefully read and compared and different codes that seemed to belong to a certain overarching theme were grouped.

The fourth step in Braun and Clarke's (2006) analysis process was to review and refine all themes and codes. All codes supporting each theme were re-read and it was analysed whether they actually formed a coherent pattern. Also, the codes were again compared with the data in the transcripts to ascertain that they supported them, which highlights the value of thematic analysis for the validity of the results. Certain themes were collapsed with other themes as similarities were identified, while other themes that were actually not supported by enough data were removed. In the next step, all themes were reviewed and named to reflect their core meaning and to clearly differentiate them from the other themes.

To find an answer to the second research question regarding the experienced influence of immersion on the persuasiveness of the games, it was necessary to compare the interviews as a whole. Boeije's (2002) constant comparative approach (CCA) proved as a suitable technique to discover patterns within individual interviews and subsequently compare them among different interviews. More specifically, by applying the CCA, themes that emerged applying Braun and Clarke's (2006) thematic analysis could be analysed in the context of what individual respondents found persuasive and how they experienced the influence of immersion on their susceptibility to persuasion. Upon the analysis an overarching theme was identified representing the core message to answer the second research question as well as accounting for similarities and differences within individual and among different interviews.

In the final step, the analysis was written up, by providing a thorough discussion of the meaning of each theme, with quotes from the transcripts that best illustrate its essence. These results of the analysis are presented in the following chapter.

4. Results

“You are actually thinking that you are that person, and you need to get to safety or to another country. And then you place yourself into the shoes, and then you like show more empathy with the character than if you would think — ok, this is just a random person I don’t know and I really don’t care. So, this makes you think a little bit more about the refugees” (Michael, My Life as a Refugee).

This quotation illustrates the overall perception of the research participants that immersion and susceptibility to persuasion are linked. Although the link comes as no surprise, the following results show the varying ways in which participants experience immersion including factors that were perceived as barriers to immersion. The aim of this chapter is to report how respondents experienced immersion and in what ways immersive experiences influenced their susceptibility to persuasion, based on the analysis of the interview transcripts. What is important to note here is that while the results are based on a thorough analysis, a certain degree of subjective interpretation by the researcher is unavoidable. Nevertheless, the results give valuable insights into immersion and persuasiveness of persuasive games.

This chapter starts with a review of the results of the questionnaires about the participants’ self-reported knowledge and attitude changes due to playing the games. This brief report serves as a background to the sections that follow, which present the themes identified to best capture the player experiences. To answer the research questions, six themes were identified upon conducting the analyses on the transcripts of both games. Those themes are narrative immersion, ludic immersion, affective immersion, spatial immersion, barriers to immersion, as well as personal experience. In the discussion of the themes, the player experiences are referred to the specific games in order to highlight similarities as well as differences between the games.

4.1 Knowledge & Attitude Change

The interviews started with a short questionnaire to identify the knowledge and the attitudes of the interviewees towards the issues addressed by both games. All figures visualising the self-reported knowledge and attitudes of the interviewees can be found in Appendix D.

Three out of four of the participants playing *My Life as a Refugee* reported that they were knowledgeable about the situations of refugees (equal to or greater than 5 on the rating scale, which indicates a fair knowledge). Also, this question revealed that in four cases there was an increase in knowledge after playing the game (cf. Figure i.). The questionnaires showed that there was a profound empathy towards refugees before playing the game, with three out of four players choosing a positive rating and only two a negative one. Empathy changed for only one interviewee after playing the game (cf. Figure ii.). In contrast, the intention to support refugees was rather split into two opinions. While five of the participants rated their intention to support refugees with low or very low, the other seven participants rated it with the neutral point or higher. After playing the game, one respondent indicated a slight increase in his intention to support (cf. Figure iii.). These three questions indicate that the participants were quite knowledgeable and empathetic before playing the game, but the intention to support refugees was more ambiguous. In all three categories there were minor changes on the rating scale, always indicating a positive change.

The knowledge of the participants about the Israeli-Palestinian conflict was distributed across the scale's spectrum. Three participants indicated that their knowledge about the conflict increased due to playing the game (cf. Figure iv.). The interviewees' support regarding the politics of Israel and Palestine is shown in Appendix D, Figure v. It needs to be mentioned that for all four questions three participants chose the don't know option. Further, the Figure v. shows that two thirds of the participants did not support Israel's politics and playing the game did not change that observation. Their support of Palestine's politics was fairly neutral, five participants rated it with 4. Playing the game slightly increased the support of Palestine's politics of one of the participants. The support for Israel's and Palestine's actions in the conflict was rated negatively by almost all participants (cf. Figure vi.). No participants indicated a positive support for either side's actions. It is also worthwhile to mention that two participants reported a slightly decreased support after playing the game.

Overall, there were only minor changes in knowledge and attitude of the research participants due to playing the games. As mentioned above, this report is meant to present some basic facts about the participants' knowledge and attitudes towards the issues of both game and serves as a background to the participants' answers in the interviews. It cannot and is not meant to provide any statistically significant results.

4.2 Immersion

These results are based on a thematic analysis according to Braun and Clarke (2006). The thematic analysis has shown that overall players felt immersed in several distinct involvement dimensions as well as experienced barriers to immersion. The themes were named narrative immersion, ludic immersion, affective immersion, spatial immersion, and barriers to immersion.

What should be noted first is that attention was experienced as a prerequisite for getting immersed. All participants of the present study who experienced immersion focused their whole attention on the game. However, not all players who focused all of their attention on the game also experienced immersion. Furthermore, not all respondents were involved or immersed within all possible involvement dimensions, but focused their attention only on few. The following themes aim to increase the understanding of how players experienced immersion by also juxtaposing them with experiences of players who did not feel immersed.

4.2.1 Narrative Immersion

In the interviews it emerged that the participants experienced immersion into the narrative dimension in varying ways and intensity. The results are presented in this subchapter.

Active role of the players within the story

Most of the participants found the pre-scripted story of both games per se interesting. Several respondents said that they wanted to find out how the story evolves. As Luca put it:

“I wanted to get to the end of the story” (Luca, My Life as a Refugee).

Thereby, the possibility to generate their own story and create their own path, based on the pre-scripted narrative seemed to be an important facilitator for the participants to feel immersed into the narrative. Two players pointed out that because they could choose a side in PeaceMaker they felt more like part of the story. Three respondents felt similarly by being able to choose their character in My Life as a Refugee. Laura (no playing experience) said that by choosing the Israeli President she immediately had the feeling of personally approaching the conflict.

“The fact that you have a choice to take a position has an effect - so and now, as the Israeli President, what do I do now or how do I approach it” (Laura, PeaceMaker).

This very first action made those players feel like contributing in the generation of the story. The adverb of time in the quote - now - further indicates that Laura perceived to have a concrete influence on the story in the present. In contrast, several participants perceived the story to be pre-set in the past. As a consequence, they considered their personal influence on the course of the story as limited. After playing PeaceMaker, Tobias (fairly well experienced in gaming) noted:

“I think I hereby cannot actually change anything [laughs] because somehow the game follows the pattern of the past” (Tobias, PeaceMaker).

The respondents who considered the path to be pre-set generally felt a lower sense of narrative immersion as they did not experience an active role within it. Differences in the intensity of immersive experiences was highlighted by how much respondents felt within the shoes of their characters. In that regard, several players immersed themselves more in the pre-scripted narrative, while others highlighted the importance of their own personal experiences. Luca, a very experienced role playing gamer, talked about how he tried to focus on the characteristics and affordances of his character rather than of his own when he decided how the story should continue.

“My choices for the two characters were different based on the imagination of my character. So I was not acting as myself but trying to imagine that person (...) for example, the mother was carrying a little kid, so I decided to walk the main road, because I could never make it through the bushes” (Luca, My Life as a Refugee).

Tom, a professional gamer, said that he tried to act in the shoes of the president as what he personally perceived as a good leader. For that purpose, he thought about in whose shoes the Prime Minister would place himself to make best possible decisions.

“I guess a good president always tries to, to see how his people are feeling by placing himself in their shoes. So, that’s what I tried to do as well” (Tom, PeaceMaker).

Both players were committed to role playing and to shape the path of the story in a way they deemed most appropriate for their character. Thus, their focus was more on the scripted narrative, trying not to let their own personal experiences influence the decisions they took for the course of the story of their character.

For *My Life as a Refugee* two respondents and for *PeaceMaker* three respondents explained that they felt within the shoes of the character while still being aware of their own personal background and characteristics. For *My Life as a Refugee*, Nina (fairly poorly experienced in gaming) made sense of how she felt in the shoes of the character by saying that the character's trajectory was starkly influenced by her own experiences and perceptions:

"I immediately refer this to myself. I then feel like - ok I am the refugee now and the refugee has my knowledge and he has all my experiences actually" (Nina, *My Life as a Refugee*).

Moreover, Nina said that the character as well as her own conscience changed based on the decisions she took although the path seemed pre-set to her.

"There were some decisions whether he should leave his brother behind or not. And somehow you understood - ok it does not change anything where you click. But the character of course becomes different if he does not leave his brother behind. This means you somehow feel better if you did not leave your brother behind than if you did leave him behind" (Nina, *My Life as a Refugee*).

Narrative immersion occurred albeit the perceived pre-set story path as Nina felt within the shoes of the character and generated different meanings of the story and of herself therein based on the decisions she took.

For Sara (no gaming experience) the way the narrative addressed her directly as a player made her feel within the shoes of the character. Yet, she was still self-aware and aware that the character was a different person from herself.

"Then I always thought it was me in that moment — because it always said You, although it was the other person of course, but I actually somehow thought in that moment that it was sort of me" (Sara, *My Life as a Refugee*).

Answering the question about in what way he felt in the shoes of the prime minister, Kay (fairly poorly experienced in gaming) answered that he felt more like himself.

“Well, it’s more like how I responded to it” (Kay, PeaceMaker).

The interviewees who felt self-aware based their decisions on what they would do in this situation, rather than taking the pre-scripted attributes of the characters into account. Their narrative immersion deviated more from the pre-scripted narrative compared to the one of respondents who deeply identified with their characters. It may be observed that the narrative immersion is deepened when players absorb pre-scripted characteristics or imagine characteristics fitting to the specific storyline and evaluate each situation in the context of those characteristics. Arguably, this enhances narrative immersion, because players become even less aware of themselves.

Half of the respondents playing PeaceMaker noted that they found it difficult to truly identify with the political leader of either Israel or Palestine. They all referred to a lack of knowledge or that they would need a background in political science to really feel within the shoes of the character. Mira (poor gaming experience) chose to play with the Palestinian leader and said that she found the power of the character overwhelming. She said that she did not feel well informed about the Palestinian side which made it difficult for her to judge how her actions would influence the story, which is why she refrained from taking any actions.

“I think it was quite overwhelming, because I was like - I don’t think I should be doing something like this, because I really don’t know like what I should be doing (...) I didn’t really dare to do anything like massive and critical because then like the consequences would have been like maybe totally crazy” (Mira, PeaceMaker).

This quote seems to point at a general pattern that it was more difficult to get immersed for respondents who felt like there was a big difference (in power or knowledge) between them and the character they had to play. Similarly, Sara said that this was a barrier for her to fully immerse in the narrative, because she had a completely different background than a political leader.

“The barrier why I could not completely put myself into the shoes was that I have a completely different personal background. I am not a political leader myself and that is why it is simply hard for me to suddenly have the ability to do these things. And then I just could not relate 100 %” (Sara, PeaceMaker).

Even though none of the respondents was a refugee themselves, it was easier for them to feel part of the story as a refugee. Arguably, because a family frame is more familiar to a majority of people than a professional setting in which leadership skills seem desirable.

A number of participants said that they did not feel immersed within the story of PeaceMaker, because their interaction with the game felt more like reading the news. They considered their involvement rather as informing themselves about the events in Israel and Palestine than having an active role within it.

“It felt quite real, like it was somehow like really news (...) I felt a little bit more like I was reading stuff than really doing, like playing” (Mira, PeaceMaker).

“It’s like I was watching the news or something. But not really like I could influence something (...) so it was more information for me than a game” (Anne, PeaceMaker).

The association with news seemed to be bothering a narrative immersion of these players. Overall, the quotes illustrate that respondents experienced narrative immersion through feeling within the shoes of the characters in differing ways, as thereby they experienced to have a role within the story which they could relate to. In contrast, immersion was impaired in the case when respondents did not feel like having an active role in the story.

The story’s depth

Several players experienced how the depth of the story or the lack thereof influenced how immersed they felt within the story. For My Life as a Refugee Sara pointed out that she experienced the story as it would happen to her personally, because she could relate to the family setting in which the character’s story evolved. In contrast, two other respondents said that the story did not provide enough details about their character’s background as well as about the specific situations their characters were in. This lack of depth in the story inhibited them to experience it as their personal story. Bart (fair gaming experience) said that he missed more nuanced information about the story. His personal involvement in the story felt very flat as the story did not provide him with enough depth and nuance.

“Well, if you just look at the story, it could be realistic, but other things or information missed to really make it alive, like a life story. So for instance, it says your uncle is in this village - do you go there or do you go for the border? So that’s a very flat decision or I don’t know my uncle

in this case, or I don't know what type of uncle or I don't know anything about any background information, so it feels very flat, and so the decision feels flat or easy" (Bart, My Life as a Refugee).

Kay said that he did not get enough information about his in-game personality and background. He also noted a missing atmosphere when he had to take the decisions.

"What is he like, or what is his family like, what was his village and where was he from exactly and what drives him in life, or whatever. Some background thing. And also with all the decisions, the more, the atmosphere and everything was missing" (Kay, My Life as a Refugee).

Temporal structures of the story also played a role in how players experienced the narrative. For My Life as a Refugee, three respondents perceived the passing of time as a realistic parameter thickening their narrative experience. The temporal structure fit into the situation, as Sara put it:

"It was also understandable, mainly because the jumps were often different, sometimes it said one hour later, sometimes several months later, but that also fit well in the situation" (Sara, My Life as a Refugee).

In contrast, five respondents felt that the temporal structure of the narrative was not plausible, which distracted them slightly from the other aspects of the story. Bart said that the fact that it kept saying afternoon was distracting as the purpose was not clear to him. Since the time frame used a repetitive description and the player did not actually understand why this time structure was chosen, it made him think about it rather than internalising it.

"I was maybe again distracted by the fact that it kept saying afternoon, afternoon, afternoon. I thought what's this afternoon" (Bart, My Life as a Refugee).

Several respondents perceived that the images in My Life as a Refugee and the videos in PeaceMaker supported the narrative.

"It was easier to understand what was happening thanks to the pictures" (Luca, My Life as a Refugee)

“I found the introduction with the story they showed in the video good (...) to see in which context you you are” (Nina, PeaceMaker).

Other media supporting the textual elements facilitated their immersive experience, as they made it easier for the players to understand what was happening. Narrative immersion of respondents seemed to be enhanced by how much depth the story had, both in the actual story events and structures as well as what additional elements were used by the game to transmit the story. Despite this experience of lack of depth by some participants, others felt immersed within the story. This may be interpreted as an indication that lack of depth in narratives may not necessarily be a barrier to immersion, but that it rather removes some of the richness narrative immersion needs to be experienced by a bigger number of players.

It can be concluded from how respondents talked about their playing experiences that narrative immersion is mainly shaped by how players experience their role within the story as well as by the depth of the story. Several respondents experienced narrative immersion through identification, as previously researched by Green and Bock (2002). Others more consciously let their personal background influence the generation of meanings of the story's events, which relates to the concept of alterbiography (cf. Calleja, 2007). In contrast, a sense of immersion was impaired by a lack of depth in the story as well as for players who felt outside the story but rather felt like reading or watching the news.

4.2.2 Ludic Immersion

All digital game worlds are constrained, because every possible actions players can take therein are preset by a coded rule system. In the interviews, respondents talked about how they dealt with the rules, mainly about whether they internalised them or consciously thought about them. The participants talked about whether they pursued any goals and how this affected the action taking. Finally, the respondents experienced different levels of control and challenge which influenced how immersed they felt in the ludic dimension.

Rules

In both games of the present study it emerged that some players internalised the rules while others dealt more consciously with them. One main reason why players payed conscious attention to the rules in PeaceMaker was that they were still figuring out how the game

mechanics worked. Mira said that she was trying to find out what she was supposed to do as well as what her options in the game were.

“I think I was a little bit overwhelmed, ok - what should I be doing in this game and what can I do in this game and everything” (Mira, PeaceMaker).

Three other players, who also said that they had not clearly figured out the game mechanics of PeaceMaker, approached the rules more intuitively. They did not pay much attention to the rules, but were rather figuring out what worked and what did not and based their subsequent decisions on the feedback they got. As Tom put it:

“You just go with your instinct actually (...) then I got stirred to that direction - oh let me help them, and then that works. So it really depends on your actions what you do, and then you have to find out what else you can do to make it better” (Tom, PeaceMaker).

This differentiation shows that some players can feel immersed quicker into the ludic dimension even though they do not fully understand the rules. They rely on their instincts rather than questioning the rules or feeling overwhelmed by them. A number of players said that they were interested in figuring out the game mechanics and wanted to play more, which signals a sense of immersion.

“I was getting ready to spend two hours on it” (Luca, PeaceMaker).

“I was interested to do more actions and to see what the effects would be and to work with that” (Bart, PeaceMaker).

Eight of the respondents in My Life as a Refugee, and five of the respondents playing PeaceMaker felt that the choices they had were somewhat limited. Michael, a very experienced gamer, noted that after he had chosen to go with the rebels in My Life as a Refugee, the repercussion for his life was that he died in combat two years later without having the chance to intervene. When that happened he questioned why he did not have the chance to escape within this time span.

“There was a story about a boy that needs to go with the rebels, I chose that, because if he didn't he was not sure of his life. Eventually, two years later he died of - in combat, I was like, why could I not try to escape within those two years?” (Michael, My Life as a Refugee).

Michael's quote illustrates how his ludic intentions were constrained by the conventions of the pre-set designed game system. Similarly, during game-play of PeaceMaker Daniel, a very experienced gamer, wondered why there were only reactions to his own actions. He said that no independent actions happened to which he needed to react (events similar to the start of the game with the suicide bomber). Throughout the playing session, he expected for such events to happen.

“Sometimes I expected that something would appear, for instance an event (...) basically that my people would have acted independently - but it did not, rather something always happened only due to my actions” (Daniel, PeaceMaker).

Nina, who is fairly poorly experienced in gaming, said that the three main options to choose actions from in PeaceMaker seemed odd to her which made her realise that she was just playing a game.

“You could choose between Security, Political Activity and Building. Those three choices seemed very weird to me, that those are the three options a president has (...) and there you see, ok this is a game because there are only certain things; unlike in reality where who wants something should be able to do it” (Nina, PeaceMaker).

These quotes illustrate how several respondents thought consciously about the rules because the rules felt somewhat limited or odd. This may be explained by what the respondents are used to from other games as well as by the fact that respondents often use the reality as a benchmark for how they evaluate game elements. More specifically, many respondents who felt restricted by the rules of the game said that in reality there are usually more options. In contrast, several research participants internalised the rules, this means they accepted them as they were rather than questioning them. Sara said that at the beginning she thought about the rules and their foundations. Then, after a while, she accepted them and stopped thinking about them.

“The first two times I briefly thought about it (...) why do they do it like that (...) but then I (...) just always played exactly like that and chose the options like they were, so I actually no longer thought about it” (Sara, My Life as a Refugee).

Tom did not feel restricted by the rules but viewed them as the only options he had at this certain point in life as his character.

“You are not restricted by the options because those are the only options you have at that point of your life as that person, so you either go back and you help them and then you have other options, or you leave them. It’s simple, so I didn’t feel restricted, because yeah, it’s just a hard decision you have to make” (Tom, My Life as a Refugee).

The findings indicate that players who internalised the rules experienced a greater sense of immersion than players who did not.

Goals

The pursuit of one or several goals is another indicator of how participants experienced immersion within the ludic dimension. In PeaceMaker, more than half of the players said that their goal was to create peace between Israel and Palestine, which corresponds to the game’s scripted goal. Moreover, four of the players of PeaceMaker, among them Tobias, said that they combined their narrative goal with the game goal. This means they aimed to reach the winning score which corresponds to creating peace.

“My goal of course was to increase the score, but of course that corresponds to you creating peace” (Tobias, PeaceMaker).

Tobias’ quote illustrates that the ludic and narrative dimensions overlap in that game, as progress in one dimension means progress in the other one and vice versa.

Half of the respondents pursued an overarching goal while playing My Life as a Refugee, though the goals varied. A goal for three respondents was to escape the refugee situation by getting over the border. Sara wanted, foremost, to bring herself and her family to safety. Sara said that in each situation where she had to take a decision she thought of her overarching goal.

“Actually, in each situation I always thought about the big picture, about a greater goal” (Sara, My Life as a Refugee).

Sara’s quote illustrates how her overarching goal provided a meaning to the choices she took. Daniel was not sure about the game’s goal and set his personal goal to escape from the refugee situation by returning to his home town. Answering to what Daniel's main goal in the game was:

“To return to the place where I come from” (Daniel, My Life as a Refugee).

He was not sure whether this was feasible, though.

“I fully tried to avoid fleeing there [over the border], but eventually I ended up there (...). Although I really tried to avoid it” (Daniel, My Life as a Refugee).

This quote indicates that Daniel experienced a diminished sense of agency due to pursuing a personal goal that was unobtainable.

Four players of My Life as a Refugee said that they did not pursue an overarching goal, but rather made their choices in the spur of the moment to survive a specific situation. Two respondents, among them Mira, said that the countdown made them even more aware of the urgency of their decision.

“I didn’t really think so far, because like it was more just the survival in some way, because like as soon as the clock went ticking in the first question, ok like there is explosions going on, what do you do and I was ok, there was not really time to think like really further away, it was just like in that moment” (Mira, My Life as a Refugee).

Mira's decisions were driven by their situational need to survive rather than by the pursuit of a more over-arching goal. Overall, the over-arching and situational goals of the players were closely connected to the pre-scripted narrative and the rule system. This may be attributed to the fact that there is no degree of open-ended play within both games. Every action players can take inevitably has an influence on the course of the pre-scripted narrative or on the game score.

Players who did not pursue any goal in the games felt less immersed. Three respondents playing PeaceMaker said that they were still figuring out the game mechanics

and did not yet pursue a particular goal. Luca said that he was trying out things and was looking for results, but without a clear direction in mind.

“Well, I was looking for results, but I was not having yet a clear direction of my action. I was more touching around, testing around” (Luca, PeaceMaker).

Two players said that they did not feel drawn into the story of My Life as a Refugee and also did not pursue a meaningful goal. They rather took their decisions quite arbitrarily, as noted by Tobias after asked whether he had pursued a particular goal while playing the game:

“No, actually not, I didn’t because you know. Clearly the goal is, I am a refugee so I have to flee, I have to take decisions; but that was actually rather arbitrarily I would say” (Tobias, My Life as a Refugee).

The absence of a goal suggests that the actions players took were less meaningful for them which in turn indicates a lower sense of immersion. This stands in contrast to players pursuing either a situational or over-arching goal which attributed greater value to their actions.

Control and Challenge

Another way in which players experienced immersion into the ludic dimension was how challenged they felt and how much control they had with their decisions on the course of the story. Challenge was hereby mainly associated to the difficulty level of the game play. Three respondents playing PeaceMaker said that they felt challenged by the game’s ludic complexity and that they felt more immersed as a consequence. Luca said that because he perceived the variety of tasks as a challenge he went into problem-solving mode.

“The broad variety of tasks and mechanics, the game itself, it’s a challenge. And when I see a challenge in front of me, I go in problem-solving mode” (Luca, PeaceMaker).

In My Life as a Refugee, none of the respondent said they were challenged by the game play. Yet, three participants perceived the fact that sometimes they only had a limited amount of time to choose their option as an exciting feature.

“The time pressure (...) so to take very important decisions in a very short time” (Sara, My Life as a Refugee).

The experience of feeling in control of one’s own actions mainly emerged in the context of players talking about the opposite of feeling in control. In particular, this was the case with My Life as a Refugee, where five respondents did not feel in real control over the game’s progress.

“I did not have (...) the feeling that I am taking decisions at all” (Laura, My Life as a Refugee).

Laura attributed this feeling to her perception that the game was rather a picture book than an actual game. A similar perception was shared by two other respondents, Tobias and Kay, who said the game felt more like a questionnaire than a game.

“It’s more like you say, I flip through a picture book and every now and then a question is asked to me” (Laura, My Life as a Refugee).

“More like a questionnaire in that sense (...) they had a list of terrible things you can go through as a refugee and they turned it into questions” (Kay, My Life as a Refugee).

Michael said that at times he perceived the game’s path as pre-set. He felt limited in having control over the story through the decision-taking, but instead waited to see what would happen next.

“When I read the options for some aspects of the survival of the character and you know he would get into a bad situation, then you were like, you were not more immersed, but you say ok let’s see just what happens (...) you were already certain that the path for the refugee was already set to failure” (Michael, My Life as a Refugee).

In Peacemaker, decision taking felt similar to a playing a board game for Nina. She missed more freedom in controlling the course of a story. She described the options as a pre-set stack of choices rather than allowing her to really influence the story in varying ways.

“It was very clear that I choose these decisions from a pile of options and that there is one result — like a board game” (Nina, PeaceMaker).

In the discussion of this theme the blurring boundaries between different involvement dimensions become particularly obvious for the two persuasive games. Every action players execute are inextricably linked to the pre-scripted narrative. This relates to the fact that in both games the narrative forms a major element. This means that it is unavoidable to take actions — to play — without influencing the narrative dimension.

In the present study, many players consciously dealt with the rules and players who internalised the rule system felt more immersed. Pursuing a goal enhanced the ludic immersion as it gave bigger value to the actions players took, which was observed similarly by Salen and Zimmerman (2003) and Calleja (2007). Indeed, some players who pursued goals set by the game, for instance situational survival, perceived a sense of agency as a result. In contrast, personal goals, this means goals players set for themselves, made the restrictions of the gaming environment more noticeable for some players and as a consequence diminished their sense of agency. Overall, some players experienced a sense of agency, though in general it was perceived as quite weak. While some players felt challenged, the overall degree of challenge was experienced as moderate. Challenge and control have often been cited as strong indications of ludic immersion (cf. Ermi & Mäyrä, 2005; Jennett et al, 2008). Thus, the overall immersion the research participants experienced within the ludic dimension was relatively weak.

4.2.3 Affective Immersion

Affective immersion refers to how the participants experienced moods and feelings through engaging with the gaming environment. This included excitement that players felt when performing certain actions as well as the experience of a range of emotions elicited through players' confrontation with various elements embedded in the game world.

Affective Sound

PeaceMaker makes use of sound elements which several respondents perceived as an important factor in setting their mood within the game world. Michael said that the sound helped to guide and intensify emotions.

“Well the music was like, well it makes you sad, the music is sad, so the music makes you sad actually (...) The music is also telling you, this is a sad moment, so you also get a little bit sad” (Michael, PeaceMaker).

Two respondents said that while the sound involved them emotionally, it was somewhat exaggerated as it reminded them of war games or movies such as Lord of the Rings.

“During the game I thought, oh, the music is quite insane as if it was Lord of the Rings, the final battle and outright the music da da da. But the music also fit” (Sara, PeaceMaker).

The game My Life as a Refugee relinquished the element of sound. Laura pointed out that the missing sound elements were a big factor why she did not develop the feeling of being on a dangerous journey as a refugee herself.

“With the sounds, the voices, you dive in and have the possibility to really have the feeling - shit, I am on a very dangerous journey” (Laura, My Life as a Refugee).

Affective visuals

For some player images evoked emotional involvement in both games. For My Life as a Refugee, Luca attributed some emotional involvement to the game’s visuals.

“The visuals were simple and pleasant and were showing the emotions of the character (...) I think the visuals were good to iterate and to transmit the feelings about little bit of empathy for that lady” (Luca, My Life as a Refugee).

Three other respondents, among them Mira, said that the images elicited some emotions in them, but they also perceived a comic effect of the illustrations. The comic effect resulted in a lowered attachment compared to what more realistic images would have elicited.

“I think if the pictures, they could have been a little bit more realistic - because they almost looked like cartoon pictures, or this very child-like pictures, I think if they would have been like more realistic, I would have become even more emotionally attached” (Mira, My Life as a Refugee).

For PeaceMaker, more than half of the respondents said that they felt emotionally involved because of the videos and pictures in the intro and in-game which represented real-life events. Bart emphasised that the images elicited an emotional involvement due to their representation of fights in the real world.

“I mean you see a lot of images of fights and because they are real images and they relate to real life events that took place, in that way they are emotionally affective” (Bart, PeaceMaker).

One player, Anne — who said that her interaction with PeaceMaker did not feel like playing a game but like watching the news — said that she did not want to look at this kind of images as she expected the news to show bad things.

“It was almost, I don’t want, I don’t want to look at it (...) like it’s the news, like it’s a lot of bad things and like desperate people” (Anne, PeaceMaker).

In particular, the images affected her like in the real world and elicited a kind of defense mechanism. Despite her aversions, Anne continued reading (arguably because of the research context), but did not feel like playing a game as she considered PeaceMaker more as a news or information medium.

Players who felt emotionally involved through the images and videos got a feeling what the harsh unforgiving world is like. This aspect highlights how immersion into persuasive game may often be linked to real world associations. Also, Mira said that this kind of images reminded her of the news. Yet, she felt used to this kind of images and emotional blunted which is why she did not experience an emotional reaction to them.

“I guess we are all used to seeing those things like in the news and in the movies and tv in general. So I don’t think it set much emotion in me” (Mira, PeaceMaker).

Affective immersion was lowered specifically because the images felt more like reading or watching the news or television.

Affective actions

Several interviewees reported that they felt emotionally involved because of the actions they took. In *My Life as a Refugee*, three respondents said that they felt agitated because they only had a limited time to make their choices. This countdown created a heightened sense of urgency to choose the best possible option.

“Some of the question they were like really that you need to reply fast and it’s like ok - you need to think so many things and you need to reply fast, so I think that almost made me feel like agitated” (Mira, My Life as a Refugee).

Three respondents playing PeaceMaker, among them Sara, said that they felt excited to have the possibility to influence everything and to create something new.

“Excitement and happiness that as a leader you have the opportunity to influence everything, so positive, and the readiness and desire to create something” (Sara, PeaceMaker).

The ludic dimension did not only elicit positive emotions. About half of the players said that they felt frustrated, powerless or experienced a kind of resignation because their actions were not successful. Luca answered to the question in what ways he felt emotionally involved:

“The disappointment of having done apparently the most logical choices but still losing, getting trapped. So, the sense of powerlessness” (Luca, My Life as a Refugee).

Anne said that she experienced the doubt when she had to take her decisions.

“You have to decide if you go back to your family or you continue with your son who you have with you (...) you kind of feel the doubt” (Anne, My Life as a Refugee).

Affective story

A number of respondents felt affected by clear story elements. Michael said that he felt sad and angry because of what happened in the story and that these things actually happened in the real world.

“When they needed to like, to escape, and and just feared for their lives. And angry I was more like when they were forced to do certain things they don’t want to do” (Michael, My Life as a Refugee).

Sara said that because she felt within the shoes of her character she personally felt all the emotions the events in the story elicited.

“I pretty much felt within the shoes of that person, in the sense that I experienced the emotions of the person that I played. So I — the fear, the pressure, the fear for survival and the fear for my family members and the grief that my husband had died, and the uncertainty to build an existence in a new country, I felt all of that” (Sara, My Life as a Refugee).

On the one hand participants felt affectively immersed because of elements such as sound and visuals. On the other hand, the major aspect of the interviewees’ affective immersion stemmed from their interaction with the ludic and narrative dimensions. The latter finding emphasises how much the immersive dimensions overlap in both games. Also, it supports theories that narratives can elicit strong affective responses (cf. Green & Bock, 2000). More specifically, the emotions players felt were very mainly sadness, consternation or frustration. This connects to real world images and videos, and associations of the story to real world events. For some players these real world elements seemed to enhance affective immersion, arguably because it made the game world feel more pressing and real. Others felt more emotionally detached as they felt like watching or reading the news.

4.2.4 Spatial Immersion

About half of the respondents did not engage with the spatial dimension of the game. Those players who did experienced spatial immersion in terms of navigating through the game world as well as having a clear geographical orientation.

One respondent, Tom, experienced thoughts about being in the landscape where his character was in *My Life as a Refugee*. Although he did not actually feel like inhabiting that space himself, he did picture himself being in that specific landscape and based his choices on that feeling.

“You do picture yourself going there, so. And then you feel bad because for example i chose not to go on the main road, but I chose to go through the jungle or the bushes or whatever and then you do actually a pretty tough hike to do through all the bushes, thank god I am not there, because I wouldn’t make it out” (Tom, My Life as a Refugee).

Three other respondents experienced spatial immersion more in terms of a route. Sara said how she slowly moved away from her home town in a linear way - through a forest, a neighbouring town to the new country at some point. She had a good sense of orientation and always found her way.

“Geographically speaking, I had a good orientation - it was all quite clear and linear and it was basically about how I as a refugee slowly move away from my home town or where I lived. So, first into the forest or the neighbouring village and then at some point over the border into a new country” (Sara, My Life as a Refugee).

In contrast, for Bart the spatial orientation was not as clear because he felt confused by the style of the pictures. As he was not sure about his spatial orientation, he felt somewhat distracted.

“I was a bit confused about the style of the pictures. Sometimes I felt more like I was in East Asia, sometimes it felt like I was more in Africa, and then it was Middle East, and then I was a bit distracted” (Bart, My Life as a Refugee).

This quote also illustrates the finding that besides Bart, two other respondents connected their spatial orientation within the game world to what they know from the real world. Michael said that he associated the trip via land and sea with a route through Greece.

“If you read they want to cross the sea - so then you are certainly - or like take a trip via land - then you know, ok, they wanna take a certain route, they wanna go overseas, they wanna go through the water and through Greece probably” (Michael, My Life as a Refugee).

One participant, Luca, said that he did not think about the spatial dimension while playing My Life as a Refugee. This dimension was not missing for him but made the context more general, which Luca considers as an important factor for getting immersed.

“The lack of context in fact, perhaps made it more general, not more unrealistic. It makes it more easier to get involved, you don't necessarily have to be very specific” (Luca, My Life as a Refugee).

When elaborating on this thought, Luca said that the absence of clear geopolitical settings was beneficial because he did not feel pushed to think about his personal views while playing.

“So there was no big geopolitical introduction (...) I was thrown there, and the situation is realistic. It is something that happens. And I can go deep in it, without seeing too much of a context element, which will in fact will activate my strategies and personal opinions” (Luca, My Life as a Refugee).

In PeaceMaker, a map and the possibility to click on different cities facilitated spatial orientation according to five participants. With the help of the map, they could better locate where they were within the game world and where their actions were taking place. They could also navigate between the different cities by means of a cursor. Laura noted that she navigated between different cities on the map and that this spatial dimension enriched the narrative as well as the ludic dimension.

“I have a map, had the opportunity to click on different things on the map and make specific actions based on the information” (Laura, PeaceMaker).

Luca said that he aimed to explore the story via information on the map. Yet, the map was not very realistic and it took him longer than usual to find the cities he was looking for.

“The map was not really very realistic (...) I was trying to understand what happened in Tel Aviv and Jerusalem, and it took me a bit to find where they were, while normally I know exactly where they are on the map.” (Luca, PeaceMaker).

Overall, spatial immersion was experienced by mapping the game world as well as having a good geographical orientation, two phenomena also observed by Calleja (2007). In PeaceMaker, players could navigate through the game landscape with their cursor, whereas in My Life as a Refugee the spatial navigation was imagined based on the pictures and the descriptions of the scenes and settings. Several respondents of both games associated their spatial orientation with what they know from the real world about routes of the refugees or locations of cities in Israel. These real world associations either bothered or facilitated spatial orientation and thus spatial immersion.

4.2.5 Barriers to Immersion

The term barriers describes what the interviewees perceived as disruptive or distracted their immersive experiences. Most of the barriers emerged as an answer to the questions what

participants found distracting, whereas others came up spontaneously while talking about other involvement dimensions. Some of the following factors were considered as disruptive to the overall immersive experiences. Others were considered disruptive to immersion within specific involvement dimensions, which is highlighted along the discussion.

Several respondents playing *My Life as a Refugee* were very aware of the requirement to click to continue within the game. As Bart put it:

“Sometimes a lot of the things were click click click” (Bart, My Life as a Refugee).

Nina found the clicking distracting in particular instances, when it did not seem necessary:

“That is also a kind of funny thing. I mean, why don't they just write what happened later? Why do I have to click on it?” (Nina, My Life as a Refugee).

This finding may be interpreted that clicking was not considered naturally or intuitively as *My Life as a Refugee* was about fleeing, which implies a movement. Similar observations were made by Cairns, Li, Wang and Nordin (2014) who posit that mobile devices are more immersive if the controls are naturally mapped, such as using mobile devices as steering wheels in a driving games. In contrast, respondents generally did not notice the clicking in *PeaceMaker* that much. This could be interpreted as a result of the notion that it is more common for leaders to choose an action they want to execute by actually clicking on it. Clicking may therefore feel more natural and less disruptive to the immersive experience.

Playing time was perceived as another factor limiting the immersive experiences by a majority of the respondents playing *PeaceMaker*. Most of them said that they were still figuring out the game, in particular the game mechanics. If they had had more time they would have probably felt more immersed. One respondent, Mira, noted that it would help to play a game multiple times in order to feel more immersed.

“You are in the game and you can see - ok what happened here, what happened here and you have like options what you can do about it. So I guess if you would play it longer and multiple times, it would like really feel like ok you are in some way closer to the issue” (Mira, PeaceMaker).

Also, past research has suggested that immersion is a gradual phenomenon increasing over playing time (Brown & Cairns, 2004; Nacke & Lindley, 2008). Yet, for My Life of a Refugee, none of the respondents expressed the perception that their immersive experiences were limited by the playing time. All respondents played My Life as a Refugee and PeaceMaker for the same amount of time (7 minutes). Thus, it is also possible to get immersed within a short time frame. This factor clearly seems to depend from the difficulty level of the game, as PeaceMaker has more complicated mechanics and also a more complex narrative than My Life as a Refugee.

Two interviewees of the present study noted that the screen size of the smartphone (Mira, Daniel) and laptop (Daniel) were too small, and that they would have preferred a larger size. When asking Daniel in what ways he thought about how the laptop screen was distracting he answered that at times his gaze reached the edge of the screen.

“Sometimes I got to the edge of the screen and thought that my eyes would have needed a little more space” (Daniel, PeaceMaker).

Two other respondents said that they were constantly aware that they were playing a video game and that it did not feel like reality because of machine factors. Tobias did not find smartphones to be a suitable way to play games, and Anne was constantly aware of the screen while she was playing, which made it harder for her to feel immersed within the game, as it felt more like reading a story.

“It’s like on your screen - and for me it was more like a story - which you read and feel a lot of empathy for, but not really a game where you feel immersed” (Anne, My Life as a Refugee).

The audiovisual quality was not perceived as particularly distracting by anybody, although one respondent said that he noticed that it was not very good. After a question whether the participants found anything distracting in the game’s construction, Tom answered that the quality of images was not important and that he chose to focus on gameplay instead.

“Some images were low-res, but it’s fine. It doesn’t, it doesn’t matter that much, it’s more about gameplay, right. So it didn’t distract me” (Tom, PeaceMaker).

The quote indicates that Tom did not think that the audio-visual quality was a crucial factor and could nonetheless feel immersed in other game dimensions. This may be related to the fact that Tom is a professional gamer with so much experience that he can ‘see through’ poor visuals and focus on dimensions that are more essential in his perception. This finding is also supported by research that has shown that it is possible to become immersed in smartphone or desktop games, rather than only within games with highly realistic 3D game environments (McMahan, 2003).

About half of respondents perceived the map as a distracting inconsistency when playing PeaceMaker. Overall, they perceived that a more realistic map would have been beneficial to feel more immersed within that game. Whereas they perceived the images, videos and the content as realistic, the style of the map reminded them that they were playing a game. This inconsistency somewhat broke down the perception of being within a game reality and was therefore a barrier to immersion. Nina and Bart made comparisons to other games, such as Settlers of Catan or Sims City and both said that they would have preferred a more realistic map, like a satellite view, as it better fits within this game. As Nina put it:

“I found the map very unrealistic, not unrealistic, but I found it unsuitable. Because that’s the map you see when you play for instance Settlers or something like that (...) perhaps they should have used a real map or a satellite image” (Nina, PeaceMaker).

Past research has also shown that immersive experiences are facilitated if the game world is constructed in a consistent way (McMahan, 2003).

Two players, among them Kay, also thought about the design of PeaceMaker and that it was rather unpolished. However, they only shortly thought about it and it did not really bother them.

“I thought why did they make it like this 4:3 with these black bars? (...) I saw some things but it didn’t really bother me” (Kay, PeaceMaker).

Also, past research observed that players sometimes think about how the game developers designed the game and whether they put effort in it (Brown & Cairns, 2004). Furthermore, three respondents felt distracted by the fact that there was a lot of text to read. Two said that it would have been better if the game developers had used voice-overs instead of just text. Kay

said that it also felt kind of unrealistic that a Prime Minister would have to read so much text, as it would be told to him, which is why he missed more dynamics while playing.

“What also bothered me a bit - again, the text, a lot of text, I thought, why don't they put a voice-over or something? (...) It's exhausting and it's a bit unrealistic, 'cause you would never, if I would be a prime minister, I wouldn't have a screen with text. It would have been told to you, maybe even different voices, you know, all that dynamics missed a bit” (Kay, PeaceMaker).

Another factor that was considered distractive by almost all of the respondents playing *My Life as a Refugee* were features in the game world that did not fulfil a function for the game dynamic, but rather disrupted it. Several respondents lamented that pop-ups which asked them to rate the app annoyed them as it pulled them out of the story and out of taking decisions. Furthermore, the majority of the interviewees felt distracted by facts displayed at the bottom of the game world. Seven respondents were distracted by the facts because they had to read the facts and felt pulled out of the story as a consequence.

“The tips on the bottom maybe (...) because I constantly had to read them. I did kind of read them, but it took me out of it (the story) again” (Kay, My Life as a Refugee).

Three of the respondents specified that the reason why the facts were distractive was that they did not matter for the choices they had to take for their characters. Nina noted that the facts gave a more general and interesting context to the specific journey the refugee goes through, but that the refugee also does not have this kind of information.

“On the one hand it is interesting, you can put the story into perspective you know what your chances really are (...). On the other hand, the boy who is aiming for the border also does not know how many succeed in that. He has all hopes in the world.” (Nina, My Life as a Refugee).

Four of the respondents read the facts at first, but as soon as they realised that the facts were not important for their progress in the game, they stopped paying attention to them. Michael said that he read a fact about a price and when he realised that it did not have anything to do with the story of his character, he focused on the story again.

“I read something about the price, I was - ok, nothing to do with the story, so I am just gonna read my story again” (Michael, My Life as a Refugee).

The different responses show that respondents found different ways to cope with a potentially distracting feature within the game. For some it felt very distracting, while others were able to fade it out and focus on just those dimensions that were important to them. One explanation for the observed differences may be Jennett’s (2010) observations that the real world (in this case disruptive features within the game world) is attenuated by players primarily due to their individual motivations to continue immersive experiences.

Three respondents, among them Nina, felt aware of their surroundings while playing a game. On the table where Nina was playing the game there were some cookies that she noticed during game-play.

“The cookies, the smell, somehow pulled me out of the game [laughs]” (Nina, My Life as a Refugee).

Four respondents were also aware that they were playing the games in context of a research situation - by noticing the researcher’s presence, knowing that they had to play the game and only had limited time to do so - which slightly influenced the intensity of their immersive experiences.

“I was aware that I am sitting here and that I have to play this, and this is of course an influence, but apart from that I felt very inside [the game]” (Sara, My Life as a Refugee).

After asking Kay what bothered him outside of the game world, he answered:

“I think the fact that I knew I only had limited time” (Kay, PeaceMaker).

The context or conditions in which games are played have also been named as a potential barrier to immersion in former research (Nordin et al, 2013).

Finally, several respondents experienced personal preferences and reservations as a barrier to getting immersed. Mira and Nina both said that they did not like the kind of games as PeaceMaker.

“I just don’t like this kind of strategy games” (Nina, PeaceMaker).

Three respondents playing My Life as a Refugee noted that personal reservations towards either the topic, the style of the visuals or the educative purpose of the game made them feel more resistant to getting immersed. Right from the start of playing the game, Tobias felt a continuous displeasure that someone developed a game about horrible experiences refugees go through everyday. He found the concept of the game very macabre and did not perceive a game a suitable way to approach this topic. This reservation inhibited him from getting immersed into the game at all.

“It emerged pretty quickly, the feeling that I somehow did not like it and that because of this I probably somewhat resisted to getting immersed” (Tobias, My Life as a Refugee).

Laura felt a similar resistance to getting immersed into the game when she saw the visuals, which she associated with the style of images in Watchtower, the magazine of Jehova’s Witnesses.

“I thought, well I don’t know, if the UNHCR, I mean [laughs] why do they use such images? (...) I was supposed to identify with the character that comes across weirdly like Watchtower [magazine of Jehova’s Witnesses] and this was (...) a main difficulty to get into the dynamics” (Laura, My Life as a Refugee).

One respondent, Kay, constantly felt annoyed by the game’s educational purpose. He had reservations towards the game which tried to teach him something. As a result he felt less immersed in the story of the game.

“I constantly had a bit of the feeling that it was educating, also with the tips under it. So, the story, I don’t know, I wouldn’t say that it’s super exciting” (Kay, My Life as a Refugee).

Also former research cross-validates these findings, as Brown and Cairns (2004) identified the influence of personal preferences on immersive experiences.

The description of this theme has shown, that the respondents also experienced immersion in terms of barriers that inhibited them from feeling immersed — by producing critical thoughts or thoughts that are were unrelated to the gaming environment. The findings

suggest that respondents experienced some barriers due to ill-constructed game elements that could be improved by a cleverer game design. Despite those barriers, a majority of the respondents experienced a positive influence of immersive experiences on their susceptibility to persuasion, which brings us to the next set of themes.

4.3 Influence of Immersion on Susceptibility to Persuasion

This section describes the theme to answer the second research question on how the participants perceived the influence of their immersive experiences on their susceptibility to persuasion. To analyse this, it was necessary to compare themes and patterns within individual interview transcript first, followed by comparing patterns among all interview transcripts. The previous results section (4.2) is based on Braun and Clarke's (2006) thematic analysis which suggests to compare data fragments throughout a whole data set rather than analysing patterns within individual interviews. Therefore, the results of this section are based on an analysis well-suited to carry out the desired comparisons, namely the constant comparative method according to Boeije (2002). The following results present patterns of how respondents felt immersed, what they found persuasive and in what ways they thought that their susceptibility to persuasion was heightened (or lowered) because of their immersive experiences (or the lack thereof). What is important to note here that persuasion includes both attitude and knowledge change (cf. De la Hera, 2015). One overarching theme — personal experience — was identified and is explained in the following.

4.3.1 Personal Experience

In the present study a majority of the participants perceived that immersion into various involvement dimension made the games' stories feel like a personal experience. This made the messages seem more persuasive to them. It was particularly the case for *My Life as a Refugee*, where half of the respondents felt immersed at least in the narrative and ludic dimensions. Daniel, who felt immersed in the ludic, narrative and affective dimensions, said that he mainly learned something through the choices he had to take. On the questionnaires, he reported the highest knowledge change about refugees of all respondents. As he considered the choices to be about himself, this had a strong effect on how persuasive the game was.

“As I take myself as a starting point (...) that I have to choose one of the two options, immersion has (...) a very strong effect on how much the game persuades me” (Daniel, My Life as a Refugee).

Likewise Tom, who felt immersed in all involvement dimensions, noted that he mostly learned something through the story and the choices he had to take. He said that immersion is important as you put yourself into a new situation and as a result change your point of view on the presented issues. When asked about how he perceived the influence of immersion on the persuasiveness, Tom answered:

“It does help a little bit, yes I think so (...) because you place yourself in the refugee, in his position and that’s why — yeah, I think so” (Tom, My Life as a Refugee).

In PeaceMaker, a majority of the respondents felt that they had played the game to shortly to experience the influence. Nevertheless, about half of the respondents noted that the game’s messages are likely more persuasive if players feel immersed. Kay, who was figuring out the game and felt in exploration mode, said that it would help to feel immersed in the narrative and ludic dimension in order to be emotionally affected by the process of finding out more about the conflict first-hand.

“This one just showed a game, where you then yourself later can reflect, like uh dammit it’s difficult. And it didn’t literally say it’s difficult” (Kay, PeaceMaker).

Similarly, Daniel (who felt quite immersed in all involvement dimensions in PeaceMaker and mainly learned something through the feedback he received) said that immersion was important because unlike watching news, he was involved in the process and got feedback to his actions which made him think differently about the issue.

“Well, the immersion in this world of course had me take other decisions than if I had watched a report on television. And thereby I believe that immersion does have quite a strong effect. In particular when I see what consequences my own actions have” (Daniel, PeaceMaker).

Mira, who felt more like reading the news and also learned some information from it, said that immersion into the narrative and ludic dimension would have been beneficial to the persuasiveness of the messages. She perceived this due to the fact that she is too much used

to reading the news, and that doing something about an issue personally would bring her closer to the issue itself.

“There is in the news all the time about the issue (...) because it’s so common, so it doesn’t really set up in yo that big emotions - but in a game, where you can actually do something about it you are like closer to the issue” (Mira, PeaceMaker).

Mira said that she felt quite spatially immersed in the game and learned something from the specific places she clicked on, although she could not remember the information she learned that well.

In *My Life as a Refugee*, half of the participants did not feel particularly immersed in any of the involvement dimensions. Two of them, Kay and Michael learned something from the narrative, whereas the other respondents reported that they did not learn anything new and did not change their attitudes. Yet, four of those respondents perceived that it would have been beneficial for the persuasiveness of the game’s messages if they had felt more immersed. Laura said that she would get a different approach to the refugee issue if a game really enabled her to feel like a refugee herself.

“If the game opens up the possibility to me to really feel on the flight, and to see what repercussions my choices have — I think through that you get a very different approach to the topic” (Laura, My Life as a Refugee).

In contrast, Bart, who did not feel immersed and persuaded at all, said that immersion could be a way to persuasion. Yet, he considered the story to be the main persuasive element which can also be transmitted powerfully by other media or ways.

“I mean those stories are extremely powerful and I think they can really make a difference in how people view refugees or accept them (...) documentaries or movies or written stories or conversations with people - I mean there’s a lot of different media that could get across these stories in a good way, in a powerful way. And I think (...) games could be one as well” (Bart, My Life as a Refugee).

Tobias, who did not feel immersed or persuaded at all, found that talking to people would be a better way to sensitise people towards the issue instead of personally experiencing it

through playing a game. In his perception a game was an appropriate way to address this issue.

“I think that this is not a topic for a game (...) you have to confront this issue in another way. Not through gaming, but simply through interaction with people” (Tobias, My Life as a Refugee).

Both Bart’s and Tobias’s quotes illustrate the perception that immersion may not be the only, let alone best way to raise awareness or change attitude of people.

About half of the respondents playing My Life as a Refugee said that they found the facts shown at the bottom of the game environment somewhat informative. At the same time they found the facts to be distracting to their immersive experiences. Three of the respondents said that they read the facts but that they actually did not stick to their memories. As Nina put it:

“I read those facts and I thought I am going to remember them, but I did not really remember them” (Nina, My Life as a Refugee).

Similarly, Michael said that already during game-play he stopped reading the facts because he could not memorise them.

“It was just the story, like I read the facts and then I was like I am not gonna read them anymore because I already forgot them to be honest. I read the facts, and I already forgot them” (Michael, My Life as a Refugee).

These statements suggest that the facts were not powerful in changing attitudes as they were not part of the personal experience, but rather disrupted it. These findings are also supported by Green and Bock’s (2002) theory that attitudes are more enduring if they are a result of personal experiences.

Sara felt quite immersed in the narrative, ludic and affective dimensions when playing My Life as a Refugee. When talking about the facts at the bottom of the game environment, she said that they somewhat distracted her. Nevertheless, she felt receptive towards them as they fit to the situation and she felt emotionally open to this kind of information.

“Anyway, in that moment I was certainly more receptive to those two lines, because they fit very well to the situation and I was emotionally open to them and I thought, yes, it’s true what they are saying in this sentence” (Sara, My Life as a Refugee).

Anne, who felt quite immersed in the narrative and learned something from the facts, said that in each situation she read the facts before continuing with the story, which is why she did not feel distracted by them.

“I read the facts and then I continued with the story, that’s how I did it” (Anne, My Life as a Refugee).

The quotes of Nina, Michael, Sara and Anne illustrate how varied gaming experiences are. More specifically, certain elements may be disruptive and not persuasive to some, while others accommodate those elements in such a way that they add an extra layer to their personal experience and that they can learn something from them.

Several respondents named identification as an important factor why they felt more susceptible to persuasion. This was particularly important in My Life as a Refugee where in the eyes of the interviewees the main goal of the game was to transmit the hardship of individual experiences of refugees in order to change or reinforce players’s attitudes. An emotional identification was enhanced by taking decisions for the character which relates to the importance of personal experiences for the persuasiveness of messages. Sara said that because she could take decisions and identified emotionally with the character, it reinforced her attitudes towards refugees.

“[That you] decide with that person and that you identify with that person emotionally, thereby you change your attitude or if you already have it, that you feel reinforced in it” (Sara, My Life as a Refugee).

Similarly, Luca, who identified with his character and felt persuaded by the emotions and choices, said that because he simulated to be one of the characters he felt touched by the events. He simulated to be the character by focusing all his attention on the character’s attributes and affordances when taking decisions. Luca was the only participant to report a positive change of his attitude towards refugees in the questionnaires.

“As a matter of fact, it is more difficult to set up filters against it if you have to act as one (...) if you are proactively engaging into something you are thinking about it more intensively than if you are just shown a picture. If you are shown a picture you can just turn around. If you have to act like one of them, you have to simulate you are one of them, and then you are automatically touched by it” (Luca, My Life as a Refugee).

Luca’s quote illustrates that he considers it more difficult to set up filters if he acts as his character. This finding relates to Green and Bock’s (2002) observations that people tend to attenuate their own personal views to make media environments seem more real as well as that people’s empathy towards characters can increase through identification.

In My Life as a Refugee, almost all respondents shared the perception that immersion may enable a personal experience which can positively influence their susceptibility to persuasion. This was also perceived by a majority of the participants playing PeaceMaker. Yet, three respondents playing PeaceMaker said that while immersion may help, it did not feel as a major factor in the persuasiveness of that game. Laura and Sara both emphasised that the game was intellectually demanding. In their perception, they may have felt more persuaded by the messages of the game by analytically engaging with its contents rather than by feeling immersed into it. Laura, who mainly learned something from the game’s actions and reactions, said that the game primarily demanded an intellectual engagement and she did not consider emotions as an important factor in the game.

“I assume the role of someone who should not be emotional (...) but who rather analyses the situation and makes decisions based on information and facts, and again analyses the decision, etc. Insofar I think that here it is primarily an intellectual immersion” (Laura, PeaceMaker).

This quote also illustrates how Laura perceived that feeling immersed is closely linked to being emotionally affected by the game. Similarly, Nina said that she did not feel immersed into the narrative of PeaceMaker, because the repercussions of her actions did not influence her on an individual level. She felt more like playing the game from a birds’ perspective and that the decisions she had to take were more far-reaching compared to My Life as a Refugee.

“I feel like God somehow [laughs] and the less powerful form is a President [laughs] I don’t think that if something bad happens, it actually influences me. (...) I think this topic is much more complex, because you have to take decisions that go beyond you. (...) I think you could

play two games: one where you try out everything, and another one where you try to do everything right. I think you can learn quite a lot” (Nina, PeaceMaker)

Nina’s quote seems to point at a general pattern that players of PeaceMaker learned something by actively elaborating on the game’s content. Also, about half of the participants playing PeaceMaker said that they mainly learned some facts in the background information of the game, without feeling particularly immersed in the narrative.

To conclude, Figure 2. illustrates the themes denoting how players experienced immersion as well as its influence on persuasion. The four themes in the left circle represent the different immersive dimensions; they are grouped together in a circle, as it is the interrelation among the themes that fully captures how immersion may influence persuasion. The circle is connected to another one, which represents the overall perception of the participants that immersion can become an experiential state that heightens their susceptibility to persuasion; i.e. when players experience the game’s events as personal ones. Barriers to immersion potentially diminish that experience.

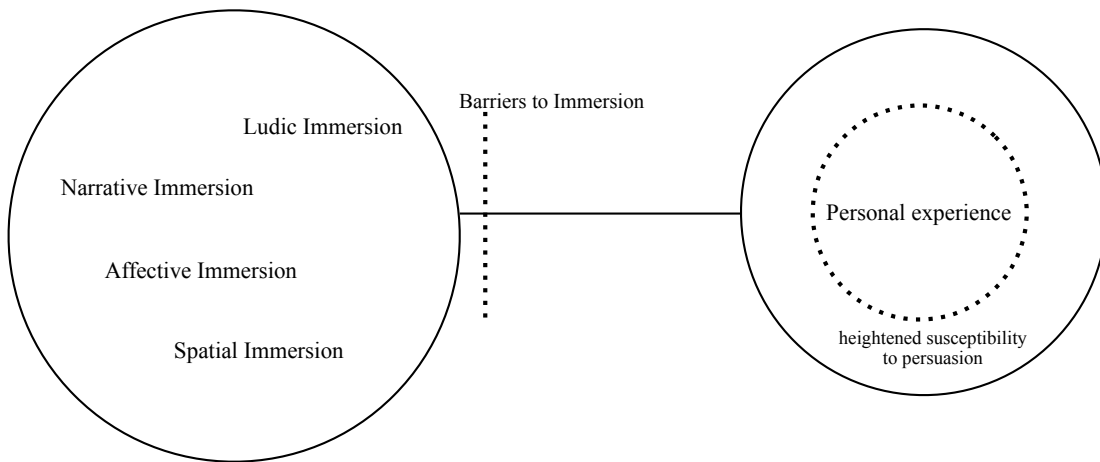


Figure 2. Themes: Influence of Immersion on Susceptibility to Persuasion

Respondents who felt persuaded, or reinforced in their perceptions, mostly experienced immersion within the narrative, ludic and affective dimensions or an interrelation of the three as a decisive factor on the perceived persuasiveness of the messages. Immersion in those dimensions evoked the impression to be personally involved in and affected by real-life processes, which made these processes more persuasive. Several respondents referred to

reading or watching the news as less persuasive than playing a game, as they do not feel personally affected by news media.

In the present study one respondent explicitly talked about how he attenuated his personal views to make the immersive experience seem more real and that this made him more receptive to persuasion. The fact that this process was only mentioned by one interviewee may also be related to the fact that it is difficult to assess how much one attenuates her or his own views.

A number of respondents also noted that immersion may not always be the best way or necessary to gain new knowledge or change attitudes, an observation which they mainly connected to the topic of the game (such as unethical or mainly intellectual). This was also reflected by the finding that several respondents learned something from facts embedded in the game without feeling immersed.

Finally, the link between immersion and persuasiveness was perceived stronger in the game *My Life as a Refugee* compared to *PeaceMaker*. Arguably, this suggests that the phenomenon depends on the perspective or the topic of a persuasive game. Players of both games assumed a specific role. Yet, the consequences of actions in *My Life as a Refugee* were mainly on a personal level whereas in *PeaceMaker* they were perceived as more far-reaching by affecting the society as a whole. The observed differences may also relate to the fact that *PeaceMaker* was a more complicated game and overall the respondents found the playing time rather short to experience immersion.

5. Conclusion

This study's purpose is to explain immersive experiences in persuasive gaming as well as their influence on persuasion. A positive influence of immersion on persuasion has been shown by former research and theory (cf. Murray, 1997; Green & Bock, 2002; Burrows & Blanton, 2015), while immersion has mainly been researched for entertainment gaming (Jennett et al, 2008; Calleja, 2007). Due to the social significance of persuasive gaming and the increasing academic interest in its effectiveness, this study set out to address this gap in the literature. This study's research participants played two persuasive games and were interviewed in-depth about their playing experiences. This chapter provides a summary of the main research findings to answer the research questions, followed by a discussion of the theoretical implications. The thesis concludes by addressing limitations of this study and suggestions for future research, as well as implications for game design.

5.1 Main Findings

The findings have shown that players of the two persuasive games mainly experienced immersion in terms of narrative, ludic, affective and spatial involvement. Narrative immersion was characterised by the players' perception to be part of the story and have an influence on the course of the story. Immersion into the narrative was enhanced through feeling within the shoes of the characters. This included both emotional identification with a character as well as an absorption of all pre-scripted attributes of the character by a player. Other interviewees felt more self-aware and based their decisions on their own perceptions, rather than taking the pre-scripted attributes of the characters into account. Another finding explaining immersion into the narrative is how much depth the participants perceived in the narrative. Depth hereby referred to more nuanced storylines and background information.

This closely connects to findings of ludic immersion, where several respondents found a lack of nuance in the actions they were allowed to take. Hereby, the overlap between the narrative and ludic dimensions becomes obvious. Every actions players could take were inextricably linked to the pre-scripted narrative of the game. This relates to the fact that in both games, the narrative linked to the political situation forms a major element. This means that it is unavoidable to take actions — to play — without influencing the narrative dimension. This link was particularly strong for *My Life as a Refugee*, where missing depth in one dimension resulted in missing depth in the other dimension; this made several players'

involvement more superficial. In PeaceMaker, the link between the narrative and ludic dimensions was experienced weaker. Namely, some players also focused on increasing the gaming score and the narrative was partly experienced as a means to this end. For both games, several respondents referred to the real world to describe the depth of the ludic and narrative dimensions. Generally, the real world was described as providing much more information and opportunities than the game worlds.

In the ludic dimension, participants felt immersed through pursuing goals as this attributed more value to the decisions they took. In the decision taking, a feeling of agency was particularly important for players to feel immersed, as it made them feel part of the events and gave meaning to their actions. Players who did not experience any agency generally perceived the games' paths as pre-set and their influence as limited. A ludic element which made some players feel immersed was the time pressure element, as it made them feel more aware of having only limited time to make a right choice. Overall, the affective immersion of the participants partly resulted from feeling immersed within the narrative and ludic dimensions. By getting harsh feedback in the form of a story event to their own actions respondents felt powerless, sad or frustrated. Moreover, participants' affective immersion stemmed from real world images and videos. This made some players feel more affectively immersed as they perceived it as real-life footage which brought realistic feelings to the game world. Other respondents also associated the material with the news and said that this lowered their emotional attachment because of their usual attitude towards news. Thus, associations players have with the real world and with news can have twofold effects on how immersed they feel.

An association with news was also experienced by participants who felt involved within the spatial dimension. Several respondents mapped the game world in their imagination and felt like they had a good orientation within it. In both games real world associations about routes of refugees or geographical locations of cities influenced this spatial involvement. Some experienced the association as a facilitator, while others perceived it more as a barrier to their spatial immersion. Many participants experienced various barriers to immersion. Main factors included clicking, features that disrupt the overall gaming experience such as facts or pop-ups, as well as inconsistencies within the gaming environment.

Finally, this study also yielded interesting findings to answer the second research question about the experienced influence of immersion on the players' susceptibility to

persuasion. A major reason why respondents perceived the influence of immersion as positive in both games is because it gave them the impression of experiencing events first-hand. This personal experience mostly stemmed from immersion into the narrative, ludic and affective dimension. The feedback players got as a response to their actions was therefore considered more personal and as a consequence more affective. In *My Life as a Refugee*, for participants who identified with their characters emotionally or in every pre-scripted aspect, this impression of experiencing events first-hand was intensified. Also, some ludic elements like time pressure intensified this impression. Participants noted this as important to be persuaded, yet a majority was reinforced in their already positive attitudes towards refugees. In *PeaceMaker*, several respondents said that while immersion may be beneficial to persuasiveness, it may also be important to engage with the contents on a more analytical level. These findings suggest that immersion may be especially important for games that primarily aim to transmit individual experiences and emotions to achieve their goal, as immersion creates more personal experiences and stronger emotions.

5.2 Theoretical Implications

This study was mainly guided by Calleja's (2007) player involvement model. The model posits that players can get involved and immersed in six dimensions, that are the narrative, ludic, affective, spatial, kinesthetic, and shared dimension. The findings of this study suggest that for player experiences in persuasive gaming, immersive experiences into the narrative, ludic, and affective dimensions are particularly relevant. While immersion within each of the three dimensions exhibits unique aspects, those three dimensions also quite closely overlap in persuasive gaming. This may be a difference to entertainment gaming where the dimensions are often more clearly separated, although they may also overlap (cf. *ibid.*). Spatial immersion emerged as a relevant dimension in this study, yet not all players got involved with it in the first place. Kinesthetic involvement only emerged as a barrier to immersion in the other dimensions. This stands in contrast to entertainment gaming, where controls often enrich a sensation of internalising a gaming experience (cf. *ibid.*; Cairns, Li, Wang & Nordin, 2014). The shared involvement dimension did not emerge in the present study, arguably because both games used are single player games.

Overall, depth and nuance were experienced as important influences on the immersive experiences, especially in the narrative and ludic dimensions. This finding is cross-validated

in light of Murray's (1997) observations that multiple mutually contradictory storylines require a more active participation from audiences and thus can lead to a greater sense of immersion. Indeed, in the present study several respondents lamented the lack of nuance and the relatively pre-set story path.

Past research about narrative transportation found a positive correlation between perceived realism and the degree of transportation (Green, 2004). However, the findings of the present study suggest that perceived realism can indeed have twofold effects on the immersive experiences. The majority of the respondents experienced realism as a facilitator to feel immersed. Yet, a few respondents felt less immersed specifically due to the perceived realism of certain game elements such as images that reminded them of news media.

Research on transportation into narratives and virtual environments has highlighted a positive influence of transportation on how likely people get persuaded by embedded messages (cf. Murray, 1997; Green & Bock, 2002; Burrows & Blanton, 2015). Similar observations also emerged in the present research. Participants mostly said that through feeling like an active part of the story, the embedded messages felt more imminent and thus had a greater persuasive effect on them. Hereby, identification with the character played an important role, which was also highlighted by Green and Bock (2002). What players mainly found more persuasive through feeling immersed were the story, the processes they experienced first-hand, ludic elements such as time pressure as well as affective elements. These elements correspond to narrative, procedural, tactical, and affective dimensions as identified by the model about persuasive dimensions of video games by De la Hera (2015). The findings of this study also show how the procedural rhetoric as posited by Bogost (2007) can take effect successfully if players feel immersed in the corresponding dimensions. The results of this study suggest that it is not necessary to feel immersed within all potential involvement dimensions, a concept denoted as incorporation by Calleja (2007), in order to experience a heightened susceptibility to persuasion. Rather, it is more crucial to feel immersed in the main dimensions - that are the narrative, ludic, and affective ones. In addition, analytical engagement emerged as potentially relevant in order to be persuaded. While this may be explained by concepts such as challenge (cf. Ermi & Mäyrä, 2005; Jennett et al, 2008), that can be understood as part of the ludic involvement dimension, several respondents considered analytical engagement as a different kind of experience than immersion. Arguably, because intellectual engagement requires them to evaluate a specific issue rather than feeling like an active part of it. This finding supports elaboration-based

explanations for persuasive effects, which posit that to a certain extent attitude changes result from logical thinking and critical evaluations of arguments (cf. Escalas, 2007).

Moreover, several participants experienced various barriers to immersion, which was also observed in previous research (cf. McMahan, 2003; Nordin et al, 2013; Thompson et al, 2012; Cairns, Cox & Nordin, 2014; Nacke & Lindley, 2008). Respondents also talked about feeling less persuaded as a consequence of not experiencing immersion. This finding highlights the deeply varied nature of gaming experiences and the importance of exploring individual player experiences, which is in line with Sicart's (2011) critique.

Finally, former research identified differences between male and female as well as experienced and unexperienced gamers (cf. Jansz et al, 2010; Boot et al, 2008). In this study, the more experienced gamers were male and the less experienced ones mostly female. Some of the experienced gamers showed a more intuitive approach to the game mechanics than several less experienced ones; yet also two players with no experience approached the mechanics rather intuitively. Overall, no noticeable differences among the player experiences of male and female and (un)experienced gamers emerged.

5.3 Limitations & Future Research

This research was carried out thoroughly and generated insightful findings. It is however important to reflect on possible limitations of this study. A limitation of this research was the amount of time participated had to play each game. While for *My Life as a Refugee* seven minutes sufficed to play the entire game, seven minutes playing *PeaceMaker* was rather short. The test interviews showed that the playing time was long enough so that players could answer meaningfully to the questions. Yet, especially during the interviews it became clear that most respondents were still figuring out how the game worked at the end of the playing session. The gained insights would be enriched by an interview about immersive experiences at a point when players feel more familiar with a game. Thereby, the question arises whether participants should be provided with an unlimited amount of playing time until they feel that they fully experienced it. If the playing time is limited, it is also important to further question how much a researcher can explain respondents about a game beforehand, for instance how the game mechanics work, and how much this influences their playing experience.

Another limitation concerns the experiential persuasiveness of the games. Participants mainly talked about what influenced them explicitly. In contrast, implicit changes in attitudes

were mostly not accounted for. Future studies about immersion and persuasion should include ways to measure implicit changes in knowledge or attitude in relation to immersive experiences.

This research was conducted with a group of respondents with very specific characteristics. They were all highly educated and around the same age. While the findings give insights in individual player experiences, an exploration of more diverse demographic groups would enhance the understanding. Also, as was noted earlier in the thesis, players' experiences were only explored on the micro-temporal-phase. To research how strong and enduring any changes in attitudes are, it would also be interesting to explore players' perceptions in the long-term.

Both games used in this study are about topics that are very current and covered in media. Several respondents talked about how they associated several game dimensions with what they are used to seeing or reading in the news. Research specifically exploring how people consume news media compared to playing games would be relevant. A question to be further addressed may be in how far people expect persuasive video games to correspond to the news or other sources of information, and how this affects their playing experiences.

This study focused on immersive experiences and their influence on persuasion. Next to the themes that answered the research questions, another interesting dynamic emerged. Some findings suggest that for a certain type of games intellectual engagement may be more relevant to persuasion than immersion. Future studies could further research how players experience intellectual engagement and how it differs from or forms part of their immersive experiences.

Finally, this study has shown that there exist potential differences in immersive experiences in relation to the game's content. While *My Life as a Refugee* focused more on individual experiences (taking the context into account), *PeaceMaker* emphasised historical and societal contexts. Particularly the *My Life as a Refugee* immersion was experienced as a crucial prerequisite for persuasion. Future research exploring how the influence of immersion on the persuasiveness of games differs among persuasive games with different perspectives and topics would be very valuable.

5.4 Recommendations for Game Developers

Game developers of persuasive games often struggle with smaller budget compared to entertainment games studios, which is why they often do not leverage the whole bandwidth to enable immersive gaming experiences. Yet, this study has identified several recommendations that game developers could take into account without exponentially increasing production costs.

One relatively simple improvement would be to include sound effects such as voices as this would create more depth and possibly a deeper involvement for some players. By having the opportunity to turn sound on or off, players who likely feel distracted by it are not bothered, while players who seek more depth may experience a deeper immersion. In addition to creating depth, the whole game world should exhibit a consistent style in order to diminish elements that are potentially distractive to immersive experiences.

Furthermore, features that are not crucial for involvement with the narrative or gameplay dimensions should be embedded within the gaming environment in a way not to distract players. For instance, features that ask players to rate the game, should not pop up during gameplay as many players find this distractive. Rather, they may be implemented at the end of the game or when players pause a game. Similarly, information such as facts that are not imminently important for gameplay and narrative involvement should be embedded in a least-distractive way. A way to satisfy both, players who are interested in this contextual element and those who feel distracted by it, would be to give them the opportunity to hide or display the facts. For instance, visual objects in scenes could be used to display facts only if clicked upon. This would also add a relatively simple extra-layer to the interactive gaming experience.

Yet, the findings also suggest that clicking can be an overall barrier to getting immersed. To improve the overall immersive experiences in games where clicking does not represent naturally mapped movements, other ways of haptic involvement - such as sliding or tilting - may be more suitable.

Lastly, for several players immersive experiences would have been enhanced if the story had had more depth, mainly in regard to the character's background, the setting and information for decision taking. With this in mind, it is important to note that the story should not be narrated in an educative way but rather assumptions-neutral. The findings of the present study suggest that players perceive contents embedded within a game world as more

persuasive, if they feel like finding out about a situation first-hand. This dynamic should not be impaired by including too many hunches about the purpose of the game, for instance by including obvious advertisement about an organisation or statements with a clear political stance. This may activate personal opinions along with the perception of players that they are interacting with something that is mediated to them rather than 'really living it'.

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Appendix A

Topic List

- In general, how did you like the game?

Narrative Involvement

- Did you understand the story?
- How exciting did you find the story?
- How immersed did you feel into the story?
- Was there anything in the story that you did not like? How so?
- How realistic or unrealistic did the story seem to you?
- In what ways did you feel within the shoes of the character?
- Did you pursue a particular goal within the game? How so?

Ludic Involvement

- In what ways did you think about the rules of the game?
 - Did you feel restricted by the rules? How so?
 - Did the rules give too much freedom? How so?
- How exciting did you find the playful element of the game?
- In what ways did you feel challenged?
- How realistic or unrealistic did the rules of the game seem to you?

Affective Involvement

- In what ways did you feel emotionally involved?
 - In what ways did the visuals/images elicit emotions in you?
 - How realistic or unrealistic did the visuals seem to you?
 - In what ways did the videos affect your emotional involvement?
 - How realistic or unrealistic did the videos seem to you?
 - In what ways did the sound affect your emotional involvement?

Spatial Involvement

- How was your orientation within the game world?
 - Did you think about where you were in regard to time? How so?
 - Did you think about where you were in regard to space? How so?

- How realistic or unrealistic did the time and space seem to you?

Incorporation

- Were there elements among story, rules, emotions, or orientation that held your attention the most?
 - Did that make you feel distracted in your immersive experience within the other elements? (e.g. did the story distract you from the visuals)
 - In what ways did you think about that while playing the game?

Barriers

- Did anything within the game world bother you (e.g. bad quality of images)?
 - Did you think about that while playing the game?
- While playing, did you think of anything that did not have anything to do with the game world? How so?
- Did anything outside of the game world bother you (e.g. the size of the device)? How so?
 - Did you think about that while playing the game?

Persuasiveness

- What was the goal of the game in your eyes?
- In what ways did you learn something new about the (topic of the game)?
- Were there any particular contents/messages that you found persuasive (e.g. certain visuals, story elements, rules)?
- Overall, how do you think that the persuasiveness of the messages was influenced by how immersed you felt?
- How is your personal interest in the (topic of the game)?
- Is there anything else you would like to share?

Thank you!

Appendix B

Questionnaires

Part of the first pre-game questionnaire:

- Overall, how experienced do you feel in playing entertainment video games?
1 2 3 4 5 6 7 (1 not at all, 7 very)
- Which are the two game genres you are most familiar with?
- Have you ever played a persuasive game before?
yes no
- If yes, how familiar do you feel with persuasive games?
1 2 3 4 5 6 7 (1 not at all, 7 very)
- What is your gender?
- How old are you?
- What is your highest completed level of education?
- What is your nationality?

My Life as a Refugee

Pre-Questionnaire:

- How well informed do you feel about the experiences many refugees go through on their way to a new country?
1 2 3 4 5 6 7 (1 not at all, 7 very well)
- In general, how empathic do you feel towards refugees?
1 2 3 4 5 6 7 (1 not at all, 7 very much)
- How much do you feel like becoming active in supporting refugees yourself?
1 2 3 4 5 6 7 (1 not at all, 7 very much)

Post-Questionnaire:

- Has your knowledge about the experiences many refugees go through on their way to a new country changed?
yes no
- If yes, how well informed do you now feel about the experiences many refugees go through on their way to a new country?
1 2 3 4 5 6 7 (1 not at all, 7 very well)
- Has your attitude towards refugees changed?
yes no

- If yes, how empathic do you now feel towards refugees?
1 2 3 4 5 6 7 (1 not at all, 7 very much)
- If yes, how much do you now feel like becoming active in supporting refugees yourself?
1 2 3 4 5 6 7 (1 not at all, 7 very much)

PeaceMaker

Pre-Questionnaire:

- How well informed do you feel about the Israeli-Palestinian conflict?
1 2 3 4 5 6 7 (1 not at all, 7 very well)
- To what extent do you support Israel's political stance in the conflict?
1 2 3 4 5 6 7 (1 not at all, 7 completely) DK (don't know)
- To what extent do you support Israel's actions in the conflict?
1 2 3 4 5 6 7 (1 not at all, 7 completely) DK
- To what extent do you support Palestine's political stance in the conflict?
1 2 3 4 5 6 7 (1 not at all, 7 completely) DK
- To what extent do you support Palestine's actions in the conflict?
1 2 3 4 5 6 7 (1 not at all, 7 completely) DK

Post-Questionnaire:

- Which perspective did you choose in the game?
Israeli Palestinian
- Has your knowledge about the Israeli-Palestinian conflict changed?
yes no
 - If yes, how well informed do you now feel about the Israeli-Palestinian conflict?
1 2 3 4 5 6 7 (1 not at all, 7 very well)
- Has your attitude about the Israeli-Palestinian conflict changed?
yes no
 - If yes, to what extent do you now support Israel's political stance in the conflict?
1 2 3 4 5 6 7 (1 not at all, 7 completely) DK (don't know)
 - If yes, to what extent do you now support Israel's actions in the conflict?
1 2 3 4 5 6 7 (1 not at all, 7 completely) DK
 - If yes, to what extent do you now support Palestine's political stance in the conflict?
1 2 3 4 5 6 7 (1 not at all, 7 completely) DK
 - If yes, to what extent do you now support Palestine's actions in the conflict?
1 2 3 4 5 6 7 (1 not at all, 7 completely) DK

Appendix C

Overview respondents with anonymised names

Pseudonym	Gender	Age	Level of Education	Nationality	Playing Experience	
					Entertainment Games	Persuasive Games
Luca	male	29	PHD	Italian	7	1
Nina	female	25	Master	Austrian	3	1
Kay	male	29	Master	Dutch	3	1
Anne	female	27	Bachelor	Dutch	2	1
Bart	male	29	Master	Dutch	4	1
Tom	male	27	MBO 4	Dutch	7	2
Michael	male	27	Bachelor	Dutch	7	5
Laura	female	30	Master	Italian	1	1
Daniel	male	28	Master	German	7	3
Mira	female	23	Bachelor	Finnish	2	1
Tobias	male	29	Master	German	5	1
Sara	female	25	Bachelor	Italian	1	1

1 = no experience
7 = very experienced

Appendix D

Figures Knowledge & Attitude Change based on frequencies

Figure i. Knowledge about refugees

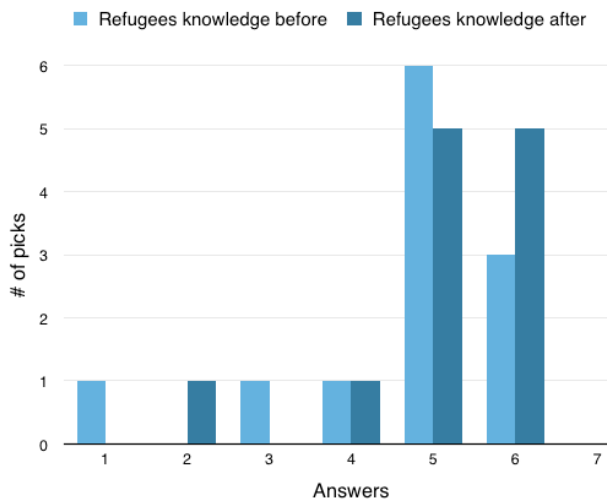


Figure ii. Empathy towards refugees

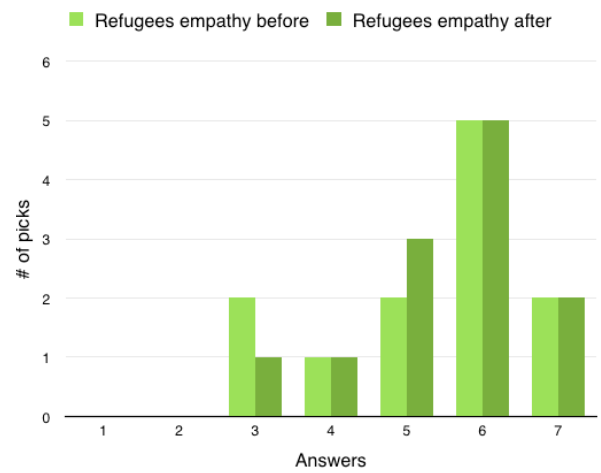


Figure iii. Intention to support refugees

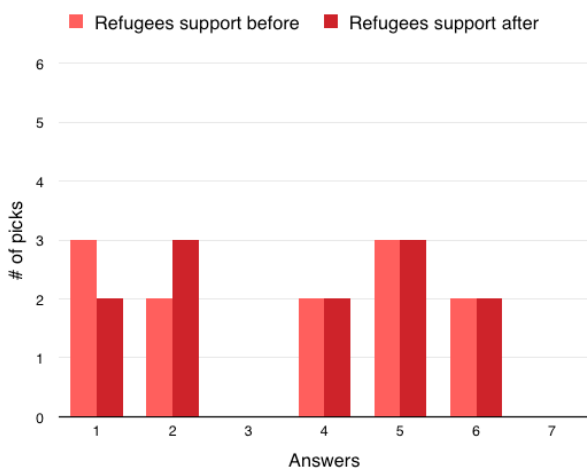


Figure iv. Knowledge Israeli-Palestinian Conflict



Figure v. Support Politics & Actions Israel/Palestine

