IN - GAME ADVERTISING
IN VIOLENT VIDEO GAMES:

AN ANALYSIS OF THE IMPACT ON
CUSTOMER - BASED BRAND EQUITY

Angela Asha Castellani Tarabini - 125139

Elisa Tortorella - 124696

CBS

Abstract

This thesis aims at investigating the impact that in-game advertising has on customer-based brand equity (CBBE) when placed in violent video games. As previous research on those topics is limited and fragmented, companies might find it challenging to determine how to successfully advertise their brand in video games when preparing their marketing strategies. In order to understand in which ways in-game advertising affects brand equity when placed in a violent gaming environment, the authors develop, building on previous research and existing literature, a conceptual framework consisting of four factors: brand - game congruity, brand familiarity, brand prominence and arousal from violence. From the conceptual framework, hypotheses are deduced and are used to evaluate the impact that each of these elements has on the various levels of Keller's CBBE pyramid.

The paper's theoretical development is founded on the existing theory related to the topics outlined above. Thus, a deductive approach is chosen to conduct the study and the work is embedded in a pragmatic perspective. The analysis is carried by adopting a mixed methods strategy: a cross-sectional quantitative study implemented through a questionnaire is first carried out in order to empirically test the developed hypotheses. These findings are then integrated with the results obtained from the qualitative study consisting of semi-structured interviews. The stimulus used for both types of data collection relies on a crafted video aimed at recreating the experience of a violent gameplay containing in-game advertising.

The results from both the quantitative and qualitative analyses indicate that the various factors of the conceptual framework have an impact on every level of brand equity. In particular, they suggest that brand familiarity and brand prominence have a positive impact on brand awareness. Moreover, brand associations and brand attitudes appear to be positively affected by congruity. In fact, including brands that fit well in the gaming environment helps improve the perception, feelings and thoughts towards the brand, by making the gameplay more enjoyable. Those two levels of brand equity are also affected by arousal from violence since players excited by the content would have more extreme reactions to violence, either positive or negative. Lastly, the quantitative analysis implies that brand attachment and brand activity can gain from the placement of congruous advertisements, compared to incongruous ones.

In sum, this work attempts to fill the gap from previous literature and to provide useful insights that can be used as foundation for future research on the topic in order to develop tools that can help companies in their marketing strategies.

Table of contents

List of figures

List of tables

1. Introduction

Bombarded by advertising in TV, newspapers, newsletters and on the internet, the target audience of advertisers has become more and more difficult to reach through traditional marketing tools. Conventional media is becoming saturated and cluttered by innumerable advertising messages, making it increasingly difficult for advertisers to reach potential consumers and to share their communication messages (Küster, Vila, Hernández, Canales & Castillo, 2015). This phenomenon, coupled with the change in consumers' habits and routines, incentivizes companies to look for new opportunities for advertising (Benedy, 2020). One substitute to conventional media advertising entails companies producing more aggressive initiatives in order to catch the attention of the target market. Otherwise, instead of modifying the content of the advertising, companies can adopt alternative routes and formats to convey their communication messages. One of the latter involves placing the advertising in a rather young and fast-growing virtual environment: video games.

Video games have become more and more popular, despite the ups and downs of the industry during the years. They first started to gain popularity in the 1960s and quickly spread from arcades to home consoles, and subsequently private computers (Rechsteiner, 2020). Although the industry is conventionally associated and secluded to teenage boys, the market is in continuous expansion, attracting younger as well as older generations (Vedrashko, 2016). The advancements in technology, the change in game formats and the increase in availability possible through to the use of the internet, have concurred in augmenting the popularity of this type of digital entertainment (Nelson, 2005). Video games are now not only bound to physical consoles such as Xbox or PlayStation but are also played on PCs and mobile devices. The demographics of the gaming audience has thus become more and more fragmented: not only the average age of gamers has increased, but also women account now for a significant share of the gaming population (Entertainment Software Association, 2019). In 2016, there were more than 2 billion players around the world (Entertainment Software Association, 2019), and the forecasted value of the gaming industry in 2025 is \$196 billion (Webb, 2019).

The increase in popularity of video games and the saturation of the other types of media have therefore been some of the factors attracting companies to invest and test advertising in video games. The trend of placing advertising in video games started in the 1980s, with the first boom of the video game industry: in order to exploit and monetize this phenomenon, companies began to team up with video game producers and to create themed games featuring a particular brand (Vedrashko, 2006).

In the coming years, video games became an increasingly viable advertising medium and with the advancements of technology, the brand placements became increasingly integrated and immerse in the gameplay (Vedrashko, 2006). Companies were accordingly given the option to insert their branded content in others' video games, for example as billboards, or to place their brand in more sophisticated ways such as by placing their product in the game.

This type of advertising – in-game advertising – has many advantages compared to other types of tools. Advertising in video games is perceived as being smoothly and seamlessly integrated with the gaming environment and being less disruptive since it can more subtly reach the consumers and cannot be avoided by them. Moreover, it is even appreciated by the players as it can increase the realism of the game (Ginn, 2020; Wydick, 2008). Additionally, the longer shelf-life of video games, the fact that they are played for multiple hours and for many times heightens the exposure of players to advertising in video games compared to other types of media (Herrewijn & Poels, 2017).

In-game advertising represents a seamless tool for companies to expose a large audience to their brand without being perceived as intrusive. This advertising medium however is not shy of disadvantages, one of them being the high developmental cost to insert such advertisement in the game. Nonetheless, given the increasing attractiveness of the video game market, the saturation of traditional media channels and the advantages of advertising in video games, the interest to further explore the effects of this novel advertising medium is enhanced.

1.1 Problem statement

Advertising has been increasingly used in various media as a communication marketing tool. Recently, as video games have gained popularity and have become a mainstream medium, advertisements have started to appear also in video games. Through video game advertising, companies can consequently promote their brands while reaching a large audience. Particularly, the practice of in-game advertising, which integrates non-fictional brands within the video games' playing environment (Smith, Williamson, Sun & Mackie, 2014a), allows companies to expose their brands to the consumers through video games.

Concurrently, the media have started to display more and more violent content, and the trend also spread to the video games industry (Lull & Bushman, 2015). In fact, of the top 20 best-selling video games of

2018, nine are rated M (i.e. are reserved for a mature audience) and include strong images of violence (Entertainment Software Association, 2019).

Advertising is one of the marketing strategies that a company can decide to adopt. It can be used to inform and remind customers of the benefits and characteristics of a product and it can also persuade clients and instill in them the desire to buy a product or service. Advertising is also employed by companies to link the product or service they are selling to an experience, emotion or an event (Keller, 2007). Overall, it is a central tool in creating and developing a brand equity. The latter is one of the most important assets of a company, as developing a powerful brand has become an essential element to ensure companies' success. In fact, a strong brand equity can simplify and fasten decision making in consumers and set expectations.

Many companies see the need to create a strong brand equity by adopting different marketing strategies. Advertising can be used to enhance and reinforce the brand equity of a company. In particular, as in-game advertising is a marketing communication medium, it is a valuable tool to affect brand equity. Furthermore, applying such instrument in a violent context allows to see whether it might be convenient for companies to advertise their brands in such environment.

However, studies that relate in-game advertising, violence and brand equity together do not exist as previous research is limited. In fact, there is no definite framework identifying the factors that constitute the effectiveness of in-game advertising. Moreover, in-game advertising effectiveness has been studied in the context of violent video games, but never relatively to a comprehensive brand equity framework, as it was mostly limited to brand awareness and attitudes. Finally, previous research has not investigated brand equity with respect to advertisements in video games or violence.

1.2 Research question

Given the problems identified in the previous section, this thesis aims at investigating how companies that want to advertise their brand in violent video games and thus improve their brand equity should adopt in-game advertising. Therefore, the research question of this thesis can be defined as follows:

> *How is in-game advertising impacting brand equity when placed in violent video games?*

To understand in which ways in-game advertising affects brand equity, the study explores the impact that in-game advertising has on individuals playing a violent video game with respect to the various dimensions of brand equity, namely brand awareness, association, attitude, attachment and activity. In fact, the degree

of the impact of in-game advertising on brand equity depends on whether it positively affects its dimensions. In the study, four elements are considered to have an impact on the effectiveness of in-game advertising and are at the basis of the work. In the context of this thesis, in-game advertising can be considered a strong marketing communication tool if it manages to create in those playing violent video games a high brand awareness, to support their associations and positive attitudes and to lead to attachment and activity.

1.3 Delimitations

This section defines the scope of the thesis in order to first circumscribe the areas of the topic that are going to be examined. Additionally, by delineating the scope of the research it is possible to provide a more specific answer to the research question.

Firstly, this work analyzes the impact of in-game advertising on brand equity in a violent context. In this study, video games are considered to be violent when they are rated by the Pan European Game Information (PEGI) content rating system as at least +16 (i.e. PEGI 16 or above) due to depiction of violent content, meaning that the appropriate age for players is 16 or above (Pan European Game Information, 2017). These ratings are assigned if the video game contains very realistic depictions of violence.

Furthermore, the study does not differentiate between the types of video games platforms (e.g. console, computer, mobile) as the focus of the research is to identify the general impact of in-game advertising and not the one specific to each of the platforms. However, as in-game advertising can be found in video games played across various platforms, it is assumed that its effect is similar independently from them.

For the purpose of this work, the analysis of brand equity is carried out from a consumer perspective by considering only the impact of in-game advertising on the player's brand awareness, associations, attitude, attachment and activity, i.e. the elements that constitute Keller's brand equity pyramid. However, given that this study investigates only short-term effects of in-game advertising on the consumers and not long-term ones, the effects on brand activity are not tested directly, but are based on the future intentions of the consumers.

The study also does not measure the implicit effect of in-game advertising on the player and it is limited to the explicit effect. Thus, the impact that in-game advertising might have on the unconscious of the individual's awareness, associations, attitudes, attachment and activity towards the brand is not included.

Additionally, although branding and advertising are two different concepts, branding theories are used for advertising purposes in this thesis, as the main objective of the thesis entails analyzing the impact of

advertisement on brand equity. Conducting the analysis employing purely advertising theories could slightly differ from the results obtained in this work.

Finally, differences in cultural environment, social setting, personality and emotions of individuals may have an impact on how brands are perceived by customers and are therefore excluded by the analysis. Also, the study assumes that the impact of in-game advertising on the consumer is isolated and that there are no other market activities that may affect how the consumer views the brands.

To facilitate the comprehension of the readers, additional and more specific delimitations are defined as the thesis progresses.

2. Reader's guide

Figure 1 illustrates the overall structure of this thesis. Chapter 1, which was presented in the previous section, is the *Introduction* to the work. This part, after presenting an overview of the topic discussed in the thesis and its relevance in research, presents the problem statement, the research question and the delimitations that should be considered. The section also lays the first figures and definitions of video games industry, advertisement in video games, brand equity and violence in the media. Chapter 3, the *Literature review*, investigates and collects the previous research that has been conducted on the topic that is under analysis in this thesis, in order to provide the authors with a theoretical basis on which to build the study and delimitate its scope. Chapter 4 presents the *Framework development,* where the main elements affecting the relationship among brand equity, violence in the media and in-game advertising are identified from previous research. The section proposes then hypotheses describing the relationship between the factors of the conceptual framework and the dimensions of brand equity that are going to be tested later in the thesis. Chapter 5, *Methodology,* illustrates how the work is conducted and structured whilst Chapter 6, *Data collection methods*, explains more in depth the quantitative and qualitative methods adopted in the study. Chapters 7 and 8, respectively *Quantitative research findings* and *Qualitative research findings* report and preliminarily examine the results of this thesis. Chapter 9, *Analysis of the research results and implications*, displays the knowledge that was created, by integrating together the results of the quantitative and qualitative study, and comparing them with the theories discussed in Chapter 3. This chapter also resumes the research question and answers it, based on the analysis conducted in the previous chapters. In Chapter 10, Conclusion, the main arguments and results of the thesis are summarized. The paper is concluded with Chapter 11, *Limitations and future research*, where the main limitations of the study are presented and potential future research that could be conducted on this topic is outlined.

Figure 1. Reader's guide

1. Introduction	Introduces the topic of the thesis, the problem statement and research question and specifies the delimitations of the work
2. Reader's guide	Provides an overview of the structure of the thesis
3. Literature review	Discusses previous research on advertising in video games, violence in the media, brand equity and other theories used in the paper
4. Framework development	Presents the conceptual framework, its dimensions and formulates hypotheses connected to the CBBE pyramid
5. Methodology	Defines the purpose, philosophy, approach, design, strategy and methodological choice, time horizon and ethics of the research
6. Data collection methods	Outlines the structure adopted for the quantitative and qualitative research and presents the sampling process
7. Quantitative research findings	Explains the process of the quantitative data collection (questionnaire) and the results obtained
8. Qualitative research findings	Explains the process of the qualitative data collection (semi-structured interviews) and the results obtained
9. Analysis of the research results and implications	Reflects upon the quantitative and qualitative findings and addresses possible implications
10. Conclusion	Answers the research question and summarizes the knowledge created in this paper
11. Limitations and future research	Presents the limitations of the study and how future research can extend the findings of this paper

Source: figure made by the authors

3. Literature review

This chapter aims at providing an overview of the research concerning the topics covered on this thesis – advertising, violence and brand equity – in the broader media context but also specifically in relation to the context of video games. Therefore, after addressing the purpose of the literature review, this chapter lays out the different theories and definitions that have been used throughout the years with regards to the concepts outlined above and that contribute to the development of the thesis, by providing the theoretical foundation that is used to set up the analysis. In particular, three main concepts are defined throughout this chapter, namely: *in-game advertising*, *violence in the media* and *brand equity.*

3.1 Purpose

Although the notions of in-game advertising and violence in the media have been frequently discussed in research, especially with regards to the former there is still uncertainty in the definition among the scientific community. In fact, the classification of the different types of advertising in video games is particularly complex and source of inaccuracies in past research. Additionally, given that this thesis focuses on studying the effects of only one category of this type of advertisement (i.e. in-game advertising), having a clear definition on what constitutes such activity is imperative. One of the purposes of this chapter is therefore that to detect the definitions of in-game advertising that are used throughout the thesis, in order to circumscribe the breadth of the topic. On top of that, the definitions of brand equity and violence in the media are discussed in order to delineate and define the areas covered by the thesis. Other than the definitions of the concepts mentioned above, this chapter also lays out how these are linked to each other. The authors then identify additional theories that are be used to further carry out the study.

Finally, the purpose of this chapter is to show the gaps in existing literature with regards to the joint relationship of violence, in-game advertising and brand equity. The authors of this thesis proceed by connecting and discussing topics that have not been analyzed in relation to each other by previous research, or if they had, findings were not definitive. In fact, although the consequences of violent video games have been explored with regards to the in-game advertising effectiveness, the latter has been measured in terms of brand memory, recall, recognition, brand attitude and purchase intention, but outside of a comprehensive brand equity framework.

The impact on brand equity has not been studied in relation to advertisements in video games or to violence and is thus the central and most substantial gap in previous research. This thesis therefore proposes a starting point to fill such gap and possibly inspire future research.

3.2 Advertising

Advertising is the part of a company's communication marketing mix aimed at informing and persuading consumers through paid communication (Copley, 2014). It is the result of a company's creative processes and as such it is not an exact science since pure transfer of the communication message cannot be fully achieved (Copley, 2014). Although the prime objective of advertising is to increase brand awareness, this communication strategy can also help building brand image and identity (Copley, 2014). These different goals can be achieved through the advertising ability to reach a wide audience (Fill, 2011). It can thus be used to position and differentiate a brand amongst its competitors, by informing the public of characteristics of that product or by reinforcing previous brand messages (Fill, 2011). The regular use of advertising together with a targeted use of the communication mix, can help building a brand personality and create a competitive advantage over competitors (Copley, 2014; Fill, 2011).

Advertisement strategy can have several advantages and disadvantages. Firstly, concerning the advantages, it displays the greatest level of control amongst all of the marketing tools, thus the advertiser has a considerable level of freedom in deciding what to advertise, providing that it stands within the regulatory framework (Fill, 2011). Additionally, advertisement is cost-effective, as it is characterized by a low cost per contact (Copley, 2014). The disadvantages are related with the nature of this communication tool: feedback time from an advertising strategy is not immediate, therefore the advertisers would not be able to capture real-time effects of this type of strategy. Additionally, although the cost of production and media can be considerable, its effectiveness is not guaranteed. In fact, the customers may perceive that they are being targeted by an advertisement campaign, which can result in a low credibility in the product and in turn in the brand. Companies should therefore carefully study the environments in which they plan to insert an advertisement, in order to seamlessly integrate it in the scenario (Copley, 2014).

3.3 Advertising in video games

Although the advent of video games dates back to the 1960s (Nelson, 2005), the practice of advertising through this digital medium is quite recent. The first example of this new type of communication goes back

to 1973 with the birth of the video game *Lunar Lander*, commissioned by the Digital Equipment Corporation. The players involved in the game were supposed to pilot a spaceship and if they landed in the right spot a McDonald's would appear, and the astronaut would enter the restaurant to order a Big Mac (Herrewijn, 2015; Vedrashko, 2006). In spite of the fact that this first attempt of advertising in video game was mainly prompted by amusing reasons rather than McDonald's' willingness to appear in the game (Herrewijn, 2015), it opened the gates to new forms and attempts to monetize a brand's presence in video games. From then on, and especially around 1982 when the game industry experienced its first boom, advertisers started to experiment novel ways to engage and to leverage this new cultural phenomenon (Vedrashko, 2006). The upsurge of video games popularity and the advertising saturation of conventional media spurred the success of this new communication channel (Küster et al., 2015).

Together with the increase of popularity of advertising in video games, the collaboration between advertisers and game publishers became more and more sophisticated: what started as a simple appearance of McDonald's in *Lunar Lander*, which can be considered a cameo, steadily opened the way to a more intimate partnership between the two parties.

In the early 1980s, several companies came out with different ideas in order to capitalize on this new situation, examples include *Tooth Protectors*, by Johnson & Johnson (Appendix 1a), *Tapper*, born from a collaboration between Budweiser and Bally-Midway (Appendix 1b) and *Pepsi Invaders*, produced by Atari for Coca Cola (Appendix 1c) (Vedrashko, 2006). In these cases, the advertisement was rather static, and the brands were entered in the game as logos or simple names, whilst not allowing much room for personalization.

Despite the collapse of the video game market in 1984, which also declared a halt to game advertisement, by the beginning of the 1990s the industry was already back on its feet, also due to the advent of Nintendo Entertainment System (Skalski, Tamborini, Shelton, Buncher & Lindmark, 2011; Vedrashko, 2006). Together with it, advertising in games entered a new era, as companies explored innovative ways to take advantage of this new surge of video games. One of these was to place a brand's mascot as avatar of a video game: for example, in the game *Treasure Land Adventure*, the players would have to find different pieces of a treasure map by guiding Ronald McDonald's throughout the game (Appendix 1d) (Vedrashko, 2006).

Mascots were not the only news brought to the market: sport games also inserted more and more brand logos as billboards in their video games, which enhanced the realism of the video game as well. At the same time, the game market became gradually conceived as a viable advertising medium (Vedrashko, 2006).

New types of advertisements were tested, not only in terms of formats, but also in terms of contents: in 2008, Barack Obama inserted banners inciting people to vote in many video games, including *Burnout Paradise* (Appendix 1e). The campaign was such a success that he replicated the idea in 2012, for the following presidential elections (Herrewijn, 2015).

The technological advancements of video games together with their increased popularity and the companies' acknowledgment of the value of being advertised in this new communication medium, spurred the development of different types of advertising. The main driver of the surge in advertising in video games was its effectiveness, which was prompted in turn by the specific characteristics of this advertising medium. As a matter of fact, the option to micro-target the consumers, the longer shelf-life of video games and the higher involvement of players compared to other types of digital media (e.g. television), concur in enhancing the reach and the success of advertisement in video games (Nelson, 2002).

Finally, given their engagement nature, video games can be considered as a new form of media practice. The novelty lies in the digital nature of such media, which in this sense can be compared to tv shows and movies which, however, lack the interactive side that characterizes video games (Giddings & Kennedy, 2006).

3.3.1 Classification of game advertising

Although advertising in video games is not a new concept, in the academic horizon there is a lack of a common ground of terminology with regards to such industry, as for example in many occasions the terms 'advergames' and 'in-game advertising' have been wrongly used as synonyms (Smith et al., 2014a). Video games advertising can be classified in three main categories, based on the modality of advertisement and on the purpose of the video game. The classification is laid out in the framework proposed by Smith et al. (2014a) (Figure 2) and it differentiates among *advergames, around-game advertising* and *in-game advertising.* The characteristics of the various types of advertising in video games are outlined below.

Figure 2. *Classification of game advertising*
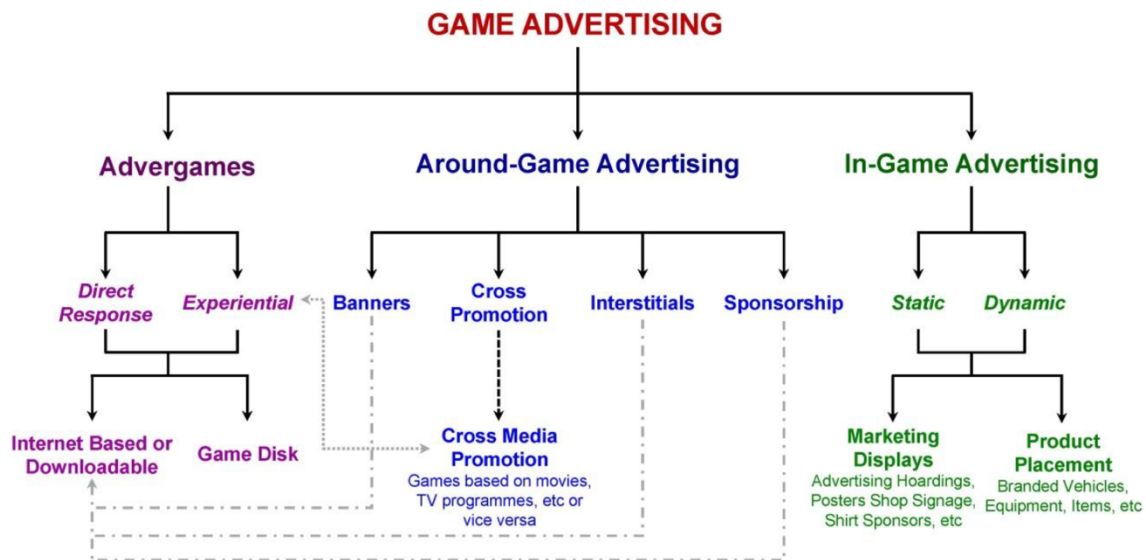
Source: Smith et al. (2014a)

3.3.1.1 Advergames

The term 'advergames' refers to those video games which are designed with the sole purpose of advertising a brand or a product (Edery & Mollick, 2008). This category of advertisement is made to entertain and to persuade potential customers, but it differentiates from the traditional one because it gives the consumer the opportunity to play and interact with the product itself (Lee & Youn, 2008). Advergames are usually less elaborate than other types of video games since their simplicity makes them very easy to distribute across various platforms, such as the company's website or other mobile devices (Edery & Mollick, 2008). Burger King greatly exploited the opportunities created by advergames: in 2006, it released three games, in which the restaurant chain mascot was portrayed in different ways (Appendix 1f). The campaign was a success, as Burger King registered a 40% increase in profits in the quarter the video games were sold (Edery & Mollick, 2008).

The main but not unique objective of an advergame is to deliver a powerful image for the advertised product and brand (Terlutter & Capella, 2013). The advergames with this type of goal are defined by Smith et al. (2014a) as *experiential* and are considered to trigger reinforcing mechanisms, as they are developed to build in customers positive associations with the brand.

17

Although the primary objective of advergames involves transmitting the product features to potential clients, this type of advertising is also used by companies to gather customer information. In many occasions in fact, customers may have to register themselves and share personal information in order to play that game. Such data can thus be used by companies to build better customer segmentation and more precise product targeting, but also to develop specific marketing campaigns (Edery & Mollick, 2008). This category of advergames, together with the one acting as a direct source of revenues for the company, is defined by Smith et al. (2014a) as *direct response*. Given that the end goal is for the client to purchase the advergame, this type of advertising is characterized by a persuasion mechanism (Smith et al., 2014a).

Finally, another classification is laid out, based on the format of the advergame, that between Internet Based Downloadable and Game Disk. In fact, as already mentioned, the lack of complexity of these types of games makes them very easy to distribute across different programs and thus they can be played either on the computer by accessing them through the internet, or through game cartridge or disk (Smith et al., 2014a).

3.3.1.2 Around-game advertising

Around-game advertising is comparable to commercial breaks in tv shows or banners next to articles on websites, as they are not seamlessly integrated in the video game experience (Edery & Mollick, 2008). These types of ads can be placed at any time during the video game experience, before/after the game is played or in between levels, but often times they appear before the game is actually played, for example when it is loading (Smith et al., 2014a).

Its definition suggests where these types of brand advertising are positioned, which is around the gaming experience, not directly in it. Based on this explanation, Smith et al. (2014a) differentiate around-games advertisement in four main categories: *banners, interstitials, sponsorships* and *cross-promotions*. The former group refers to the traditional type of around-game advertisement. In this case, the advertising appears as a sign, placed either in the screen space around the video game, or during stall moments of the video games. It usually includes a hyperlink to another website, in turn containing the information relative to the product or service promoted (Smith et al., 2014a). The display of advertising videos instead is classified as interstitials. Differently, sponsorship consists of displaying product units around the game (Interactive Advertising Bureau, 2010). It also encompasses the situations in which a company sponsors a game or part of it in order to allow free availability of it (Smith et al., 2014a). Finally, cross-

promotion entails a closer partnership between the video games company and the advertised brand, with the aim of reaching a wider share of population (Smith et al., 2014a).

The advent of free online games, with which around-games advertising are often coupled, has heightened the popularity of the latter (Edery & Mollick, 2008). The display of this type of advertising is comparable to other kinds of online media ads, however it is considered to be much more effective since it shows a higher click-through rate (Edery & Mollick, 2008). As Edery and Mollick define them, around-game advertisements are 'easy to implement, easy to scale, and easy to target' (Edery & Mollick, 2008, p. 39).

3.3.1.3 In-game advertising

In-game advertising is defined by Smith et al. (2014a, p. 99) as

'the integration of non-fictional products and brands within the playing environment of video and computer games through simulated real-life marketing communications mechanisms'.

This mode of game advertising can be classified as *static* or *dynamic*. The former includes advertising contents that cannot be altered or removed from the game as they are coded directly into it. Dynamic in-game ads instead are dynamically embedded into games and they can be changed or added in real time and for limited time. This allows ads to directly target end customers and to be customized based on criteria such as gaming behavior, socio-demographic data, regional information and player profile thus creating tailored and flexible brand campaigns (Bardzell, Bardzell & Pace, 2008; Herrewijn, 2015; Smith et al., 2014a). Dynamic in-game advertising was best used by Barack Obama during his 2008 presidential election campaign (Appendix 1e). Several video games included messages (e.g. on billboards in sport games) that incentivized people to vote and that could quickly react to changes in trends (Smith et al., 2014a). Through the years, in-game advertising has increasingly become more dynamic, in order to better match consumers' preferences.

In-game advertising can be further divided in two categories based on the way messages are delivered. First, *marketing displays,* which can be both static and dynamic, can present themselves under different advertising forms, but not as the product itself (Herrewijn, 2015; Smith et al., 2014a). Marketing displays consist of ads with real-world analogs which are advertisements that could also be found in reality (Nelson, 2005). They appear in video games in a video or audio format and are usually shown as background ads. They are one of the most common forms in-game advertising and they are present in video games for example as banners (e.g. posters, billboards), in televisions (commercials and ads shown on TV screens) or

in radio spots, appearing inside the video game (Herrewijn, 2015). They are used to create a greater sense of reality in games, especially if they are set in urban environments, races and stadiums (Nelson, 2005). Secondly, *product placements* refer to the static or dynamic integration of branded and non-fictional products in the video game environment. They can have a more passive and implicit role in the background or a more active one, depending on the degree to which the players are able to interact with it (Appendix 1g) (Nelson, 2005; Skalski, Campanella Bracken & Buncher, 2010; Smith, Williamson, Sun, Mackie & Sutherland , 2014b).

Examples of product placements are branded vehicles (e.g. Audi, BMW, Nissan) which are very common in racing games (Vedrashko, 2006). Furthermore, clothing and apparel are also frequently branded for example in sport games (e.g. Nike, Adidas), but can also be included just to personalize the outfit of the characters within a game. Branded food and drinks are also largely subject to product placements. While some of them are mainly passive and do not have a particular purpose in the game, others play a more active role as they can be consumed and are usually associated with healing or energizing abilities (Herrewijn, 2015; Vedrashko, 2006). For example, in the game *Metal Gear Solid: Peace Walker* products from Pepsi, Doritos and Mountain View are used to help the player regain strength (Appendix 1h) (Herrewijn, 2015). In some video games the use of branded media (e.g. smartphones, computers) helps improving communication in the gaming environment (Vedrashko, 2006). Additionally, branded buildings and stores of real-life brands are also commonly used to create a more realistic gaming environment. Fast-food chains like Burger King or the electronic retailer Best Buy can for example be found in *Need for Speed: Underground 2* (Herrewijn, 2015). Product placement also includes tools and accessories which are either already in the player's inventory or need to be found and activated during the game (Herrewijn, 2015).

Branded game characters can also be incorporated in this category of in-game advertising. They can originate directly from celebrities (both real and fictitious) that star in a game or that decide to endorse it. This practice is widely used for example in sport games with professional sport players as it can be seen in the video game *Tiger Woods PGA Tour* (Appendix 1i) (Herrewijn, 2015). Within the game, the player often becomes the celebrity itself and as such he actively uses products which can be also branded. By having the players to identify with those personalities placed in the game, their likability and traits towards the celebrities can be transferred to the branded products themselves (Nelson, 2005). According to Nelson (2005), using celebrity endorsers is usually a beneficial practice for both the celebrity and the game, but the characteristics of the product or brand should be in line with the image portrayed by the celebrity (Kamins, 1990).

3.3.2 Benefits and drawbacks of in-game advertising

Video game advertising can be considered as a valuable medium for companies to promote their brands and products and it can be advantageous for the various parties involved (i.e. advertisers, game producers and gamers). Especially in-game advertising, the main focus of this study, is characterized by several benefits which can add value to all the participating parties. Some of those are linked to the nature of this advertising media, the video games, and are also shared by other categories of video game advertising. Other advantages instead are strictly correlated to the essence of in-game advertising: its high level of interactivity and embeddedness in the game, unparalleled by around-game advertising or advergames, in fact brings along several benefits for both advertisers and gamers. Despite the potential advantages of such practice, in-game advertising still presents challenges that should be taken into account when deciding to use this strategy.

Benefits of in-game advertising

Advertising in video games can be beneficial for the advertisers, the companies producing the video games and the players themselves for different reasons. First of all, through this medium and because of the increasing popularity of video games, advertisers are able to reach a large and differentiated audience. In fact, video games are no longer targeting young males, but they have become mainstream and thus advertisings are exposed to a wider market (DCF Intelligence, 2011). About 371 million Europeans played video games in 2019, which amounts to almost 50% of the population in Europe (Newzoo, 2019). The global video games market generated revenues for $152.1 billion in 2019, growing 8.8% from the previous year and it is becoming one of the largest revenue-generating segments in the entertainment industry (Newzoo, 2019). Furthermore, with the rise of platforms such as Twitch that allow people to watch (both live and not) videos of other people playing video games, the population that can be reached by video game advertisements is even more impressive. During 2019, the hours of video streamed on Twitch amounted to 11 billion and the platform counted about 3.64 million unique broadcasters each month (TwitchTracker, 2019).

Compared to more established advertising media such as internet, television and print, video games are characterized by some differentiating elements (Chambers, 2005). In fact, they have a long shelf-life and it takes from 10 to about 200 hours to complete a game thus potentially exposing the audience to advertising for a prolonged period of time. Furthermore, the fact that video games can be replayed multiple times, makes them valuable media (Herrewijn & Poels, 2017). Additionally, a high level of attention is required

when playing video games. Compared to other media such as television where it is easier to be distracted or affected by external stimuli (e.g. talking, cleaning, using the Internet), consistent focus in the game is necessary as it has an effect on a player's performance and progress, increasing the players' exposure to the advertisement (Herrewijn & Poels, 2017; Internet Advertising Bureau, 2007). In particular, in-game advertisements are also more difficult to skip or block as they are integrated in the video game environment. While new technological media have made it easier to avoid ads (e.g. streaming services, ad blocking software for web browsers), advertising in games allows brands to promote their products in an environment where people are forced to be faced with them (Chambers, 2005; Herrewijn & Poels, 2017).

Secondly, advertising in video games is beneficial for the companies producing the video games since it provides them with an additional revenue stream that allows them to amortize the cost of developing the video game (Boyd & Lalla, 2009; Herrewijn & Poels, 2017). Finally, by helping to create a more immersive and vivid gaming environment, in-game advertising benefits players and their gaming experience (Herrewijn & Poels, 2017). Though the sensorially rich and realistic environment, video games are able to completely capture the attention of the player (Herrewijn & Poels, 2017; Nelson, 2005).

Drawbacks and challenges of in-game advertising

In-game advertising presents several barriers that should be taken into consideration when determining the potential growth opportunities for brands. First of all, companies using in-game advertisements are exposed to the risk of them being too intrusive for the audience. Those ads can have negative repercussions on both the advertisers and the game companies. Gamers tend to have a protective behavior towards video games, and they may find advertisements annoying and disruptive if they do not fit the context of the game or are used only for commercial purposes and not to add authenticity to the gaming environment. An example of this can be found in *Metal Gear Solid: Peace Walker*, a 2010 action-adventure video game for PlayStation, which is set in Costa Rica during 1974 and which has been highly criticized by players for its shameless in-game advertising. As a matter of fact, despite its context, throughout the game there are several advertisements of Doritos chips, Mountain Dew drinks or Axe body spray, products that were not coherent with the game narrative (Appendix 1h). A wrong use of in-game advertising could indeed result in a negative effect on both the brand advertised and the game promoting it thus affecting sales of both (Herrewijn, 2015; Peterson, 2011).

Furthermore, in-game advertising's effectiveness is highly influenced by several factors related not only to the advertisement itself (e.g. type of brand advertised, ad format, prominence of the ad), but also the player (e.g. gaming experience) and the context within which the ad is placed (e.g. nature of the video game, social setting and the gamer's subjective experience) (Dardis, Schmierbach & Limperos, 2012; Grigorovici & Constantin, 2004; Herrewijn & Poels, 2017; Jeong et al., 2011; Lee & Faber, 2007). Having to take into account those various elements while deciding on the most appropriate and effective use of in-game advertising can be a challenging practice for companies.

3.4 Violence in the media

Despite the controversial effects that violence has on aggression (Kühn et al., 2019), it largely and frequently appears on the media, as advertisers are often enticed by the idea that pairing advertisement with violent content would attract more the consumers' attention and therefore increase advertising revenues (Lull & Bushman, 2015). By compiling a list of the most selling and highest-rated movies and video games between 20009 and 2014 Lull and Bushman (2015) determined that almost 50% of them contained some relevant element of violence.

Although violence in television, movies and video games is therefore often present, a clear and comprehensive definition of violence in the media is still missing. In the context of television and movies, Gunter, Harrison and Wykes (2003) portray the many forms in which violence can appear. For example, violence may be represented when either bodies (e.g. fighting) or other items (e.g. firearms) are used as weapons to attack and hurt other people. In military and war scenarios, the presence of violence may be even more spectacular, through the use of bombs and other explosives (Gunther et al., 2003). In other cases, aggression may be more elusive but, in any way, less distressing, for example in the situations of psychological abuse. Studies have shown how these forms of violence portrayal triggered different effects in the viewers (Gunther et al., 2003).

In the context of video games instead, violence is reproduced through different means. For example, Jeong, Bohil and Biocca (2011, p.1) defines violence as 'realistic description of blood and screams of pain'. Lull and Bushman (2015) instead created a scenario of violent video games by asking the players to run over as many human avatars as possible during the gameplay whilst trying to complete another task. On the other hand, the video games' violent element in the experiment set up by Ravaja, Saari, Turpeinen, Laarni, Salminen and Kivikangas(2008) was reflected by the presence of different guns that the player had to use

in order to complete the game. Additionally, in this experiment, every time an opponent was hurt, he would scream in pain (Ravaja et al., 2008).

3.4.1 Advertising in violent media

When considering advertising in a violent setting, the effects of the previously mentioned forms of violence in the viewers would differ mostly based on the type of media engaged. Given that violent content attracts more attention than the nonviolent one, and that publishers want their advertisements to be memorable to push people in remembering the product and therefore buying it, several companies have attempted to insert their publicity in contexts of violence (Bushman & Bonacci, 2002). The effects of such practices, however, may not be the ones hoped for. Several studies in fact have shown how violence has different effects on advertisement effectiveness: for example, placing a commercial after a violent television program would decrease the memory for the advertisement details (Bushman & Phillips, 2001). Additionally, Wiles and Danielova (2009) found out in their experiment that the placement of brands in movies with violence would decrease the value of the product placement. The negative emotions triggered by the presence of violence could in fact be associated with the brands present in the movie (Wiles & Danielova, 2011). Moreover, the appearance of the brand in a violent movie could push consumers to think that the company portrayed approves the violent content shown (Wiles & Danielova, 2011).

The same indecisive effect of advertisement in television can also be found in video games. Several studies have shown that companies may overestimate its effectiveness and overlook a potential negative impact on their advertising efforts. One of the causes of this effect lies on the fact that the memory for the advertised brands (measured in terms of recognition and recall) is decreased in such games, in part due to the arousal effect of violence which attracts attention towards itself (Yoo & Peña, 2011).

Yoo and Peña's study (2011) depicts the effects of violent cues on brand attitude, recall and recognition and purchase intention toward advertised products. The authors predicted that playing a video game with violent cues would impair the brand recall and recognition. The player's focus in fact would be monopolized by the violent content, as it attracts more attention than the nonviolent one. Additionally, due to the fact that people's attention capacity is limited, the cognitive capabilities that they would need to process the advertisement would be even more impaired (Yoo & Peña, 2011). Additionally, the negative associations coupled with the violent cues would drive a more adverse brand attitude and purchase intentions. The authors of the study established that the players would either play the video game on a violent mode or on

a nonviolent (cueless) alternative. The violent cues included elements such as avatars holding guns and rooms covered in blood. The results from the experiment showed that brand memory was lower for the participants playing the video game in the violent mode. Although there was no significant difference regarding purchasing intention, also the effect on brand attitude was negative when violence was involved (Yoo & Peña, 2011).

Contrasting results were reached instead by Jeong et al. (2011), who explored the implications of the presence of violence in video games, which impacts both the sense of presence and the players' level of arousal. In turn they have different effects on brand logo memory, awareness and brand attitude. The results of the experiment showed that on one side the arousal from the video game would improve brand attitude but leave unaffected brand logo memory. On the other side, the sense of presence would increase the memory for the brand but would drive a negative change in brand attitude (Jeong et al., 2011).

The previous studies have shown how the effect of violence in video games on brand recognition and attitude can be conflicting. Together with the contrasting results obtained in Jeong et al.'s study (2011), additional confutation to the positive effect of violence on brand memory comes from Lull, Gibson, Cruz and Bushman (2016), which underlie the fact that in their experiment, Jeong et al. (2011) made sure that the violent cues (blood stains) were placed directly on the brands' logos. Lull et al. (2016) therefore suggest that the results of Jeong et al.'s study (2011) are biased, because the violence drew the players' attention to the advertisements. On these grounds, Lull et al. (2016) build their work: they suggest that the contrasting results of in-game advertising effects on brand memory from previous studies is caused by the different placements of brands in video games. Inserting into their experiment the control factor of peripheral and central product placement would help isolating the effect of violence on advertisement effectiveness. Thus, the authors decided to test the experiment in two different video games, which also differentiated the brand placement, which was either peripheral or constantly in the players' sight when playing the game (Lull et al., 2016). The participants of the study were randomly assigned to play either violently or not. The results show that, despite the differences in brands placement, in all experiments playing the video games violently would decrease brand memory, both in terms of recall and recognition (Lull et al., 2016).

Several studies have therefore explored the effects of in-game advertising in violent context on brand recall, recognition, attitude and purchase intensions. Although such measurements cover a great portion of a customer journey, from getting to know the product to actually buying it, previous research has failed to analyze the causal effectiveness of in-game advertising in violent video games. In particular, violence has

not been used to study the effect of in-game advertising on the interactions of the above-mentioned elements, which all concur in building a company's brand equity.

3.5 Brand equity models

The concept of brand equity refers to the added value with which a brand endows a product (Farquhar, 1989). Brand equity plays a role in the sustainable competitive advantage of a company as it helps creating a barrier against competitive attack, developing brand leverage to other products in the market as well as decreasing its vulnerability in difficult times (Farquhar, 1989).

Several studies have discussed brand equity from different perspectives (Aaker, 1991). According to Baalbaki (2012), brand equity can be analyzed through a financial, employee or customer perspective. The financial-based brand equity model focuses on quantifying the financial value of brand equity within a firm (Thuy et al., 2013) and it can be defined as 'the incremental cash flows which accrue to branded products over and above the cash flows which would result from the sale of unbranded products' (Simon & Sullivan, 1993, p. 29). Differently, the employee-based brand equity perspective views employees as important resources for the brand success of a company (de Chernatony, 1999) and defines brand equity as 'differential effect that brand knowledge has on an employee's response to their work environment' (King & Grace, 2009, p. 130). The last perspective instead, as the name suggests, measures brand equity based on an external point of view, that of the client. In particular, Aaker (1991, p. 15) defines brand equity as the 'set of assets and liabilities linked to a brand, its name and symbol, that adds to or subtracts from the value provided by a product or service to a firm and/or to that firm's customers'.

This thesis focuses on the customer-based brand equity (CBBE) perspective because the intent of this work is to measure the effects of customers' responses on brand equity of ads placed in violent video games. Within the customer perspective, two models are considered the most relevant in order to assess brand equity, Aaker (1991) and Keller (2008)'s. The two models, despite viewing brand equity form a customer's perspective, present several differences.

Aaker's (1991) brand equity model is characterized by five sources of value creation, namely: brand loyalty, brand awareness, perceived quality, brand associations and other proprietary brand assets (e.g. patents and trademarks). These various elements represent different and separate means through which a company can create brand equity (Aaker, 1991; Ovidiu, 2005). Aaker underlines the importance of brand loyalty as it creates brand equity whilst keeping marketing costs low. In fact, it is cheaper to maintain existing customers

than to attract new ones. Moreover, it is more difficult for competitors to win customers who are loyal to another brand, as they are probably already content with the services or products they are buying. In Aaker's model, the spectrum of brand awareness goes from recognition to recall: the former refers to the degree of familiarity a person has with the characteristics and qualities of the company portrayed. Recall instead identifies the situation in which a person is reminded to that brand when one a brand usage situation arises, and thus describes a greater degree of brand awareness. The power of perceived quality in Aaker's model relies on the fact that it differentiates a brand from its competitors in the eyes of the consumers. Brand associations is an equivalent to brand image and it refers on the attributes, qualities and usage situations linked to a product. Finally, brand assets encompass the proprietary assets such as trademarks and patents which also differentiate brands amongst one another and can be a source of competitive advantage (Aaker, 1991; Ovidiu, 2005). Whilst the last four factors of Aaker's brand equity model are usually only seen as inputs and sources of brand equity, brand loyalty can also be the result of such four elements and be influenced by them (Aaker, 1991; Ovidiu, 2005). All of these assets together provide value to both the customer and the firm and create a competitive advantage.

Keller's model instead is represented as a pyramid made of several building blocks, namely salience, performance, imagery, judgment, feelings and resonance. Compared to Aaker's model, which identifies various inputs of brand equity, Keller shapes a sequential structure towards the creation of brand equity. Salience is at the bottom of the model and, in order to reach resonance, companies therefore have to go through the other steps in this framework (Keller, 2008). These building blocks have several similarities with the elements pointed out by Aaker: brand salience corresponds to brands awareness, whilst performance and imagery reflect the degree to which the brand is able to satisfy the consumer's needs (Keller, 2008). Judgment and feelings instead depict the mental connections coming up in the consumers' mind when they think of that brand and thus exhibits people's evaluation and opinions on the brand (Keller, 2008; Schlegelmilch, 2016). Finally, resonance indicates consumers' closeness and loyalty to that brand (Keller, 2008).

As shown above, all of the elements in the Keller model are therefore strictly consumer related. Aaker's model instead (1991) also includes the definition of customer-based brand equity other proprietary brand assets, which cannot directly be traced back to customers' response. Additionally, Aaker (1991) gives extensive weight to brand loyalty. In fact, this is not only one of the dimensions of brand equity but is also affected by the four other elements of the model. The particular relevance given to brand loyalty, which would be difficult to measure in the present study, and the fact that Aaker's model includes a dimension

that does not stem directly from customers' response, push the authors to lean on Keller's customer-based brand equity pyramid for this thesis.

3.5.1 Keller's CBBE pyramid

As previously mentioned, in the CBBE model, brand equity is viewed from the lenses of the consumer. From this definition, brand equity relies on the brand's image in the mind of the customer (Keller, 2008). In particular, Keller (2008, p. 48) defines customer-based brand equity as 'the differential effect that brand knowledge has on consumer response to the marketing of that brand'. The three main elements of this definition are: *differential effect, brand knowledge* and *consumer response to marketing*. The first one refers to the fact that brand equity arises if customers have different reactions based on the brand involved. A differential response originates only when the customer has already experienced that brand, thus underlining the importance of brand knowledge. Finally, consumer response to marketing alludes to the fact that the development of a consumer's opinion of a brand resides in the marketing efforts of that company.

Brand knowledge is particularly relevant as it is the first trigger in setting off the differential effect which in turn is the main building block of brand equity. Based on the *associative network memory model* (Srull & Wyers, 1989) which identifies memory as a network of nodes and links, brand knowledge can be classified in *brand awareness* and *brand image*. The former depends on the ease with which a consumer is able to identify a brand in different situations, and can be divided in *brand recognition* and *brand recall* (Figure 3). Brand image instead relies on the consumers' perception of the brand in terms of associations.

Brand recognition is the consumer's ability to acknowledge having seen the brand when exposed to it. Differently, brand recall relies on the consumer's capability of recollecting a brand from memory when triggered by a product category to which that brand belongs to (Keller, 2008). Based on the type of cues, brand recall can be differentiated between unaided and aided. While the former does not provide cues, the latter relies on cues to help the consumer recall (Keller, 2008).

Brand awareness is created when a consumer's familiarity with the brand is increased through repeated exposure. Familiarity can be achieved by repetitively exposing that brand's product to a consumer, ultimately increasing recognizability, which however is only the first step in developing brand awareness. The second step involves enhancing brand recall, which is reached when a company is able to create a strong category link in a consumer's mind through their own product.

Figure 3. The building blocks of brand knowledge
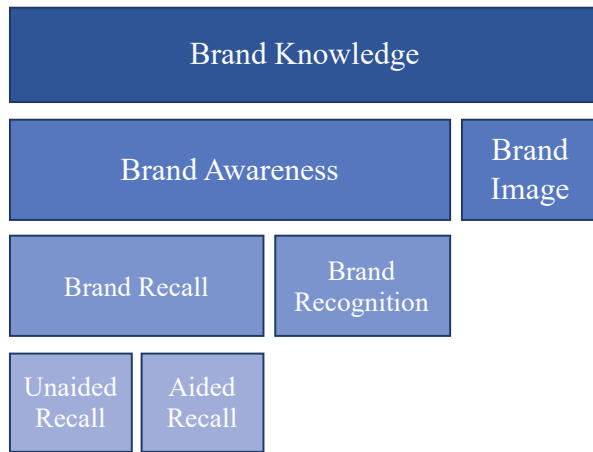
Source: adapted from Keller (2008)

Once the first step in building brand equity is achieved, the next goal for a company would be to create 'strong, favorable and unique associations to the brand in memory' (Keller, 2008, p. 54). Although brand awareness in some cases can be enough to constitute brand knowledge, generally a strong network of brand associations is required in order for the brand to prompt a relevant differential effect. Brand image thus incorporates those associations that exist between a product and a set of attributes that the company wants the item to convey. This type of associations can arise from a variety of different marketing efforts and marketers should therefore be aware of how all of them influence brand image, given that brand associations are based on personal relevance and exposure consistency (Keller, 2008).

Keller (2008) converges these concepts in the CBBE pyramid model (Figure 4), depicting the six steps that a company should achieve in order to build brand equity.

Salience represents the foundation of the model and corresponds to the awareness of the brand. *Performance* and *imagery* instead reflect the extent to which a product's attributes are able to satisfy the extrinsic and intrinsic needs of consumers. Moreover, *judgments* and *feelings* depict the degree to which consumers' personal and emotional responses are moved by that brand. Finally, *resonance* describes how close is the relationship between the consumers and a brand.

The model is built so it depicts the sequential nature of the steps: in fact, for example resonance cannot be reached without the company having achieved a strong brand salience. Additionally, different paths can be followed in order to reach the highest point of the pyramid: the left-hand side represents a more rational

route, whilst the right one depicts the emotional side, although following one route does not exclude also pursuing the other (Keller, 2008).

Figure 4. Keller's customer-based brand equity pyramid

Source: adapted from Keller (2008)

Brand salience

Brand salience corresponds to brand awareness, because they both measure how easily and frequently a brand comes to mind to consumers in different situations (Keller, 2008). A salient brand means that the company was able to achieve high awareness in the consumers' minds which can be measured in two main dimensions. On one side, awareness depends on the *depth* defined as the frequency and ease with which a consumer recalls that brand. On the other side, *breadth* of salience is also relevant as it corresponds to the number of different occurrences in which a brand is remembered when different usage situations arise. Given that brand salience is equivalent to brand awareness, the former can also be divided in the previously discussed recognition and recall (Keller, 2008).

Brand performance

Brand performance measures the extent to which the product is able to satisfy the consumers' functional needs. This aspect is crucial because the more a product is capable of exceeding customers' expectations, the greater the brand loyalty and resonance. Brand performance can be expressed in different dimensions, namely: primary ingredients and supplementary features, product reliability, durability and serviceability, service effectiveness, efficiency and empathy, style and design and price (Keller, 2008).

Brand imagery

Whilst brand performance measures the extent to which product attributes are able to satisfy consumers' functional needs, brand imagery attempts to meet the customers' social and psychological needs. This is achieved when the product's extrinsic properties form associations in the consumers mind, through advertisement or word of mouth. This dimension therefore covers the intangible aspects of a product and thus the brands. There are four different types of associations that can form in the consumers' mind: one of them is related to user imagery, that is the customers' idea of actual or aspirational users (Keller, 2008).

Associations can also relate to the conditions or situations in which the product should be used. A brand personality can be built through numerous marketing activities by showing the product in different situations; the inferences made by customers ultimately form the brand personality. Finally, a brand can be associated with its history and past experiences, such as the color of its package or the type of shop where it is sold (Keller, 2008).

Whatever type of association the company decides to build, it should keep in mind that, in order to create brand equity, this should hit the three main dimensions, namely strength, favorability and uniqueness (Keller, 2008).

Brand judgment

Brand judgment corresponds to the consumers' personal opinion and evaluations of a brand and is shaped by brand performance and imagery. The four main types of judgments are *quality, credibility, consideration* and *superiority.* Quality refers to the specific attributes of the brand and constitutes the attitude of a customer towards that brand. Credibility instead measures the degree to which a consumer deems trustworthy the company or organization behind the brand. The third component, consideration, reflects

how likely it is for a consumer to buy a product from that brand. Finally, superiority measures how superior a brand is compared to another one (Keller, 2008).

Brand feelings

This dimension relies on the emotional responses and reactions to the brand that are triggered by the product consumption or use. Although the amount of feelings evoked is rather important, their nature is considered the most relevant: brand feelings in fact can build brand equity only if they are positive, otherwise they could harm the company. Warmth, fun, excitement, security, social approval and self-respect are the most relevant types of brand feelings (Keller, 2008).

Brand resonance

The last building block of brand equity is brand resonance: this dimension reflects how much consumers feel close to that brand. The degree of brand resonance can be measured by four different categories, namely *behavioral loyalty, attitudinal attachment, sense of community* and *active engagement.* Behavioral loyalty reflects both the quantity of the brand the consumer buys and the frequency of such purchases. The second category instead shows the degree of consumers' willingness and pleasure in owning a product from that brand. Thirdly, the extent to which a consumer feels he belongs to that brand community determines the sense of community. Lastly, when consumers are willing to invest money and efforts in the brand other than the ones expected during product use, the brand is said to have reached active engagement (Keller, 2008).

Despite the decision to use the CBBE pyramid developed by Keller (2008) to examine brand equity, it must be acknowledged that the framework can present limitations. Although the model in fact depicts the various elements creating brand equity, when applied in a pragmatic study such as the one represented in this thesis, it could result impractical. In order to address such limitation, the model is therefore operationalized in Chapter 4.

3.5.2 Advertising and brand equity

Given the purpose of this work, the concepts of advertising and branding are very closely related, although they may not be defined as interchangeable.

Traditionally, the main objective of advertising encompassed the acquisition of new customers and the increase in sales. Copley (2014) in fact illustrates that one of the main goals of this type of communication tool the ability to persuade and thus create desire for a product or a service in the consumers, and to inform the potential customers of the attributes of such good.

On the other hand, branding is defined as 'the process of endowing products and services with the power of a brand' (Kotler, Keller, Brady, Goodman & Hansen, 2016, p. 423). Thus, branding refers to the creation of the idea of a brand that is then perceived by the customers (Copley, 2014). This marketing activity describes all the efforts that a company undertakes in order to develop and nourish a brand's intangible assets, in pursuance of brand memorability in the customers' eyes and differentiation from competitors. Branding hence represents one of the ways that advertising can use to reach its goal, but the two strategies are not synonyms.

Advertising and branding are closely related to each other: in order to persuade customers into buying their products, advertising can in fact rely on a brand image that is close to that of the potential buyers (Copley, 2014). This brand identity can in turn be developed and sustained by targeted and prolonged advertising campaigns. The concept can be applied also to the whole concept of brand equity. A strong brand equity can in fact improve the advertising effectiveness, as consumers may be more prone to receive and process the message they get from advertising if they have a high opinion of the brand (Keller, 2007). Brand equity is established when customers develop and internalize knowledge of the brand: this information in turn can be conveyed to customers via advertising practices (Keller, 2007).

In this work, branding is considered as one of the advertising practices. As such, advertising can have different effects on a company's brand equity. Keller (2007) linked the effect of advertising to the various components of his CBBE model, by underlying the relevance of the advertisement role in developing and affecting each of those elements. Usually, depending on the nature of the advertisement, the levels affected by this type of strategies would be different. In general, in fact, traditional advertisement would impact the bottom elements of the pyramid, whilst more novel and consumer-adapted types of advertisement would have an effect on the higher portion of the framework. However, this does not preclude one type of advertisement to have effects on different stages of the pyramid, as it can influence several blocks of the

model at the same time. These results in turn are not strictly linked to the practice of brand building since advertising can also have a direct impact on consumers' action and initiatives, by spurring the product purchasing and repeated buying (Keller, 2007).

The goal of advertising is thus not restricted to creating brand equity through mental processes, but also encompasses the proactive action of consumers buying that brand. Compared to other types of advertising, however, media advertising has the disadvantage that the exposure to it and the purchase occasion are two separate events, both in terms of space and time. Therefore, the media advertising strategy has to be able to convey the most important characteristics of the brand to the consumers and make sure that they stick in the customers' mind, so that they are able to recall the brand when the purchasing situation arises (Keller, 2007).

In this work, advertisement is analyzed in its role of building brand equity. Therefore, the advertising theories that are outlined are used for branding purposes.

3.6 Limited capacity model

The limited capacity model is one of the theories used by academics when grounding the research on in-game advertising, especially when violent media is involved (Herrewijn, 2015). The theory was developed by Lang, and it has been used in several studies to justify the decrease in brand memorization of advertisement placed in violent media (Jeong et al., 2011; Yoo & Peña, 2010). The limited capacity model of mediated message processing predicts the effect of mediated messages on the people (Lang, 2000).

There are two main assumptions underlying this model. The first one relates to people, which are considered to be information processors. The process of handling new information consists of different steps: the first one involves perceiving the stimuli, which are then transformed into mental representations. Subsequently, the people do some mental work on the latter in order to finally reproduce them in a new form. The second main assumption of this model concerns people's capacity to process information, which is limited (Lang, 2000).

The information processing involves three different subprocesses, which can happen simultaneously, namely *encoding, storage* and *retrieval*. The former one depicts the process through which a message is translated from the environment into a person's brain. The second one instead refers to the linking of memories with new information. Ultimately, the latter describes the procedure through which a piece of

information is first searched and then reactivated (Lang, 2000). Given the notion that resources are limited and that they are individually allocated to the subprocesses, the effectiveness of the information processing can be altered if not enough resources are spent for each task. This may happen either because each of the subprocesses requires more resources than available or because the person allocates too few of them (Lang, 2000).

This model has significant implications regarding the effectiveness of in-game advertising. First of all, it predicts that if there is an excess of stimuli during the game since the players' recall capabilities of the brands advertised diminish as the individuals' capacity is limited (Lee & Faber, 2007; Terlutter & Capella, 2013). The high degree of interactivity and involvement of video games can in fact move the players' attention away from the advertisement since the majority of their cognitive resources would be spent towards the primary activity (i.e. playing the game). Given that their focus would be monopolized by the gameplay, less resources would be available towards processing the advertisement in the game (i.e. secondary task). The processing of the secondary task information would thus be neglected, at the expense of the effectiveness of in-game advertising (Herrewijn, 2015; Lang, 2000; Lee & Faber, 2007; Terlutter & Capella, 2013).

In terms of violence, the limited capacity model predicts that violent video games would impair advertisement success, mainly for two reasons. Firstly, because violent media attracts more attention than nonviolent one (Lang, Newhagenn & Reeves, 1996). Secondly, the presence of violence is more arousing than its absence, which in turn occupies even more the perceiver's cognitive resources and drives the perceiver to focus attention on the primary information (Yoo & Peña, 2010). The arousal caused by the violence would thus drive players to oversight secondary information, such as advertisement, ultimately resulting in a lower degree of advertised brand memory (Jeong et al., 2011; Yoo & Peña, 2010).

3.7 Excitation transfer model

Another theoretical model that should be taken into consideration when discussing the impact of in-game advertising in violent video games is the excitation transfer theory (Zillmann, Katcher & Milavsky, 1972).

The findings suggest that a state of emotional arousal or physiological excitement originating from a situation can transfer to a subsequent one (Mitchell, 2014; Zillmann et al.,1972).

The theory is based upon the fact that arousal from the early stimulus may be retained for a prolonged period of time. Furthermore, later stimuli do not have to be connected to the previous one for them to occur and the extent to which they amplify is based on how large the residual arousal evoked from the previous stimulus is (Jeong, 2011; Zillmann, 1990, 2006). After a situation evoking high arousal, the latter declines at a relatively slow pace and some residual arousal is retained. At this point, individuals may misattribute the residual excitement from their previous event to the current one (Mitchell, 2014). A common example of this theory can be found in horror movies. If, during a particularly scary scene, a book falls from a bookshelf, the individual watching the movie gets terrified due to the excitation transfer theory. If instead the book fell in a normal situation, the individual would be slightly unsettled, but the reaction would still be much more contained (Mitchell, 2014). Additionally, the emotional arousal originating in the nervous system does not differentiate between positive or negative. For example, highly positive arousal in a movie could be illustrated by the birth of a child, while murder could be seen as negative. As long as there is a high level of arousal in a situation, independently from its nature, it transfers to the subsequent scene (Mitchell, 2014).

This theory can be examined also in relation to advertising. Particularly, Singh and Churchill (1987) studied excitation transfer theory in connection to television programmes. They found that the arousal evoked by television programmes can be transferred to the television commercial embedded in the programme and have an impact on the attitudes and behaviors towards the brand advertised (Singh & Churchill, 1987). When watching a particularly funny scene in a television programme and a branded product (e.g. can of Sprite held by one of the characters) appears on the screen, the arousal evoked by the hilarious scene is transferred to the product. The attitude towards the brand would then improve if it was already positive before viewing the product placed in the programme (Mitchell, 2014). Differently, when placed in a sequence with little arousal (e.g. boring), the attitude towards the product would not change since the level of arousal is low (Mitchell, 2014). This finding was supported also by McGrath and Mahood (2004) that found that television advertisements placed immediately after a program considered highly arousing, received stronger attitudes from the viewers (McGrath & Mahood, 2004; Mitchell, 2014).

The excitation transfer theory was also confirmed in the context of violent video games by Jeong et al. (2011). As a matter of fact, they found that the increase in arousal evoked by violent video games was connected with a more extreme attitude towards the products and brands that were part of the gaming environment (Jeong et al., 2011; Mitchell, 2014). For the purpose of this thesis, the authors use the excitation transfer theory to study whether arousal originating from violent contents in video games can be transferred to brands placed within the gaming environment and affect the individuals' opinion of them.

3.8 Hierarchy of effects

The hierarchy of effects model has been often used to measure the effectiveness of advertisement and to predict consumer behavior, as it describes the steps of how consumers process information (Yoo et al., 2004). Although the concept of the hierarchy of effects has been material of discussion for over a century, researches agree on the fact that consumers' processing of advertising information follows three steps when they are exposed to it: these stages are *cognitive* (thinking), *affective* (feeling) and *conative* (doing) (Percy & Elliott, 2009; Wijaya, 2012; Yoo et al., 2004). These steps describe the mental process that consumers go through, starting from the lack of acknowledgment of a product's existence to the actual purchase of it.

The *cognitive* stage describes the first step of this process and in particular how consumers become familiar the product and the brand that is being advertised (Cauberghe & De Pelsmacker, 2010). It also refers to the more rational sphere of beliefs and thoughts that people have towards the brand (Barry & Howard, 1990; Wijaya, 2012). The second stage instead concerns the emotional side of the consumers' response to the advertisement, as they develop emotions and feelings towards the brand, and attitudes towards it are formed (Cauberghe & De Pelsmacker, 2010; Percy & Elliott, 2009). Differently from the former stage, where consumers gather information about the brand in a facile and effortless manner, *affection* arises only when the need for an evaluation emerges (Cauberghe & De Pelsmacker, 2010). Finally, *conation* depicts the action of this process, as it describes either the willingness to buy or the actual purchase of the product (Wijaya, 2012).

Fundamentally, research agrees on the fact that consumers go through these different stages in an orderly manner, implying a causal relationship between the three stepàs (Yoo et al., 2004). In their view, consumers in fact have to become aware of the brand or product before they form an attitude towards it. After they have become acquainted with the product features and characteristics, they can decide whether they should buy it or not (Cauberghe & De Pelsmacker, 2010). The sequentiality of the steps however is a source of disagreement amongst researchers. For example, the *low involvement hierarchy* concludes that consumers buy a product as a consequence of repetitive exposure to the advertisement, and it is thus not prompted by the attitude formation towards that brand. In this view, the order of the steps is therefore as follows: cognitive – conative – affective. Alternatively, the affective – conative – cognitive sequence predicts that the action of purchasing is induced by a consumer's orientation towards the product, not by the more rational stimulus. This second view of consumer behavior falls under the category of *experiential hierarchy* (Cauberghe & De Pelsmacker, 2010).

This thesis focuses on the cognitive and affective stages of the hierarchy of effects model, given that the goal is to analyze the impact of in-game advertising on brand equity in violent video games. The purchasing action of the brands that are advertised in the experiment described in the conative stage cannot be examined in this thesis, even though the purchasing intention is analyzed, together with the effects on the other stages of brand equity formation.

3.9 Conclusion

One of the goals of the chapter was to circumscribe the area of focus that is studied in this work, by defining the various elements that are be used in the following analysis. Violence in media, with relevance to video games, has been defined as the portrayal of guns, blood or other weapons (including body parts) used to hurt and hit other people. Depiction of these situations are thus defined in the study as violent images.

With regards to advertising in video games, a line separating and differentiating the various practices has been drawn: advergames and around-games advertising depict situations in which either the video games is developed with the unique goal of publicizing a product, or advertising is placed outside of the gaming environment. In-game advertising instead embodies the use of advertising deeply embedded into the video game, as marketing displays or as product placements.

Furthermore, this thesis focuses on the customer-based perspective of brand equity and through the use of the Keller's CBBE pyramid, brand equity has been depicted as a pyramid made of the different building blocks, namely salience, performance, imagery, judgment, feelings and resonance. Additionally, the difference between the concept of branding and advertising has been defined, whilst underling that in the context of this study theories related to branding are used for analyzing the impact of advertising.

Finally, several theories have been described in order to explain the effect of displaying violence in video games. Firstly, it has been showed that portraying violence in the media causes an increase in the viewers' arousal level. This has an impact on brand equity through brand awareness and brand attitude. In fact, the escalation of arousal provoked by the presence of violence would also have an effect on brand awareness. Due to the limited capacity theory, people's mental capabilities would be absorbed by the violence in the media and the interactivity of the video games, thus leaving little capacity to the processing of advertising. Secondly, violence would also impact the upper levels of the brand equity pyramid. The excitation transfer model clarifies that portraying violence in the media causes an increase in the viewers' arousal level, which

in turn makes the individuals less neutral to the advertising in video games. Lastly, the hierarchy of effects shows how the consumers process the information from advertising.

Given that no framework has been developed to study the impact of in-game advertising over brand equity in a violent context, a conceptual framework is built based on the theories outlined above.

4. Framework development

This chapter focuses on building a framework that is going to be used to analyze the effects on brand equity of in-game advertisements in a violent context. The chapter is divided in two parts: firstly, it tackles and reviews the framework previously selected that is exploited in order to study the impact on brand equity. Secondly, the effect of in-game advertising on brand equity is addressed, by narrowing down the factors that play a role in shaping brand equity and analyzing the mechanisms behind these processes.

In the first part of the chapter, brand equity is investigated by relying on the CBBE pyramid developed by Keller, which identifies brand salience, performance, imagery, judgment, feeling and resonance as the focal building steps that a company has to follow in order to build brand equity. The framework identifies the main points of analysis of brand equity in a theoretical context, however the need in this study to specify how each of these factors is measured, pushes the authors for a more practical approach to the analysis of brand equity. The first step therefore entails the operationalization of the Keller model, in order to better adapt it to the purpose of the work.

The subsequent section of the chapter discusses the need for the development of a new framework to capture the effect of in-game advertising on brand equity. Previous research has in fact identified many of the factors that play a role when measuring the effectiveness of in-game advertising, for example studying the impact on brand awareness, attitude and purchase intentions. Despite these studies, few of them have analyzed the comprehensive influence of in-game advertising in a more complete framework. Little attention has been placed on the impact of in-game advertising on brand equity. Thus, starting from a framework developed by Terlutter and Capella (2013) which collects the findings from other studies and identifies most of the elements related to the efficacy of in-game advertising, the authors proceed by selecting the factors that have the largest impact on the effectiveness of in-game advertisement. Additionally, given the context of the study, the authors examine the effect of violence in the video games. After identifying the main factors that have an effect on brand equity, each of them is further evaluated in order to understand which level of the pyramid it affects. The linking of these factors to the operationalized CBBE pyramid is achieved by creating various hypotheses that are going to be tested later in the work.

4.1 Operationalizing the CBBE pyramid

In order to better examine brand equity, the authors decided to operationalize Keller's CBBE pyramid. Through this practice, they aim at making the framework more practical and easier to use. To achieve this objective, five dimensions, namely awareness, association, attitude, attachment and activity, are introduced. The so called '5 As' are extrapolated from Keller's brand value chain (Appendix 2), an approach to determine the sources and outcomes of brand equity and how brand value can be improved through marketing activities (Keller, 2001, 2008; Schlegelmilch, 2016). Within the brand value chain proposed by Keller (2008), the '5As' constitute the five dimensions affecting the customer mind-set stage which focuses on the customers' knowledge and feelings about a brand. Those five factors are assigned by Schlegelmilch (2016) to the various levels of the CBBE pyramid and are going to be used by the authors to understand the impact of in-game advertising on brand equity in violent video games (Figure 5).

Figure 5. *Operationalization of Keller's CBBE pyramid*
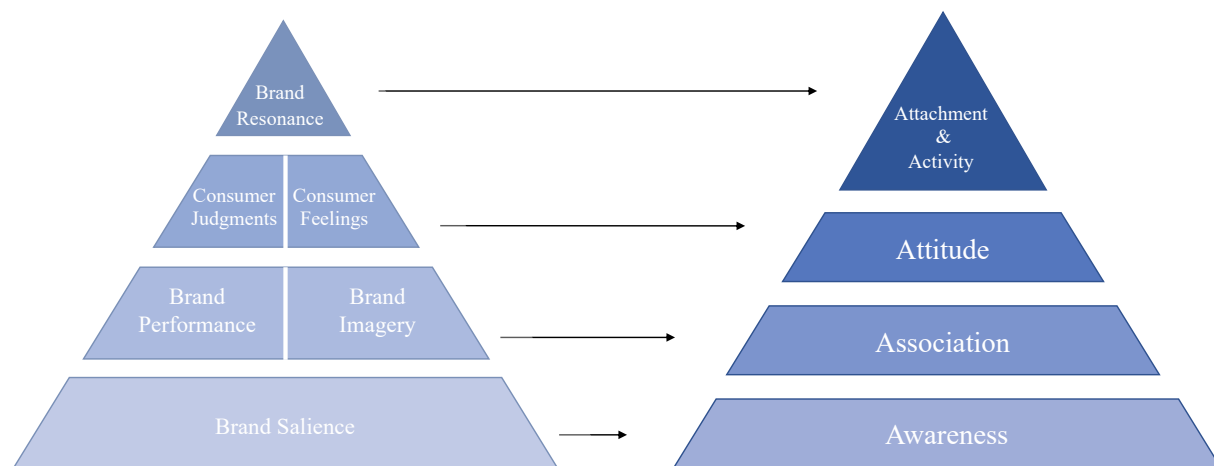
Source: adapted from Schlegelmilch (2016, p. 156)

Starting from the bottom of the pyramid, *awareness* is associated with brand salience. It reflects how easily and frequently customers can recall and recognize a brand and are able to identify the products and services associated with it (Keller, 2008). In other words, brand awareness indicates how strong is the memory of

the brand for the customer (Keller et al., 2012). A brand tends to receive more consideration during the purchasing decision if its salience is high (Schlegelmilch, 2016).

Moving up to the next level of the pyramid, *association* is related to both brand performance and brand imagery. It is connected to the perception of benefits and attributes for the brand and the extent to which they are unique to the brand, favorable for the customer and strong in positioning the brand. Associations should represent the brand value proposition and the attributes of the brand and the extent and favorability with which they are assessed by the consumers (Keller, 2008; Sesselmann, 2016). Thus, this step of the model identifies the consumers' perception of the brands' characteristics.

On the third level of the pyramid, *attitude* is instead associated with both customer judgments and customer feelings. This dimension is concerned with evaluating the brand based on its quality and the customer satisfaction it creates (Keller, 2008).

The top of the pyramid includes *attachment* and subsequently *activity* and they are connected to consumer brand resonance. Attachment represents the extent to which customers are loyal to the brand, while activity refers to how much customers use the brand, inform themselves and talk about it (Keller, 2008). In this study, the analysis of brand activity is limited to the customers' purchasing intentions since it would be not possible to track the purchasing behavior of the participants in the study carried out by the authors.

As shown in Figure 5, the second and third level of the pyramid incorporate both the emotional and rational building blocks together. As a matter of fact, the reason behind the use of the five factors (i.e. the '5As') is to examine the overall impact on associations and attitudes without focusing on the specific elements composing the main brand equity steps. When analyzing the effect of in-game advertising on brand equity in the context of violent video games, the ads that affect every of the listed dimensions can be considered to have the largest impact. From here forward, when mentioning the Keller's CBBE pyramid the authors refer to the operationalized version consisting of brand awareness, association, attitude, attachment and activity.

4.2 Conceptual framework

This section of the chapter focuses on building a framework that can be used to analyze the brand equity effects of advertised brands, where violence is portrayed. This framework has been developed given the

lack of an existing one capturing such end results. On one side, in fact previous research has studied the factors affecting effectiveness of in-game advertising. Some researchers have attempted to gather all the elements regarding the type of advertisement, the category of the game and other individual players' characteristics that would impact in-game advertising effectiveness, but they have not been analyzed in depth or in relation to each other (Terlutter & Capella, 2013). On the other side, some authors have identified the theories behind the impact of violence on brand recall, recognition and brand attitude (Lull & Bushman, 2015), but they have never been related to brand equity in a comprehensive manner.

The starting point of the framework is the model built by Terlutter and Capella (2013). In their study, they gather the various elements from previous literature that have been found having an impact on advertising in video games (Appendix 3). These factors are then divided in three main categories: *characteristics of the brand and game*, *individual factors of the player* and *social factors*. Those three categories affect first the *psychological responses* to the brand and the game which refer to the cognitive, affective and conative mechanisms previously illustrated by the hierarchy of effects (Section 3.8). Through those psychological responses, the three categories proposed by Terlutter and Capella (2013) eventually have an impact on the *behavioral outcome* towards the brand and the game (e.g. choosing to purchase or recommend a brand).

The characteristics of the brand and game gather all the variables that are strictly related to either of the two. This category therefore includes variables such as the genre of the game, the type of technology used in it (e.g. 2D, 3D), the device on which the game is played, the type of advertisement present in the game (e.g. in-game advertising, advergames).

Individual factors concern the characteristics of the players (e.g. maturity, gaming experience) and their attitudes towards the brand and advertising in general. They also include elements that are related to their personal perception of the brand and of how familiar they are with it.

Social factors refer to those external elements that affect the individual while playing a video game. Those include possible social interactions that might occur during the game, but also more generally the influence of the surrounding community and culture. Given the characteristics of the social factors, this category is excluded from the framework developed by the authors as it does not focus solely on the game, the advertisement and the player, but on the whole environment surrounding them. As a comprehensive and accurate analysis of this dimension would not be possible to carry out thought this thesis and given that it does not lie in the focus of this study's purpose, the authors decided to exclude it altogether.

By circumscribing the aforementioned framework to the focus of this study, it is possible to identify a concise list of factors that would be particularly relevant in the context of this work. From the two categories – characteristics of the brand and game and individual factors of the player – the authors have identified three factors that they believe are most influential when assessing brand equity. Those elements, which are discussed more in detail below, are the following: brand - game congruity, brand familiarity and brand prominence.

In order to gain a clear understanding of the impact that violence has on brand equity, the authors decided to include an additional factor – arousal from violence – to this new framework to understand how individuals respond to violence, which reflects the level of individual arousal triggered by violence. The limited capacity model and the excitation transfer theory associated to the arousal from violence can have an influence on the mechanisms underlying the effectiveness of the aforementioned elements selected for the analysis.

The previously described limited capacity model (Section 3.6) shows how violence can affect brand recall and recognition by drawing the players' attention towards it, leaving little cognitive capacity for the processing of the advertising placed into the video games. Lee and Faber (2007) have identified some factors, also captured in Terlutter and Capella's work (2013), that can mitigate this effect and that have a positive impact on the effectiveness of in-game advertising. In their work, they have found in fact that positioning the advertising in the gaming environment would affect the effectiveness of the in-game advertising. In particular, the study revealed that the proximity of the advertising to the gaming activities would increase the brand recall and recognition. People's attention in fact would be drawn to the main activity in the experiment (i.e. playing the game) and would thus be more focused on what is placed close to such activity. Given the high attention that violence draws to itself, this work includes also the analysis of how violence influences brand awareness.

Additionally, the excitation transfer model (Section 3.7) predicts that the excitement provoked by the video games can be transferred to the brand advertised in it. Thus, a positive or negative emotion triggered by the viewing of the gameplay would be transposed to the advertisement, in turn affecting the players' attitude and opinion of the advertisement. However, this effect only impacts the size of the emotion generated. Its valence (i.e. the 'direction' of the sentiment) thus does not play a role in influencing brand attitude. Violence portrayed in the video games triggers reactions in the players by amplifying the individual's brand attitude based on the level of arousal prompted by the violent stimulus. Therefore, the degree to which an individual

is startled by such aggressive cues is going to be examined, in order to explore if it also causes a change in brand attitude.

In the following sections of the chapter, the factors upon which the new framework is built are explained whilst the relative hypotheses connecting them to Keller's operationalized CBBE pyramid are formulated.

4.2.1 Brand - game congruity

Brand - game congruity refers to the extent to which the embedded brand is connected to the content of the video game. While some advertisers include ads in games that appear to fit their brands, others place ads in gaming environments that seem to be unrelated (Lee & Faber, 2007). For example, several companies place billboards and other types of advertisement of sport brands (e.g. Adidas or Nike) in football video games in order to mirror real-life circumstances and improve the realism of the game. On the other hand, some fantasy games have displayed advertisements for products which are not in line with the story line or the game context (e.g. the portrayal of Pizza Hut in the video game Everquest II, set in an imaginary world) (Verberckmoes, Poels, Dens, Herrewijin & De Pelsmacker, 2016).

Lee and Faber (2007) differentiate congruity into four dimensions. *Functional congruity* refers to the fact that the brand is the central object used in the video game content. *Lifestyle congruity* is connected to the relation between the lifestyle of those engaging with the content of the video game and that associated with the brand or product. *Image congruity* refers to when the image of the brand and the one of the focus of the game are aligned. Finally, *advertising congruity* subsists if, in the context of the video game, the brand advertisement seems appropriate (Gross, 2010; Lee & Faber, 2007).

In the context of this framework, the authors more generally discuss 'brand' and not 'product' when referring to congruity since, in this study, in-game advertising incorporates both product placement and marketing displays (Section 3.3.1.3). Most of the previous research considered only product placements when discussing congruity, but their results are here assumed to be similar if related more in general to brands.

Nelson (2002) found that in-game advertising has a positive impact on the gaming experience. In fact, video game players value verisimilitude of the game context and ads tend to create a sense of real-life setting in certain gaming environments (e.g. advertisement displayed on billboards in sports or racing video games). If the advertisement was used to increase the sense of realism of the game and it is seamlessly integrated into the video game, then the players would also perceive the brand and advertisement as being more in

line with the video game. As such, the advertisement would be perceived as being less intrusive and would be more appreciated by the players. Additionally, placing highly incongruous brands in video games could make consumers strongly perceive the intention of advertisement, thus negatively impacting the advertised brand (Gross, 2010). This finding hence demonstrates that the congruity between brands and the game is positively perceived by players as it enhances their overall experience (Nelson, 2002; Terlutter & Capella, 2013).

However, several studies have found that incongruity is related to memory superiority. For example, Lee and Faber (2007) found highly incongruent brands to be more easily recalled compared to moderately incongruent brands or highly congruent brands. This result can be explained by the fact that highly incongruent brands are associated in an unexpected or unusual manner to the video game content. Moreover, particularly incongruent information captures more attention because the viewers perceive that the placement is unusual, thus leading to more recall (Lee & Faber, 2007).

Therefore, concerning brand awareness, which incorporates brand recall and recognition, the authors base their hypothesis on the results found by Lee and Faber (2007) and suggest that:

H1a: Incongruent brands have a more positive impact on brand awareness compared to congruent ones.

At the same time, as incongruent brands can diminish the sense of realism within the game, they can cause the players to view in-game advertising as irritating and inappropriate and then negatively affect their opinion of the brands and purchase intentions. Differently, congruity between brand and video game, despite being generally connected to lower brand awareness, positively impacts both the interest towards the in-game advertising and the intent to purchase the brand (Chang, Yan & Zhang, 2010; Herrewijn, 2015; Lewis & Porter, 2010). Given that the interest for the brand advertised increases in the event of a good fit between the brand and the video game, it is hypothesized that brand - game congruity positively affects all the remaining upper levels of the brand equity pyramid. Thus, relatively to brand association, attitude, attachment and activity, the following hypotheses have been developed:

H1b: Congruent brands have a more positive impact on brand association compared to incongruent ones.
H1c: Congruent brands have a more positive impact on brand attitude compared to incongruent ones.
H1d: Congruent brands have a more positive impact on brand attachment compared to incongruent ones.
H1e: Congruent brands have a more positive impact on brand activity compared to incongruent ones.

4.2.2 Brand familiarity

Brand familiarity refers to the past experience that an individual may have had with a brand, which can be either direct (e.g. buying the brand) or indirect (e.g. being exposed to the brand) (Alba & Hutchinson, 1987; Martí-Parreño, Bermejo-Berros & Aldás-Manzano, 2017). In other words, brand familiarity captures the brand associations present in the memory of the customers. While for familiar brands, individuals have knowledge of the brand in their memory as they can have different types of associations related to them, for unfamiliar brands there are no previous associations (Campbell & Keller, 2003).

Previous research found a positive impact of brand familiarity on recall (Nelson, 2002; Nelson, Yaros & Keum, 2006). Nelson et al. (2006) demonstrated that well-known brands were recalled better than less familiar brands. Because of the limited capacity for processing information, individuals need to allocate their cognitive resources both to play the video game and to process peripheral data and thus their recall and recognition is higher for those brands that are more easily attainable from their memory (Kim & Leng, 2017; Lang, 2000). As a matter of fact, since familiar brands can be processed more easily by individuals as they already have connections at a cognitive level, they are more accessible (Acar, 2007; Herrewijn, 2015; Terlutter & Capella, 2013). Those findings are supported by Mau, Silberer & (2008) and Mackay, Ewing, Newton & Windish (2009) that, by analyzing respectively first-person shooter games and racing games, revealed that familiar brands were better recalled by the players (Herrewijn, 2015).

As familiar brands are already present in the memory due to the previously created associations, people are likely to have already developed an attitude towards them and some kind of connection with the brand. The authors thus assume that the positive relation between brand familiarity and brand awareness is reflected also by the other levels of Keller's brand equity pyramid.

Therefore, based on the previous discussion, the authors hypothesized as follows:

H2a: Familiar brands have a more positive impact on brand awareness compared to unfamiliar ones.
H2b: Familiar brands have a more positive impact on brand associations compared to unfamiliar ones.
H2c: Familiar brands have a more positive impact brand attitudes compared to unfamiliar ones.
H2d: Familiar brands have a more positive impact on brand attachment compared to unfamiliar ones.
H2e: Familiar brands have a more positive impact on brand activity compared to unfamiliar ones.

4.2.3 Brand prominence

The effectiveness of advertisement is also dependent on the degree to which it reaches the targeted customers. The more prominent and closer to the main actions advertisements are, the better they are going to be perceived and remembered by the viewers. Therefore, the extent to which an advertisement is able to have an influence over customers is also largely dependent on its level of prominence. Terlutter and Capella (2013) define *prominence* as the degree to which an advertisement is placed close to the focal area in the gaming environment. A *subtle* placement instead would entail an advertisement situated for example in the background of the gaming environment, and not object of the direct attention of the player.

Previous research has shown how advertised brands were better recalled if placed closer to the main action of the game (Lee & Faber, 2007; Yoo & Peña, 2010). This effect can be explained by the limited capacity model (Section 3.6) which predicts that individuals' processing capabilities are limited. When playing video games, this activity (i.e. primary task) monopolizes the players' attention and cognitive resources, at the expense of the secondary task (i.e. processing advertisement). Little cognitive capacity is therefore left out to process the advertisement placed in the video games. The further away the advertisement is from the focal gameplay, the more resources it would require to be remembered by the player.

Also Lee and Faber (2007) recognize the importance of brand prominence in building brand awareness. In their experiment, they demonstrated that the advertisements that were placed in focal areas had a higher recall and recognition rate by participants, compared to the same ads situated peripherally in the gameplay.

As the positioning in the gaming environment of in-game advertising mainly affects the players' ability to recall and recognize the brands advertised, the higher levels of the pyramid of brand equity (i.e. brand association, attitude, attachment and activity) are not affected by it.

Therefore, the following hypothesis is developed:

H3: *Prominent brands have a more positive impact on brand awareness compared to subtle ones.*

4.2.4 Arousal from violence

The excitation transfer model (Section 3.7) predicts that the sentiment (positive or negative) triggered by viewing a particular action portrayed in a media can also be transferred to the surroundings. The greater the level of arousal established in the viewer, the larger the reaction that is relocated to the background or following scene. The theory has demonstrated for example that the arousal linked to a hilarious situation in

a tv show can be attached to the branded product placed in it. In advertising in video games context, therefore, the pleasant or unpleasant reactions of the viewers to the stimulus present in the gameplay can be transferred to the brands advertised in it. Previous studies have shown how these reactions can impact brand attitude and behaviors of the viewers towards the advertised products.

 The valence of the sentiment triggered in the viewers by the arousing situation, however, does not concur in shifting the individuals' attitude or purchase intentions into a different direction. In fact, only the size of the arousal triggered by the stimulus has an impact on brand attitude and purchase intentions, by polarizing and enlarging the already established sentiment of the individuals. The greater the arousal, the more prominent the effect that is going to be registered.

In the context of violent video games, aggressive stimuli are the main emotional inputs portrayed and thus as the predominant arousing element other than the video game itself, the individual's sentiment triggered by such acts would have an impact on the perception of the in-game advertising.

Additionally, given the high level of arousal that is associated with aggressive acts, the effect of the inclusion of violence would be even more noticeable. As mentioned before, the excitation transfer model predicts that the greater the level of arousal perceived by the individual, the larger the impact on brand attitude and purchase intentions. However, the degree of arousal triggered by aggressive acts can differ from individual to individual, based on personal characteristics, thus affecting brand attitude and purchase intentions in different ways. Therefore, it is not possible to generalize the degree of arousal that is set off by the viewing of the violent video games. Instead, the individuals' perception of the arousal level sparked by the aggressive stimulus is going to be tested by the authors.

Previous research has demonstrated how the level of arousal can have an impact on brand attitude and purchase intentions, and thus these effects reverberate also at a brand equity level (Jeong et al., 2011). The excitation theory anticipates that the arousal generated by the portrayal of violence can be attached to the brand advertised, and thus influence the individual's attitude towards it. By referring this mechanism to the brand equity pyramid, the lower level (brand awareness) would thus remain unaffected by the pre-existing attitude of the individual towards violence.

Although it is assumed that through the excitation theory the level of arousal does not affect brand awareness, several studies have shown how violence negatively impacts brand memory and recognition through other mechanisms. Different authors in fact have conducted studies showing that in violent contexts the brand awareness was lower, as the violence would attract the players' attention at the expense of the

advertisement in the game (Lull et al., 2016; Yoo & Peña, 2010). Violence in fact provides an additional element of distraction from the advertisement in the video games, as it attracts players' attention, at the expense of the effectiveness of the advertisement. Due to the limited capacity model in fact, by including the element of violence in the video games, the attention of the players for advertisement is reduced and it ultimately results in a decrease in brand memorization (Yoo & Peña, 2010). As violence in the video games impacts the brand memorization (in terms of recall and recognition) of the advertisements placed into the video games, it refers to the lowest level of the pyramid in the operationalized Keller model, brand awareness.

As previous research confirmed a negative relationship between violence and awareness, the authors assume and suggest the hypothesis that a great level of arousal from violence would negatively affect brand recall and recognition.

Additionally, several authors have demonstrated how the attitude of a brand has been sharpened by the greater level of arousal in the video games (Jeong, 2011; Mitchell, 2014). In terms of the brand equity pyramid thus brand attitude is influenced. The authors hence try to explore and test if the effect of the excitation transfer model extends also the other levels of the brand equity pyramid. Thus, the effect of arousal on the last steps of the brand equity pyramid (i.e. brand association, attachment and activity) are included in the study.

The following hypotheses have therefore been developed:

H4a: A high level of arousal from violence negatively impacts brand awareness.
H4b: The greater the level of arousal from violence, the more extreme the evaluation of brand associations is.
H4c: The greater the level of arousal from violence, the more extreme the evaluation of brand attitude is.
H4d: The greater the level of arousal from violence, the more extreme the evaluation of brand attachment is.
H4e: The greater the level of arousal from violence, the more extreme the evaluation of brand activity is.

From the analysis above, the authors have developed a conceptual framework (Figure 6). The framework is constituted by four factors, namely brand - game congruity, brand familiarity, brand prominence and arousal from violence, which depending on the hypotheses, affect the various elements constituting Keller's CBBE pyramid.

Figure 6*. Conceptual framework*

The pyramid levels from top to bottom are:
- Activity ↑ Attachment
- Attitude
- Association
- Awareness

Corresponding hypotheses boxes (top to bottom):

- H1d / H1e: Congruity
- H2d / H2e: Brand Familiarity
- H4d / H4e: Arousal from Violence

- H1c: Congruity
- H2c: Brand Familiarity
- H4c: Arousal from Violence

- H1b: Congruity
- H2b: Brand Familiarity
- H4b: Arousal from Violence

- H1a: Congruity
- H2a: Brand Familiarity
- H3: Brand Prominence
- H4a: Arousal from Violence

Source: figure made by the authors

5. Methodology

This chapter discusses the research methodology adopted throughout the study. To gain a comprehensive understanding of the methodological considerations underlying the work, the research purpose, philosophy, approach and research design are analyzed. The description of the research design includes the research strategy and methodological choices adopted in the thesis and is concluded by discussing the time horizon of the research and the research ethics.

5.1 Research purpose

As previously stated, this thesis aims at answering the question *'How is in-game advertising impacting brand equity when placed in violent video games?'*. Research on this topic is limited and lacks specificity mostly concerning the element of violence in correlation to brand equity. Thus, the purpose of this research is to investigate and understand the matter depicted in the research question. In this work, the authors first gain insights on in-game advertising and violence in the media by reviewing previous relevant findings. Secondly, the acquired knowledge is analyzed relatively to a brand equity framework and a conceptual framework that is built in order to select the factors playing a role in such relationship. Through the use of the latter and the collection of quantitative data, hypotheses on the impact of in-game advertising on brand equity in violent video games are empirically tested. Finally, the results of this first part of analysis is further explored through qualitative data and the findings are discussed in relation to the research question.

5.2 Research philosophy

This section inspects the research philosophy adopted throughout the work. Research philosophy relates to the system of beliefs and assumptions based on which knowledge develops (Saunders, Lewis & Tornhill, 2016). Two main philosophical assumptions can be identified - ontological and epistemological - and those shape the understanding of the research question, methods and findings' interpretation (Crotty, 1998; Saunders et al., 2016).

Ontological considerations deal with assumptions regarding the nature of social entities while epistemological ones refer to the nature of human knowledge and their validity and legitimacy (Bryman &

Bell, 2011; Crotty, 1998; Saunders et al., 2016). Those philosophical assumptions can be observed in a continuum characterized by two opposite extremes: objectivism and subjectivism. Whereas objectivism considers social reality as external to researchers and social actors and incorporates assumptions of the social sciences, subjectivism views it as constructed with perceptions and actions of social actors and incorporates assumptions of arts and humanities (Saunders et al., 2016).

Considering that the purpose of this thesis is to understand how in-game advertising is impacting brand equity when placed in violent video games, the authors take the philosophical position of pragmatism. This research philosophy aims at understanding how specific individuals behave in tangible situations and it does so by focusing on practice and action, by integrating objectivism with subjectivism, attempting to address problems through practical solutions (Egholm, 2014; Saunders et al., 2016).

Ontologically, pragmatism views reality as a complex and practical consequence of ideas (Saunders et al., 2016). On the one hand, individuals actively participate in the social world and interpret situations subjectively, but on the other hand those situations take place in an objective and real context, thus limiting the possibilities of the interpretations (Egholm, 2014). In this work, the authors investigate the data within the defined context of in-game advertising in violent video games. However, the concept of violence is dependent on individual perceptions and social context. What is considered by some a violent video game, it may not necessarily be for others given the different personal standards on the level of violence. Those opinions are influenced by factors including age, previous experience with real-life violence and frequency of exposure to violent video games (Breuer, Scharkow & Quandt, 2014). Moreover, being the concept of violence subjective, it conforms with the view that social phenomena are continuously revised as the social context changes with time and so does the idea of violence.

From an epistemological perspective, acceptable knowledge is used instrumentally in specific contexts to achieve practical consequences and to successfully perform actions (Egholm, 2014; Saunders et al., 2016). Thus, theories and knowledge can be defined as 'true' when they are used to accomplish actions (Saunders et al., 2016). In this study, acceptable knowledge regards the brand equity framework which is instrumental for the understanding of the impact of in-game advertising in violent video games. The analysis of brand equity aims at being objective, but due to the existence of various frameworks to assess it, different views concerning the elements to include in the analysis and the overall criteria, brand equity can be difficult to measure outside the context of the research. The fact that such knowledge does not have to be true from an

objective standpoint, but in the context of the concrete situation studied, make pragmatism the most adequate research philosophy for this study (Egholm, 2014).

Another aspect that should be taken into consideration is that by adopting a pragmatic research philosophy, the study can be conducted in a more flexible way as the research design can include quantitative and qualitative data together with a subjective and objective perspective (Saunders et al., 2016).

5.3 Research approach

The research approach outlines the ways in which the observations are linked to the theory and therefore the approach to the theory development. There are mainly three approaches that can be used – inductive, deductive and abductive approach. The former describes the process through which a researcher generates theoretical concepts by analyzing the empirical data. The deductive approach instead assumes that hypotheses are formed based on existing theory, and data is used to test them. Lastly, the abductive approach is used when the research moves back and forth from theory to empirical data (Saunders et al., 2016).

The deductive approach is the most relevant for this work, in line with the epistemological position of pragmatism. In fact, this thesis aims at identifying the effect of in-game advertising on brand equity in violent video games, with the use of a conceptual framework. Hypotheses are developed in order to test causal relationship drawn from existing academic literature. By departing from existing theory regarding the effect of in-game advertising, the impact of the presence of violence in the media and customer-based brand equity, the authors can identify the factors that constitute their conceptual framework and develop and subsequently test hypotheses accordingly.

5.4 Research design

The research design lays out the main pillars of the framework that are used by the authors to structure the study and the general plan on how the research question is answered. It contains the research strategy and methodological choice adopted in the work and discusses the time horizon and research ethics.

5.4.1 Research strategy and methodological choice

The research strategy aims at identifying the main steps that are followed in order to answer the research question. There are several strategies can be adopted in order to best fulfill this objective, such as survey, experiment, action research or case study. The choice of one or more of such strategies is dependent on how the authors decide to answer the research question and on the nature of the research (Saunders et. al, 2016). Given the research question and the fact that little knowledge exists regarding the effect of in-game advertising on the various levels of the brand equity pyramid, especially in the context of violence, the authors deemed that the study is of *exploratory* nature.

On the basis of the research nature, the authors deemed that the study requires the use of both quantitative and qualitative data: a *mixed methods strategy* is thus found appropriate for this study and is also ultimately justified by the philosophy of pragmatism (Saunders et al., 2016). The methodological choice of a mixed method in fact allows the authors to explore not only the main effects on brand equity of in-game advertising in violent video games, but also the mechanisms underlying this process. The analysis is first conducted on the data derived from a survey, thus the source of the quantitative information of the study is unique. Later in the process, information extracted from semi-structured interviews is integrated in the study. The two methods complement each other, as the use of qualitative data is used to interpret the results gathered from the quantitative data. The combination of the two types of data ensures credibility of the study as one method is used to inform the other.

5.4.2 Time horizon

Time horizon is related to the time frame of the work and it can be either cross-sectional or longitudinal. While the former concerns studying a phenomenon at a particular point in time, the latter involves examining the data over a prolonged period of time including the changes and developments that occur (Saunders et al., 2016).

This study can be considered cross-sectional as it takes a snapshot of the respondents of both the questionnaire and the interviews at a particular time. Moreover, it does not take into account the changes for example in attitude or attachment to a brand or future purchase intentions and thus the development over time of the relation between the participant and brand cannot be assessed. Because of this limitation, brand activity which is at the top of Keller's CBBE pyramid and concerns for example future purchase behavior of respondents, cannot be fully examined and its analysis is limited to the intent to purchase a

brand at a specific point in time. This work does not examine the actual behavior of respondents, but only their intention at the time of the questionnaire or interview.

5.4.3 Research ethics

The research was developed in an ethically sound manner that ensured that the privacy of the respondent to the questionnaire and semi-structured interviews was protected and the information gathered not publicly disclosed (Saunders et al., 2016). The questionnaire was anonymous and did not collect any strictly personal information (e.g. name, e-mail, phone number) of the participants. Interviewees were asked to participate in the interview by the authors of the study and they were informed beforehand on the general content. Also, during the interview, the authors tried to maintain a professional approach by avoiding asking personal questions and creating a comfortable environment.

6. Data collection methods

This section examines the data collection methods carried out in this study for both secondary and primary data. Concerning the former, the main sources and their relevance are analyzed. Later, the methods used in this study for primary data collection (i.e. questionnaire and semi-structured interview) and their importance for the analysis are discussed. The study makes use of both quantitative (questionnaire) and qualitative (semi-structured interviews) in order to carry out the analysis.

6.1 Secondary data

Secondary data entails materials that had already been collected for other purposes, not connected to the research problem of the study (Malhotra, Nunan & Birks, 2017). This work utilizes secondary data to frame some elements (i.e. in-game advertising, violence and brand equity) that were then used as a basis for the development of the conceptual framework and for the research carried out through the questionnaire and the semi-structured interviews (primary data). This study comprises a combination of secondary data sources, both offline and online, which include books (e.g. Copley, 2014; Keller, 2008; Schlegelmilch, 2016), academic papers (e.g. Lull & Bushman, 2015; Nelson, 2005) and market reports (e.g. Entertainment Software Association, 2019; Newzoo, 2019). Using secondary data is convenient as it is easily accessible, can be obtained quickly and is relatively inexpensive. However, since they are not collected specifically for the purposes related to this particular work, their relevance and accuracy could be partially compromised given that the authors do not have complete control over their quality (Malhotra et al., 2017). In order to ensure that the secondary data sources collected was valid and high-quality, the authors examined the sources of such data by checking the reliability of the researchers and the number of citations that the sources had received.

6.2 Primary data

In this study, primary data, which directly originates from the authors specifically to tackle the research question, is collected through a questionnaire and semi-structured interviews (Malhotra et al., 2017). In particular, the questionnaire is published online and is self-administered, (Saunders et al., 2016). The authors chose a questionnaire with those characteristics firstly because it was able to reach a large and

geographically dispersed population without having direct contact with the participants. Furthermore, it allowed to collect data in a relatively rapid and structured manner and at a low cost while removing the interviewer bias. Also due to the nature of the questionnaire, the authors are able to include within it a video which is a key element in the study. However, through this method, it can be difficult to monitor sampling frames compared to more traditional methods that take place offline (Malhotra et al., 2017). Based on the findings from the questionnaire, this study conducts also semi-structured interviews consisting in the interviewers asking a set of determined themes and key questions that are then adapted to the flow of the conversation. With this method, questions can be omitted or added, and their order can change (Saunders et al., 2016). Semi-structured interviews are used by the authors to answer, through their flexible approach, more complex and open-handed questions derived from the results of the questionnaire. However, those interviews lack standardization and this can lead to issues of reliability. Moreover, by carrying out only a small number of semi-structured interviews, concerns related to the generalizability of the findings can arise. To marginalize this issue, the authors studied the findings from the particular cases in relation to the results extrapolated from the questionnaire to demonstrate their broader significance (Saunders et al., 2016).

6.3 Quantitative research: questionnaire structure

In order to gain an overall understanding of the impact that in-game advertising has on brand equity when placed in violent video games, the authors decided to construct a quantitative questionnaire. The latter has the objective to study if there are any associations between the four elements derived from the conceptual framework (Section 4.2) and brand equity. For the questionnaire to be able to empirically test those associations, the authors found it necessary to expose the participants to a direct stimulus: a video containing various segments of gameplay from violent video games that displayed in-game advertisements (some screenshots from the video can be found in Appendix 4a-c).

The questionnaire is composed by four main sections: (1) the stimulus with its relative distraction, (2) questions on brand equity, (3) questions on the conceptual framework and (4) questions regarding demographic information and video games' playing behavior. The various sections are represented in the table below (Table 1). The integral version of the questionnaire that was shared to the participants can be found in Appendix 5.

Table 1. *Questionnaire structure*

Section	Question	Topic
1: Stimulus and relative distraction	Q1	Video with segments of gameplay
	Q2	Number of recollected visual cues in the video
2: Brand Equity	Q3-Q4	Unaided brand recall
	Q5	Aided brand recall
	Q6	Brand recognition
	Q7	Brand association
	Q8	Brand attitude
	Q9	Brand attachment
	Q10	Brand activity
3: Conceptual Framework	Q11	Brand Familiarity
	Q12	Brand - game Congruity
	Q13	Brand prominence
	Q14	Arousal from Violence
4: Demographic info and video games' playing behavior	Q15	Age
	Q16	Gender
	Q17	Country of origin
	Q18	Occupation
	Q19	Video game habit
	Q20	Video game preference

Source: table made by the authors

6.3.1 Stimulus

The authors decided to expose respondents to in-game advertisements in violent video games by showing them a brief video (2.18 minutes) embedded in the questionnaire and containing four different segments of gameplay. In order to answer the questions contained in the survey, the respondents first had to be immersed in a violent video game environment where in-game advertising was present. However, the authors concluded that having the participants actually play a video game was not feasible for a few reasons. First, it would not be possible for them to reach a particularly large sample of respondents because of resources and location constraints since the participants would have to play the game physically with adequate gaming consoles while being monitored by the authors, for a prolonged period of time. Secondly, the video game environment and the structure of the gameplay would have to be controlled (e.g. game difficulty, player's perspective, advertisement exposure) in order to ensure the same level of visibility of each advertisement included within the game. Finally, it would not have been possible to show to the participants a large and

variegate amount of advertisements condensed in a single game session. Thus, the authors concluded that creating a video would be the best solution given the circumstances.

The video contains four segments of gameplay: the first three are extrapolated from Grand Theft Auto V and the last one from Night Fight Round 3, both available for computers. The former is an action-adventure video game set in Southern California in which the protagonists are three criminals (controlled by the player that can switch among them) that commit heists and that are escaping since are wanted by both the police and criminal entities. According to the PEGI content rating system, Grand Theft Auto V is appropriate for players aged 18 or above due to the depiction of violence in the game (Pan European Game Information, 2017).

In Night Fight Round 3, players can either build and train their own boxer to make it become a champion or play historical fights with boxing champions from the past. Based on the PEGI content rating systems, this video game can be played by individuals older than 16, thus the overall degree of violence in this game is slightly lower than the one that appears in Grand Theft Auto V (Pan European Game Information, 2017).

Those video games are distributed worldwide and are largely played. The first three segments were chosen despite belonging to the same video game because take place in completely different settings and with different characters, thus not making them repetitive for the respondents. All four the scenes contain one or more examples of in-game advertising, either as marketing displays or as product placements and a moderate level of violence.

The four segments can be quickly summarized as follows.

Segment 1 (length: 25 seconds) takes place during a shooting occurring inside an apartment. The main character (controlled by the player in the video game) in the scene is shooting and killing three people in the video. During the action, his sneakers branded Nike (product placement) can be seen at the bottom-center of the screen.

Segment 2 (length: 21 seconds) is set during a car chasing in a semi-deserted area. The chased vehicle (controlled by the player in the video game) is escaping from a police car and it is shooting at it and at any other vehicle crossing its path. In the scene, the chased car can be clearly identified as an Audi (product placement) and, at a certain point, on its right, a Ben & Jerry's billboard (marketing display) can be seen.

Segment 3 (length: 36 seconds) takes place during a shooting on the streets in a urban area. The main character (controlled by the player in the video game) is shooting at cars and people, causing a vehicle to explode. Dead bodies can be seen on the scene and other characters are shooting back at the main one. In the segment, a McDonald's billboard (marketing display) can be clearly seen at the top-left of the screen. Other brands can be seen quickly appear on the screen (e.g. FedEx), but the authors decided not to include them in the questionnaire as they could be seen only very briefly and, on the background,, thus the impact that this advertisement would have on the viewers was considered to be minimal.

Segment 4 (length: 37 seconds) represents a boxing match between two actual boxers: Evannder Holyfield and Roy Jones Jr. (controlled by the player in the video games). The two athletes are seen aggressively punching each other. In the scene, two brands can be clearly identified: Burger King has displayed its ads repeatedly on the boxing ring, both on the floor and on the sides, and on billboards around where the match can be watched (marketing display). Also, the brand Everlast appears on the boxing ring and on billboards (marketing display) behind the two boxers for a prolonged time. The logos for EA and ESPN can also be briefly seen throughout the scene, but they are not considered by the authors in the study since the former is actually the company producing the video game, while the latter is only briefly seen in the background.

Those segments were selected by the authors because they contain particular characteristics. First of all, the segments, found on You Tube, have a high quality of image and some elements of violence can be seen in all of them. In fact, they either contain gun violence (Segment 1, 2 and 3), explosions (Segment 3), blood representations (Segment 1 and 2) or they engage in some sort of physical fight (Segment 4). Additionally, the high quality of the video games enhances the level of realism of such violent cues, thus increasing its effect. Secondly, the sound is as it would appear in the actual video game as there is no voice-over from commentaries, a very common practice within the video game community. Furthermore, the segments contained a fair balance between marketing displays and product placements. Lastly, the ads were displayed in a manner that is not obvious to the respondent since the segments are cut by the authors in such a way to contain the advertisement, but the scene is not solely limited to it.

The authors decided to focus on six brands (Nike, Audi, Ben & Jerry's, McDonald's, Burger King and Everlast) and not more because they believed that the respondents would otherwise be overwhelmed by the amount of brands since then they would have to answer specific questions relative to them in the questionnaire. The segments chosen contained diverse well-known brands belonging to various industries, but that could also be grouped quite easily based on macro-categories. In fact, the category of clothing and

sport included Nike and Everlast, food and fast-food chains included Ben & Jerry's, McDonald's and Burger King while for automobiles, Audi.

The video would be most effective to evaluate the responses from the participants, only if the latter were watching it without previous biases. Thus, to minimize the possibility that the respondents would infer the intent of the video, the introduction to the questionnaire was kept vague and general without mentioning the actual focus of the study. To improve the viewing experience, before watching the video, it was recommended the participants to use a full screen and to turn the audio on.

6.3.2 Stimulus delimitation: recreating inattentional blindness

The stimulus, despite aiming at being as close to an actual video game experience as possible, lacks the interactivity which characterizes video games. Nelson et al. (2006) found that the difference in level of interactivity between and actually playing a video game or just watching it has an impact on the effectiveness of the advertisements. In their study, they instructed the participants to either play a racing game with embedded in-game advertising or watch its gameplay video for 3 minutes, without asking them to pay attention to ads. The findings showed that those playing the video game recalled significantly less advertisements compared to those who watched (Nelson et al., 2006). Thus, they suggested that playing the video game negatively affected brand recall since in order to achieve goal-oriented tasks required by the gameplay, the players had to focus large part of their cognitive resources to actively control the game and the ads, perceived as secondary information, did not attract their attention (Herrewijn, 2015; Nelson et al., 2006.)

Therefore, individuals watching a video would more easily focus on elements and details that would probably be missed by those playing since the latter would focus their attention on a particular task (e.g. killing the enemy). This behavior can be connected to the concept of *inattentional blindness* which refers to those features in the environment that are perceived without attention and thus individuals may not have explicit conscious awareness of them (Mack & Rock, 1999; Simons & Chabris, 1999). A common example that represents inattentional blindness is the *Invisible Gorilla Test*, conducted by Simons & Chabris (1999). It consists of a video showing six people, half wearing a black shirt, half a white one, passing a ball. It is asked the subjects viewing the video to count how many times those in white pass the ball to each other. In one of the versions of the video, a person dressed up as a gorilla crosses the scene. When asked if they had

seen the unexpected event, 50% of the subjects said they had not noticed it thus showing a considerable level of inattentional blindness (Simons & Chabris, 1999).

In the context of video games, those playing the game would have no reason to focus their attention to sections of the screen irrelevant for their primary task and their perceptions of in-game advertisements would be lower. This limitation would have a considerably large impact on the validity of the survey. Thus, in order to limit its effect and in an attempt to at least partially overcome it, the authors decided to create a distraction for the respondents by recreating to some extent the inattentional blindness illustrated in the *Invisible Gorilla Test* that they would experience if they actually played the video game.

At the beginning of the video, the participants are told that throughout the various segments they would see a flashing yellow square and they are instructed to follow the task: *'Count how many times you see the small yellow square'* (Appendix 4a-b). The distraction of counting the squares can be compared to the task of counting how many times people pass the ball in the Invisible Gorilla Test, while the advertisements are the gorilla walking through the screen. The flashing yellow square, which appeared 12 times during the video, is not randomly located. In fact, whenever it appears, it is positioned in a way that recreates the trajectory of the gun shootings or the punches during the fights (Appendix 4c). Through the location of the yellow squares, the authors tried to redirect the attention of the respondents to where it would supposedly be if they were actually playing the video game instead of just watching it. Thus, although they are not all placed in the same position, the majority of the yellow squares can be found in the central area of the screen.

Right after watching the video, the respondents were asked how many yellow squares they saw and counted in the video. This question helped the authors understand first that the respondents took the task seriously and that thus the viewing experience is not compromised. In fact, if the respondent answered a number that deviated significantly (+/- 6) from the actual one (12), the response would be excluded from the analysis. Furthermore, having the respondents answer the question prolonged the illusion that the task was actually the objective of the viewing experience.

6.3.3 Brand equity questions

Questions 3 to 10 of the questionnaire were related to brand equity and more specifically to Keller's CBBE pyramid which was then operationalized by the authors (Section 4.1). Each step of the operationalized brand equity model comprised of at least one question in the questionnaire.

Brand awareness

Questions 3 to 6 are linked to brand awareness and more specifically they analyze it through unaided and aided brand recall and brand recognition. Unaided brand recall is assessed by asking survey participants whether they recalled any brand seen in the video, and if so, they were asked to write down all the ones they remembered seeing in a text box. Aided brand recall is tested by asking them whether they recalled any brand belonging to three different categories (automobiles, clothing/sport, food/fast-food chains) and, if so to write the answers next to the relative text boxes. Lastly, to measure brand recognition, participants were given a multiple-choice list of brands with their relative logo that included all the brands shown in the video as well as some of their competitors that were not part of it. Respondents were asked to mark all the brands they had noticed while watching the video.

Brand association

In the context of this study, brand associations (Q7) are used to understand whether the brands proposed by the video influence the preexisting brand associations of the participants. Thus, respondents were asked whether the video had influenced their perceptions of each of the six brands.

Brand attitude

To assess brand attitudes (Q8), the authors questioned the respondents on whether watching the video had an effect on the attitudes towards the brands shown as well as their feelings and thoughts about them.

Brand attachment and brand activity

In order to examine brand attachment (Q9), the authors looked at the extent to which participants identified with each of the brands displayed, and how connected they felt with each brand. Finally, brand activity (Q10) per se was not investigated by the authors as it would not be possible to track whether the consumers would actually purchase, use or recommend the brands shown after participating to the experiment. However, in order to compensate to this restraint, during the questionnaire, it was asked whether the respondents are more inclined to purchase the brands appearing in the video in the future.

6.3.4 Conceptual framework questions

Questions 11 to 14 refer to the elements included in the conceptual framework built by the authors (Section 4.2) and are related to the hypotheses which were developed around such framework.

Brand - game congruity

The question related to the congruity between the brand and the video game (Q12) was tested by questioning the participants on whether they believed there was a good fit between each of the brands and the type of video games they were displayed in which contained a moderate degree of violence. The answer was built as a 5-point Likert scale with the extremes being 'Definitely a good fit' and 'Definitely a bad fit'. It was hypothesized that incongruent brands had a positive impact on brand awareness (Hypothesis 1a), while congruent ones positively affected the upper levels of the CBBE pyramid (Hypotheses 1b-e).

Brand familiarity

Brand familiarity (Q11) was evaluated by asking whether the respondents were indeed familiar with each of the brands shown in the video or not through a dichotomous 'Yes' or 'No' question. The question was related to hypotheses 2a-e which stated that familiar brands had a positive impact on Keller's brand equity model.

Brand prominence

Relatively to brand prominence (Q13), the authors asked the participants to what extent they found prominent the display of the various brands shown in the video. The answer was structured as a 5-point Likert scale which ranged from 'Definitely noticeable' to 'Definitely subtle'. It was assumed that this dimension would only affect the bottom level of the CBBE pyramid and that prominent brands would display higher brand awareness compared to more subtle ones (Hypothesis 3).

Arousal from violence

Question 14 concerned the impact of violence on the viewers' arousal. The authors tested this element by asking respondents what they thought of the elements of violence displayed in the video that they had just watched. The question, which was a 5-point Likert scale with single response (i.e. not specifically asked for each of the six brands, but in general), had as extremes 'Definitely impressive' an 'Definitely boring'. This question is associated to the hypotheses 4a-e relative to the effect that a higher level of arousal perceived by an individual has on the various levels of the CBBE pyramid.

6.3.5 Questions on demographic information and video game behavior

The last category of questions (Q15 to Q20) concerns more general aspects connected to the profiles of the respondents that took the questionnaire. However, in order to gain a clearer understanding of the pool of respondents as well as whether their demographic characteristics and their video game behavior may be somehow related to the different results, this section was included by the authors. The questions on demographic (Q15 to Q18) age range, gender, country of residence and occupation. Instead those on the behavior towards video games (Q19 and Q20) asked the respondents about the number of hours they played video games on a weekly average and whether they were fans of violent video games. Those questions, despite not being the focus of the study, helped creating a more comprehensive understanding of the respondents' reasons behind their answers.

6.3.6 Questionnaire considerations

The questionnaire was created using Qualtrics through the credentials provided to the authors by Copenhagen Business School and it was possible to access it from April 13th to April 20th 2020. The authors distributed it using mainly their personal networks and Facebook groups. Both the video and the questionnaire were in English in order to give the opportunity to a wider pool of participants from various nationalities to answer the questionnaire.

Concerning the order and flow of questions, those relative to brand equity come before those connected to the conceptual framework since, the bottom level of Keller's CBBE pyramid (i.e. brand awareness) requires the respondents to recall and remember the brands that are then explicitly listed in most of the other questions. Moreover, the authors preferred to ask first the questions that were directly connected to the

video just watched and subsequently those relative to demographic information and video game behavior. The way in which questions are framed, their wording and the type of questions used (e.g. open-ended, single-choice, multiple-choice, etc.) are elements that should be taken into consideration in order to ensure the quality of the collected data as well as the viability of the analysis that is connected to the research question (Saunders et al., 2016).

The questions in the questionnaire were mostly closed-ended where participants had to select their answers from a fixed set of options. The only two exceptions in which the questions were actually open-ended referred to the ones related to unaided and aided brand recall. The authors decided to mainly use closed-ended questions in order facilitate the process of analysis as it would be easier to compare data and identify associations among variables through statistical analysis. Furthermore, closed-ended questions, by requiring lower time and effort compared to open-ended ones, attract a larger number of respondents which could otherwise be less willing to participate in a questionnaire as the latter entail higher cognitive effort.

However, closed-ended questions include some disadvantages that should be considered. In fact, if participants are unwilling or not able to provide the necessary information, for example because they are not consciously aware of their motives, or if the question concerns beliefs and feelings, the quality and validity of the data could be compromised (Malhotra et al., 2017). Moreover, closed-ended questions can be subject to order or position bias which is the tendency of choosing a certain answer only because it is listed in a particular order or is placed in a certain position (Malhotra et al., 2017). Additionally, Likert scales can be subject to central tendency bias, where respondents tend not to mark the extreme responses on this type of questions. Some of these limitations are also going to be addressed through the use of the qualitative semi-structured interviews. To limit some of those biases, the authors randomized the answers to the questions that did not follow a scale and where the order of the alternatives was not relevant.

Because of the nature of the questionnaire, it was necessary to write simple and straightforward questions which could be easily understood by the respondents. For this reason, the questions where at times general while trying to convey the overall theoretical meaning of each of the variables. In order to gain insights on whether both the video and the questionnaire could be understood by the respondents and if they found them appealing, the authors pilot-tested them on five people. From this evaluation, the authors decided to shorten the video and decrease the number of brands included in the questionnaire in order to facilitate the answer process. Moreover, some questions were rephrased to be more easily understood by a wider audience.

6.4 Qualitative research: semi-structured interviews

Once the hypotheses developed through the conceptual framework are tested through the use of a questionnaire, the authors chose another method in order to better understand and the explore the reasonings behind the results obtained by the analysis of the quantitative data.

Qualitative data, and in particular the use of semi-structured interviews, was deemed the most appropriate by the authors for the purpose of this part of analysis. The flexible and more informal nature of semi-structured interviews allow the authors to explore more in depth the results obtained from the first part of analysis, and in order to better understand the relationship between the items of the conceptual framework and the brand equity pillars (Saunders, et al. 2016). At the same time, the authors are able to discuss in advance a set number of questions and topics that have to be covered throughout each interview and ensure that the main subjects of analysis are examined. By choosing individual interviews instead of focus groups, the authors removed the bias that could exist in group interviews, as interviewees can succumb to group dynamics and distort their answers. Another advantage of the individual format is that it would allow the authors to explore more deeply the results, following the flow of thoughts of the respondent, as questions can be altered in order to fit better the conversation (Malhotra et al., 2017).

Despite these advantages, there are drawbacks that should be taken into consideration when carrying out semi-structured interviews. In fact, the quality of the final product is largely based on the ability of the interviewers to be flexible and encourage participants to express their thoughts to uncover new insights. Moreover, the responses of the interviewees might be difficult to interpret or be misleading (Malhotra et al., 2017). To at least partially overcome those issues, the interviews were carried out by both authors at the same time. By doing so, they could more promptly interpret and react and to the interviewees' responses, maintain objectivity and make sure to cover all the relevant points.

The interviews, which were carried out via Skype and lasted on average 20 minutes (excluding the act of watching the video), were executed on the May 2nd and 3rd 2020, once the quantitative data had been analyzed. The authors relied on the use of an interview guide in order to keep track of the questions to be asked (Appendix 6). The transcripts of the various semi-structured interviews can be found in Appendix 7.

6.4.1 Questions of the qualitative study

Before starting the interviews, the interviewees were told to watch the same video of different gameplay segments that was used to collect the data for the quantitative data. In order to facilitate the discussion, after

having watched the video, the participants were first told the aim of the interview, that is the investigation of the effectiveness of in-game advertising. Subsequently, the participants were asked how many yellow squares they counted in order to ensure that they had taken the task seriously.

Afterwards, questions relative to brand awareness were asked to understand which brands were noticed during the video. A stronger focus was put on the questions relative to unaided brand recall as the interviewees remembered those brands clearly without needing additional cues and thus those brands could be more easily addressed directly during the interview. The authors then went on by asking the participants why they thought they remembered those brands and how they caught their attention. These broad questions helped the authors identify whether congruity, familiarity, prominence and violence were factors that affected the awareness of the interviewees.

The authors then proceeded by asking the interviewees to try to think about the characteristics of the brands that they had just seen, the thoughts and feelings that they connected to them, whether they liked or disliked them and their interest in them. Those brand-specific questions helped to introduce the other elements of Keller's CBBE pyramid (i.e. brand association, brand attitude, brand attachment and brand activity) and to create a bridge with the factors related to congruity, familiarity and arousal from violence. Finally, the authors asked about the video game behavior of the respondents.

6.5 Sampling process

Sampling techniques can be distinguished in either probability or non-probability. The former refers to a procedure in which, during the sampling process, each of the elements in the population has a fixed probabilistic chance of being selected. Differently, in non-probability sampling, the procedure is not related to chance, but to the researcher's personal judgment which can have an impact on the likelihood to be selected of the various members of the population (Bryman & Bell, 2011; Malhotra et al., 2017).

As the population playing video games amounts to about 2.5 billion people around the world (Newzoo, 2019), with approximately 29% of them playing video games that require shooting enemies or fighting (i.e. with some degree of violence) (Entertainment Software Association, 2019), the authors found that using probability sampling to carry out the questionnaire was not adequate. Given that the largest segment of people playing video games is aged 18 to 35, the authors decided to make the age group 18 to 41, in line with the multiple-choice options proposed by the questionnaire (Entertainment Software Association, 2019). Moreover, as one of the two video games contained in the video clip showed at the beginning of the

questionnaire was considered to be adequate only for players older than 18, minors were excluded from the study. However, the authors decided to include in the work also those individuals who do not play video games in order to understand whether they responded differently to the stimulus proposed by the study.

To distribute the questionnaire, the authors used two non-probability sampling techniques, namely convenience and snowball sampling. Convenience sampling consists in selecting participants haphazardly since the respondents included in the sample join the study on their initiative (Bryman & Bell, 2011; Saunders et al., 2016). This method, which is based on researchers' accessibility, was used as it was reasonably easy to implement also given the time and cost constraints of this study. The authors used this approach by distributing the questionnaire mainly through Facebook, where the majority of users belongs to the target group chosen for this study (Khoros, 2020).

Instead snowball sampling is a technique in which the researchers contact an initial group of people that is relevant for the study and then subsequent participants are reached through their referrals from the initial group thus creating a snowballing effect (Bryman & Bell, 2011; Malhotra et al., 2017). In the context of this questionnaire, the authors used their personal network as an initial group of participants and asked them to share the survey with other people they believed would be relevant for the study. Through snowball sampling, the authors tried to increase the representation of their sample as their contacts shared the questionnaire with people from different countries, ages and backgrounds.

Combining those two methods allowed reaching a large group of individuals which belonged to the target group. However, since non-probability sampling is not based on statistical inferences, it is not possible to know whether the sample is representative of the population, as only generalizations can be done (Saunders et al., 2016). Furthermore, using non-probability sampling is connected to the risk for selection bias, in particular due to participants' self-selection in carrying out the questionnaire, and this also causes the sample not to be fully representative of the population (Malhotra et al., 2017). To marginalize this issue, the authors tried to improve response rate though follow-up and by sending reminders to potential participants both via Facebook and within their personal network. However, as Qualtrics considers each access to the questionnaire as a started questionnaire, it was not possible to monitor whether those methods were effective in reducing the bias.

The authors distributed the questionnaire with the objective or reaching at least 150 complete responses. The decision was driven by personal judgment and justified by the pragmatic philosophy adopted by the thesis which views knowledge as an instrument to successfully perform actions and used in the context of the concrete situation studied (Saunders et al., 2016).

The sample of people that started the questionnaire amounted to 402, but of those, only 240 were completed. The reason for this relatively low response rate of the survey could be impacted by the length of the survey itself (around 10 minutes) which could have restrained some potential respondents from participating or the presence of the video clip within the questionnaire which, requiring a high level of attention, may have discouraged others. This is shown by the fact that 57% of the participants who did not conclude the questionnaire, interrupted it in the first page (where the length of the survey was shown), while 19% in the second one (which included the video clip). After having filtered out incomplete responses, the authors excluded those who did not belong to the targeted age group and that had answered the question relative to the yellow square (Q2) with a margin of error within -6 and +6 thus showing that they had actually paid attention to the video. Finally, those who have not recalled or remembered any of the brands included in the video, were excluded from the analysis. After removing those responses from the data collected, the sample counted 159 elements. Thus, the authors managed to reach the objective that they had prefixed of reaching at least 150 responses for the survey.

For the qualitative side of the study, the authors decided to carry out sampling with a non-probability technique as for the quantitative part but using judgemental sampling. Through this method, the authors were able to select the participants to the semi-structured interviews so that they would create a diverse and representative group. However, due to the subjectivity underlying the judgemental sampling method, the representativeness of the sample of interviewees cannot be guaranteed (Malhotra et al., 2017). The participants to the semi-structured interviews were chosen from the personal connections of the authors. The interviewees, which belonged to the target group of the study, were selected by the authors before distributing the questionnaire in order to avoid that they would get in contact with the video and the questions of the survey before their interview took place.

The participants for the interview were chosen amongst those who did not take part in the quantitative data collection, to avoid bias in their responses as they had not yet answered questions regarding the effectiveness of in-game advertising. Participants thus watched the video for the first time right before the beginning of the interview to prevent them to willingly focus on the elements of in-game advertising and to insure a honest and immediate reaction to the elements of violence.

The authors decided to carry out five semi-structured interviews. The decision was once again driven by personal judgement and in line with the pragmatic philosophy adopted by the study. However, as the interviews had to be carried out only on those that had recalled or recognized brands under analysis during the video, the authors decided to organize interviews with eight people to increase the probability that all

five the interviewees had actually noticed at least one of the brands. Eventually, six out of the eight people had seen the brands and carried out the complete interview.

As illustrated by Table 2, the six participants selected were from three nationalities (Italy, Germany and Pakistan) and four of them were male, while two female. The interview participants had different ages, but all belonged to the age group targeted by the study and they were either employed or students from different disciplines. Within the sample, five played video games regularly while one did not. As for the questionnaire, the authors did not specifically target individuals playing video games to examine whether reactions to in-game advertisements in violent video games differed.

Table 2. Characteristics of interviewees

Interviewee	Country of origin	Gender	Age	Occupation	Video game experience
1	Pakistan	Male	27	Student	Yes
2	Italy	Female	25	Student	No
3	Germany	Male	23	Full-time employee	Yes
4	Italy	Female	23	Student	Yes
5	Italy	Male	24	Full-time employee	Yes
6	Italy	Male	24	Student	Yes

Source: table made by the authors

6.6 Validity and reliability

The quality of the research can be determined by its extent of reliability and validity. The former reflects the degree of consistency and replication of the study (Saunders et al., 2016). The combined work of both authors in designing and conducting the various steps of the research ensures that the main threats to consistency are avoided. Additionally, securing reliability is achieved by rigorously reviewing the process of conducting the analysis. Both the data collection and the data analysis are thus methodologically carried out, minimizing participants' and researchers' errors and biases that could harm the reliability of the study. Questions have been elaborated in order to minimize the potential incomprehension by the participants of the survey. Additionally, in order to ensure maximum understanding of the questions and that the video of the gameplay would be positively be received by the participants, the questionnaire and the video have been pre-tested, and then changed accordingly to the answers and feedbacks received.

The second measure of the quality of a study is validity: it depicts whether the analysis and the measurements capture the causal relationship between variables and if the results of the study can be generalized (Saunders et al., 2016). It can be of two types, either internal or external. Internal validity reflects the degree of integrity of the study, therefore if it correctly depicts the causal relationship between two variables (Saunders et. al, 2016). The literature review helps identify the variables and the direction of the causal relationship amongst them, however it is not possible to exclude the possibility that respondents may have been influenced in their answers by other exogenous elements. The authors have aspired to be objective in their attitude when analyzing the data from the interviews, in order to minimize the threat to internal validity. The quantitative side of the study ensures internal validity as the data is obtained through a questionnaire and thus the results cannot be maneuvered by the authors. During the collection of information through the interviews instead, the objectivity of the study is maintained thanks to the nature of the semi-structured interviews: the guidelines set out in advance in fact allow the interviewers not to drift away from the main focus of the questions, whilst allowing for a certain degree of freedom in the conversation. Finally, the internal validity of the survey is ensured by the mixed methodology of the data collection: the findings from the quantitative data are in fact further explored through the semi-structured interviews. The existence of major faulty results would consequently be uncovered in the second part of the analysis.

External validity refers to the degree of which the results of the study can be generalized (Saunders et al., 2016). The work aspires at reaching it by aiming at collecting the data from a wide sample. Thus, the survey plans at reaching a statistically significant number of respondents. However, given that the sample of participants is collected through a non-probability, convenience and snowball sampling, the authors cannot ensure that the sample is representative of the whole population. The semi-structured interviews are conducted by the two authors thus minimizing the degree of subjectivity and different respondents are included in this qualitative study.

7. Quantitative research findings

This section illustrates the findings originated from the questionnaire. After having explained the process of data collection and of analysis adopted for the quantitative data, the authors proceed by first testing the hypotheses developed for the four elements of the conceptual framework (i.e. congruity, brand familiarity, brand prominence and arousal from violence) and then analyzing the results.

7.1 Quantitative data collection process

Once the data from the questionnaire was collected and before analyzing it with Stata, the authors extracted it from Qualtrics and reported it on Excel where it was then coded and transformed as follows.

As the brand awareness variable is constituted by three sub-variables (i.e. unaided brand recall, aided brand recall and brand recognition), in order to create a unique variable for brand awareness, the authors performed the following transformations on the categorical data found in the open-ended questions related to unaided and aided brand recall as well as on the multiple-choice question on brand recognition. First, answers on unaided and aided brand recall (Q3 to Q5) which identified at least one of the six brands present in the video clip, were labeled respectively '4' and '2'. Second, in the question on brand recognition (Q6), brands were ordered alphabetically and numbered from '1' to '12' and the open-answer option 'Other' was coded as '13'. Subsequently, the answers that contained any of the brands present in the video were manually labeled '1'. The results from the three questions were then added together and they were ranging from '0', when no brand was either recalled or recognized, to '7', when at least one brand was both recalled (without and with aids) and recognized. Responses scoring '0' were excluded from the analysis while the remaining ones were grouped into three categories, in order to form a new 3-point ordinal variable: those that were able to identify a brand only at the recognition level (thus scoring '1') where recoded as '1'. Those that instead perceived a brand at the recognition and aided recall level (scoring '3') were coded as '2', whilst the observations that recalled a brand also in the unaided recall step (that had scored either '5' or '7') were categorized as '3'.

Questions with dichotomous answers such as 'Familiar' and 'Unfamiliar' for brand familiarity were respectively transformed into '1' and '0'. The 5-point Likert scales that ranged from 'Strongly disagree' to 'Strongly agree' or other specific statements going from negative to positive that were strictly related to the

question (e.g. in Q9, from 'I definitely feel less close to the brand' to 'I definitely feel closer to the brand') were transformed and simplified into 3-point scales ranging from '1' to '3'. A score of '1' was given to the two negative options in the 5-point Likert scale, '2' was instead assigned to the central option that was neutral, while '3' was reserved for the two positive options.

The variables for brand association, attitude, attachment and activity are all examples of 5-point Likert scales that are transformed into 3-point scales. However, when analyzing the impact of arousal from violence on them, they are converted to dichotomous variables in which the extreme values, '1' and '3' are merged together, while the intermediate score '2' remains on its own. The two merged scores take value '1', while '2' that of '0'. The reason behind this transformation lays in the fact that the hypotheses associated to these variables investigate whether a greater level of arousal from violence has a more extreme impact on the evaluation of brand association, attitude, attachment and activity. Thus, in this case, the authors do not examine whether there is a positive or negative impact, but only if there is one which is not neutral and because of this the extreme responses from the 3-point scale are merged together.

Table 3 below summarizes the questions related to both brand equity and the elements of the conceptual framework and the transformation that the authors applied before analyzing them (refer to Appendix 5 for the complete questionnaire).

After having coded and transformed the data, the following step required cleaning the data sample as already shortly described in Section 6.5. First, only the questionnaires that were completed in their integrity were kept for further analysis. Secondly, the respondents who did not fit the age of the sample target (between 18 and 41 years old) were excluded from the study. Also, the respondents who miscounted the number of visual cues placed by the authors in the video (i.e. the flashing yellow squares) with a margin of error of +/-6, were eliminated. If the responses counted a too high or too low number of visual cues, the authors interpreted that the respondent did not pay enough attention of the video, and thus the subsequent answers would be biased. Finally, the respondents who did not see any of the brands during the video in the questionnaire and that thus scored '0' in the variable for brand awareness, were excluded from further analysis.

Table 3. *Measurement scales and transformation of variables*

Q	Variable	Measurement scale	Transformation	
3-4	**Unaided brand recall**	Q3: Yes /No Q4: Open-answer	If any brand shown in the video is recalled: score '4' is assigned	1: Low (sum: 1)
5	**Aided brand recall**	Open-answer in each of the categories	If any brand shown in the video is recalled: score '2' is assigned	2: Medium (sum: 3)
6	**Brand recognition**	Multiple-choice answer	If any brand shown in the video is recognized: score '1' is assigned	3: High (sum: 5-7)
7	**Brand association**	5-point Likert scale: - Strongly disagree […] - Strongly agree	1: Negative 2: Neutral 3: Positive	With arousal from violence: 0: No effect 1: Effect
8	**Brand attitude**	5-point Likert scale: - Strongly disagree […] - Strongly agree		
9	**Brand attachment**	5-point Likert scale: - I definitely feel less close to the brand […] - I definitely feel closer to the brand		
10	**Brand activity**	5-point Likert scale: - Strongly disagree […] - Strongly agree		
11	**Brand familiarity**	Dichotomous answer: - Familiar - Unfamiliar	1: Familiar 0: Unfamiliar	
12	**Congruity**	5-point Likert scale: - Definitely a bad fit […] - Definitely a good fit	1: Incongruent (bad fit) 2: Neutral 3: Congruent (good fit)	
13	**Brand prominence**	5-point Likert scale: - Definitely subtle […] - Definitely noticeable	1: Subtle 2: Neutral 3: Prominent	
14	**Arousal from violence**	5-point Likert scale: - Definitely boring […] - Definitely impressive	1: Low arousal (boring) 2: Neutral 3: High arousal (impressive)	

Source: table made by the authors

As each participant in the sample noticed a different combination of brands, the authors decided to carry out the analysis by considering only the data from the brands that were seen by each of the participants. The sample used in the main analysis focused on validating the hypotheses suggested by the authors has N = 298 elements, despite the sample of respondents amounted to 159. The reason behind this increase in observations, originates from the adopted procedure to create new variables, composed by the values of the responses to each of the brands noticed by the respondents. In fact, respondents would not give a general answer on how each step of the brand equity was impacted after viewing the video, but they would give a different answer for each brand. Rather than considering one respondent's answer as an observation, each

brand-specific answer was independently considered an observation for further analysis. More practically, since many of the questions were brand-specific, for each of the variables, the 12 observations of those who have seen Nike are listed together with the 17 of Ben & Jerry's, the 101 of Burger King, the 69 of McDonald's, the 43 of Everlast and the 56 of Audi. This approach was applied only to the variables when they were related to any of the elements with brand-specific data.

Alternatives to the method described above have been taken into consideration. For example, an option comprised combining the responses by summing their value and dividing the number of items (this alternative therefore entailed the creation of a new variable made of the 'mean' score for the responses).

Compared to the aforementioned alternative, however the method first illustrated allows to better define the impact of each of the reponse in the sample. In fact, by not using means, but incorporating in the variable the intact answers corresponding to each of the brands that were seen by the respondent, the variable created is able to represent the effect on the advertised brands in a more comprehensive manner. Creating a new variable by taking the mean score of the response in fact would inevitably homogenize and uniform towards the mean score, even in cases where there is a large variance of scores across the brands' responses.

Another contemplated alternative was to divide brands in groups relatively to their level of congruity, prominence or familiarity (not violence as it was not calculated specifically related to the brand). However, this method was not convenient for the analysis since the means of the brands were often too close to each other for it to make sense to separate them in two categories. For example, all brands were characterized by a very high level of brand familiarity, so dividing them in brand categories with high and low familiarity would have been impractical and arbitrary. Furthermore, as each brand was seen by a significantly different number of participants (e.g. 12 people noticed Nike, 101 Burger King, etc.), creating different groups or analyzing brands individually would have created issues related the sizes of the various samples. For these reasons, the authors decided that listing the results of each of the brands seen for the various variables would be the most adequate solution. Despite this, it should be considered that the individual impact of each of the brands is partially lost in the analysis since all the values for the six brands are condensed together in a unique variable.

7.2 Process of data analysis

To statistically test the hypotheses, the authors can choose between adopting either *parametric* or *non-parametric* tests. The former are designed to be carried out when the data is normally distributed and assume that the variables are measured on an interval or ratio scale. Differently, non-parametric tests are applied when data is not normally distributed and when variables are measured using a nominal or ordinal scale (Malhotra et al., 2017; Saunders et al., 2016). In this study, the authors decided to apply non-parametric tests after having tested the normality of the data and considering the measurement scales used in the questionnaire. In fact, first, by analyzing the distribution of the data through the skewness and kurtosis test for normality, it resulted that the large majority of dependent and independent variables were not normally distributed. Furthermore, the measurement scale that was most largely used throughout the questionnaire was the 5-point Likert scale, then converted to a 3-point Likert scale, which can be interpreted as either an interval or an ordinal scale. However, given the nature of the questions, the authors decided to interpret the Likert scales as ordinal since the magnitude of the difference between the various alternatives could not be determined (Malhotra et al., 2017). Given that the variables in analysis are of different nature, as some are ordinal whilst other binary, various tests are employed when testing the hypotheses.

This type of statistical analysis requires that the results are statistically tested for significance, which means that it has to clarify and render explicit the likeliness that the pattern found in analysis exists in the population. The *confidence level* states the probability, if the analysis was repeated over and over, that the results of the samples reflect true characteristics of the target population (Saunders et al., 2016). In research usually a confidence level of 95% is employed, which corresponds to a *significance level* (or α) of 5% (i.e. the probability that the results of the test occur by chance alone) (Saunders et al., 2016). The significance level of 5% is also used in this study: therefore, results are considered as statistically significant only if the probability value (p-value) is greater than 0.05.

The analysis is carried out by using three non-parametric tests, namely the Mann-Whitney U test (Section 7.2.1), the Kruskal-Wallis H test (Section 7.2.2) and the Chi-square test (Section 7.2.3). Furthermore, two non-parametric measures are used to assess the strength of the relation between variables: Spearman's rho and Cramer's V (Section 7.2.4).

7.2.1 Mann-Whitney U test

When comparing two groups where the independent variable is dichotomous and the dependent variable is ordinal, the Mann-Whitney U test is used. This test relies on the ordinal nature of the variables: it combines the observations into one group, ranks them together and assigns scores based on the observations' position. Subsequently, it examines the differences in the ranked positions of the scores. If the test results significant, it means that the two groups do not have the same distribution, and that one group more of the top ranks compared to the other, thus it results in having higher scores (Acock, 2012).

7.2.2 Kruskal-Wallis H test

In order to test the chance that a difference exists between three or more groups, commonly the one-way analysis of variance (ANOVA) is employed. This statistical tool however is used where the dependent variable is of metric nature, measured at least on an interval level. On the other side, the data gathered by this study mainly derives from Likert scales, and is thus of ordinal nature. Therefore, the ANOVA is not the most appropriate tool to test differences between the groups, but another test should be employed for this case (Acock, 2012).

The Kruskal-Wallis is therefore adopted for this study in the cases where both independent and dependent variables are ordinal, and more than two samples should be compared. The Kruskal-Wallis compares the groups by ranking the observations from lowest to the highest score, and then compares scores across the different groups (Acock, 2012). If there is a significant difference between the groups, then there is a difference amongst the test groups. This test, however, does not show which of the groups differentiates from the others. Thus, in case of significant Kruskal-Wallis test, in order to discover which group differs from the others, a post-hoc analysis should be performed, and in this study it is conducted using the previously described Mann-Whitney test. Through the pairwise comparisons using the Mann-Whitney test, it is possible to explore which of the groups differentiate from the others.

7.2.3 Chi-square test

The Chi-square test is employed in this study when the dependent variable is a categorical, non-ordinal, variable. The observations of dependent and independent variables are combined through the use of a cross-

tabulation. The Chi-square test is then used to determine whether two variables are independent: the test compares the observed frequencies in each cell of the table with the expected results, assuming independence between the variables (Acock, 2012). The test relies on the assumption that at least 25% of the cells in the table have an expected value of at least 5, which therefore has to be met when analyzing the results of this study (Saunders et al., 2016).

7.2.4 Spearman's rho and Cramer's V

To determine the strength of the association between the independent variables, this study uses two non-parametric measures: Spearman's rho and Cramer's V. They are both used in bivariate statistics, but while the former consists in a bivariate measure of rank correlation that is used when the variables are ordinal or continuous, Cramer's V can be applied when at least one of the variables is nominal. The strength of the association can be of different degrees depending on the values of the correlation coefficient: the value of Cramer's V can go from 0 to 1, whilst Spearman's rho value ranges from -1 to +1 (Saunders et al., 2016).

7.3 Quantitative results

After being accurately polished by the authors, the data retrieved from the questionnaire reported the following descriptive findings from 159 respondents (Table 4). Within the target group aged 18-41, the majority of participants belonged to the age range 18-25 and included mostly students or employed individuals. Furthermore, the results, which showed a slightly higher rate of female respondents (53.2%) compared to male, belonged to individuals living in 17 countries across four continents with a majority of respondents from Italy, country of origin of the authors.

The responses related to video games showed that 52.6% of the participants to the questionnaire does play video games, while the remaining 47.4% does not. Also 34% stated to be a fan ('Definitely yes' and 'Somewhat yes') of the genre of video games displayed in the video clip (i.e. violent), while about 55% declared not to be a fan ('Definitely no' and 'Somewhat no').

Table 4. Summary of the descriptive data from the questionnaire

	Descriptive Data		
Q15	Age	18-25	63.5%
		26-33	34.0%
		34-41	2.6%
Q16	Gender	Female	53.2%
		Male	45.5%
		Would rather not say	1.3%
Q17	Country of origin	Italy	64.1%
		Denmark	13.5%
		Germany	6.4%
		Other	16.0%
Q18	Occupation	Student	54.5%
		Employed	30.1%
		Other	15.4%
Q19	Hours/week spent playing video games	Play video games	52.6%
		Do not play video games	47.4%
Q20	Fans of violent video games	Yes	34.0%
		Neutral	10.9%
		No	55.1%

Source: table made by the authors

The following analysis aims at answering the research question by testing the hypotheses developed by the authors in the conceptual framework. The items of the conceptual framework, namely brand - game congruity, brand familiarity, brand prominence and arousal from violence are the independent variables in the study, while the five dimensions of Keller's CBBE pyramid are the dependent ones. Table 5 below summarizes the various hypotheses and the respective variables associated to them. After having described the statistical tests that are used in the study, it is investigated how the four elements of the conceptual framework impact the various dimensions of brand equity.

Table 5. *Hypotheses testing*

Hypotheses	Independent variable	Dependent variable	Statistical test
H1a: Incongruent brands have a more positive impact on brand awareness compared to congruent ones.	Congruity	Brand awareness	Kruskal-Wallis H and Mann-Whitney U
H1b: Congruent brands have a more positive impact on brand association compared to incongruent ones.		Brand association	
H1c: Congruent brands have a more positive impact on brand attitude compared to incongruent ones.		Brand attitude	
H1d: Congruent brands have a more positive impact on brand attachment compared to incongruent ones.		Brand attachment	
H1e: Congruent brands have a more positive impact on brand activity compared to incongruent ones.		Brand activity	
H2a: Familiar brands have a more positive impact on brand awareness compared to unfamiliar ones.	Brand familiarity	Brand awareness	Mann-Whitney U
H2b: Familiar brands have a more positive impact on brand associations compared to unfamiliar ones.		Brand association	
H2c: Familiar brands have a more positive impact brand attitudes compared to unfamiliar ones.		Brand attitude	
H2d: Familiar brands have a more positive impact on brand attachment compared to unfamiliar ones.		Brand attachment	
H2e: Familiar brands have a more positive impact on brand activity compared to unfamiliar ones.		Brand activity	
H3: Prominent brands have a more positive impact on brand awareness compared to subtle ones.	Brand prominence	Brand awareness	Kruskal-Wallis H and Mann-Whitney U
H4a: A high level of arousal from violence negatively impacts brand awareness.	Arousal from violence	Brand awareness	Chi-square
H4b: The greater the level of arousal from violence, the more extreme the evaluation of brand associations is		Brand association	
H4c: The greater the level of arousal from violence, the more extreme the evaluation of brand attitude is		Brand attitude	
H4d: The greater the level of arousal from violence, the more extreme the evaluation of brand attachment is		Brand attachment	
H4e: The greater the level of arousal from violence, the more extreme the evaluation of brand activity is		Brand activity	

Source: table made by the authors

In order to familiarize with the results of the quantitative analysis related to brand equity, an overview on the responses has been drafted in Table 6. A first glance at the results shows that generally respondents were highly aware of the brands advertised in the video games. However, most of them found that seeing the advertisement in the video game did not have a significant impact on the upper levels of the CBBE pyramid (i.e. brand association, attitude, attachment and activity) since the neutral responses amounted to on average more than 50%. By analyzing instead the responses of the participants that thought that the

viewing of the advertisement had an impact on their perception of the brand, the effect was positive for brand association and brand attachment. However, for brand attitude, the number of observations stating that the effect was either positive or negative were equivalent. Additionally, the observations related to brand activity displayed an unusual split: more respondents found that viewing the brand in the video game have had a negative impact on their purchasing intentions of the product advertised, compared to the positive ones.

Although the results summarized in this table suggest several implications and effects of in-game advertising on brand equity, such figures are not statistically significant. Thus, a statistically relevant approach is conducted in the following sections. in order to inspect the results of the questionnaire.

Table 6. Overview of responses relative to brand equity

	High awareness	Medium awareness	Low awareness
Awareness	53%	32%	25%
	Positive impact	**Neutral impact**	**Negative impact**
Association	24%	64%	12%
Attitude	18%	64%	18%
Attachment	18%	74%	8%
Activity	17%	55%	28%

Source: table made by the authors

7.3.1 Brand - game congruity

To study whether brand - game congruity is related to brand equity, the authors carry out two tests. The Kruskal-Wallis test is used to determine if congruity has an effect on the levels of the brand equity pyramid. Subsequently, if a statistically significant effect of congruity on one or more of such variables, the Mann-Whitney test is employed in order to determine the nature of this impact. The variable for congruity was constructed by including, one after the other, the scores for congruity relative to each of the six brands. The variable (N = 298) is characterized by 46% of the responses that believe there is a good fit between brands and the game, 24% a bad fit with the remaining 30% considered the level of congruity as neutral. In terms of video games experience, the responses show that the ones who play video games on average find the brands more congruous than the ones who do not play video games on a regular basis (Figure 7). A similar effect was found for the responses of people who are either fan or have a neutral opinion of violent video

games: these responses in fact perceived on average the brands to be more congruous to the video game context. In general, people who do not play video games and are not fan of the violent video games found brands to be more incongruent.

Figure 7. General statistics on brand - game congruity
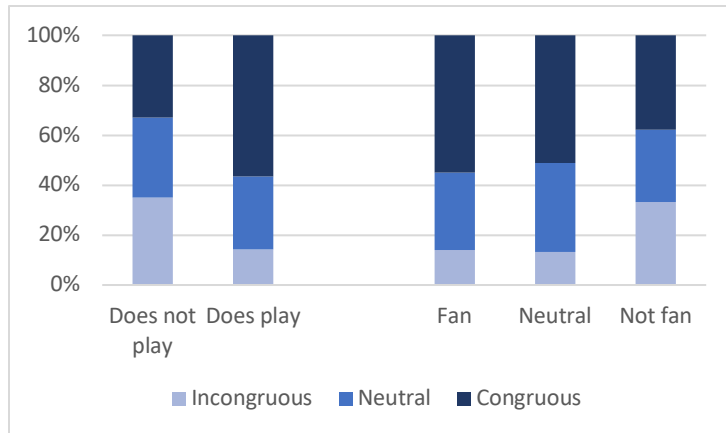
Source: figure made by the authors

H1a-e: Brand awareness, association, attitude, attachment and activity

The hypotheses developed by the authors state that the degree of congruity of brand-video game would have a dual and opposite effect on the different levels of brand equity. On one side in fact, incongruity would increase the degree to which players are aware of brands in the video games, but it would have a negative impact on the higher levels of brand equity.

Hypothesis 1a therefore states that incongruent brands would have a positive impact on brand awareness compared to congruent ones. As the dependent variable (brand awareness) is measured on an ordinal scale, the Kruskal-Wallis test is exploited in order to analyze the effect of congruity on the respondents' degree of perception of a brand. The results of the mean ranks (i.e. sum ranks divided by the number of observations) show that incongruity does have a positive impact on brand awareness: if respondents deemed a brand not to fit well in the context of the video games, such brand would also receive a greater score in terms of brand awareness. The Kruskal-Wallis test however does not show any statistically significant

association between awareness and brand - game fit (χ^2 (2, N = 298) = 4.763, p > 0.05), therefore the hypothesis that the two variables are different cannot be rejected, and H1a is not accepted.

Hypotheses 1b, 1c, 1d and 1e suggested that congruent brands would have a positive impact on the four upper levels of Keller's CBBE pyramid. In fact, a brand - game good fit can enhance the realism of a gaming environment and can positively influence the players' perception of the game and in turn the advertised brand. Given that congruity, association, attitude, attachment and activity are also ordinal variables that can take value of '1', '2' or '3', the Kruskal-Wallis H test is employed for testing the effect of congruity on such items of the brand equity model. The test compares the results of those thinking that there is a good/bad fit between the brands and the video game, and the ones that have a neutral opinion. Thus, according to the hypotheses, congruent brands (i.e. where the brand-video game fit is good) would achieve a higher score relatively to the other two options and would therefore have a more positive impact on the four factors of brand equity.

The results from the four tests are all statistically significant therefore showing that a difference exists between the three groups (i.e. good fit, neutral, bad fit) in brand association, attitude, attachment and activity. More specifically, they score χ^2 (2, N = 298) = 33.735, p < 0.05 for brand association, χ^2 (2, N = 298) = 36.361, p < 0.05 for brand attitude, χ^2 (2, N = 298) = 34.912, p < 0.05 for brand attachment and χ^2 (2, N = 298) = 19.663, p < 0.05 for brand activity. Thus, an effect of congruity on these four factors of Keller's CBBE pyramid exists, although its nature is not specified. From the Kruskal-Wallis H test, in fact, it is not possible to see which of the three groups is different from the others. To understand this, the authors decided to apply the Mann-Whitney U test to each pair of groups (i.e. bad fit, neutral and good fit). The pairwise comparison tests the groups two by two, allowing the authors to identify which group is different from the others.

As indicated in Table 7, the Mann-Whitney U test shows that, for brand association, the group that viewed the brands as good fit was statistically different from the bad fit and neutral groups, therefore it is possible to imply that the congruity of brand with video game has an effect on the level of association that the respondents felt with the brand after viewing the video. Additionally, given that the observations in which there was a higher mean rank correspond to the group where there was good fit between the brand and the video game, it can be concluded that congruity has a positive effect on brand association.

The observations for brand attitude and congruity carry similar results: the distribution of the observations stating a good fit between the brand and the video game in fact is significantly different from the others,

thus there is a clear impact of perceived good fit of brand - video game on the respondents' attitude towards the brands. The analysis of the mean rankings shows furthermore that on average, perceived good fit was associated with an improved brand attitude, thus confirming Hypothesis 1c.

Table 7. Congruity and brand awareness, association, attitude, attachment and activity

|		Kruskal-Wallis H test			Mann-Whitney U test		
		N	Rank sum	Mean Rank	Pairs	Rank sum	p-value
Brand association	Bad fit (incongruity) - 1 Neutral - 2 Good fit (congruity) - 3	71 91 136	8656.50 11942.50 23952.00	121.9 131.2 176.1	1 2	5518.5 7684.5	0.2402
					2 3	8444 17434	0.0000
					1 3	5694 15834	0.0000
		N	Rank sum	Mean Rank	Pairs	Rank sum	p-value
Brand attitude	Bad fit (incongruity) - 1 Neutral - 2 Good fit (congruity) - 3	71 91 136	7919.50 12869.50 23762.00	111.5 141.4 174.7	1 2	5071.5 8131.5	0.0034
					2 3	9663 16215	0.0069
					1 3	5404 15834	0.0000
		N	Rank sum	Mean Rank	Pairs	Rank sum	p-value
Brand attachment	Bad fit (incongruity) - 1 Neutral - 2 Good fit (congruity) - 3	71 91 136	8270.00 12868.00 23413.00	116.5 141.4 172.2	1 2	5167 8036	0.0040
					2 3	10054.5 15823.5	0.1484
					1 3	5659 15869	0.0000
		N	Rank sum	Mean Rank	Pairs	Rank sum	p-value
Brand activity	Bad fit (incongruity) - 1 Neutral - 2 Good fit (congruity) - 3	71 91 136	8229.00 13722.50 22599.50	116 150.8 166.2	1 2	4963.5 8239.5	0.0015
					2 3	9846.5 16031.5	0.0719
					1 3	5821.5 15706.5	0.0000

Source: table made by the authors

Additionally, the effect of congruity on the last two factors of Keller's CBBE pyramid matches the expectations, as the Mann-Whitney test shows a positive effect of brand-video game congruity on brand attachment and brand activity, compared to incongruous ones. The test in fact suggests that a difference exists on brand attachment and activity scores between the observations showing a bad fit and a neutral opinion, and the observations reporting a bad fit compared to a good fit. The analysis of the mean ranks shows that congruous brands have a more positive impact on brand attachment and activity only if compared to incongruous brands, thus H1d and H1e are supported. However, it is not possible to conclude that congruity improves any of these two levels of brand equity if compared to brands for which there is a neutral opinion of their relevancy in the gaming context.

7.3.2 Brand familiarity

To examine how brand familiarity relates to the different levels of Keller's CBBE pyramid, the authors perform the Mann-Whitney U test, as brand familiarity, the independent variable, is characterized by only two groups (i.e. familiar and unfamiliar) and the brand equity levels are ordinal variables. The Mann-Whitney U test is used relatively to awareness, association, attitude, attachment and activity to analyze how brand familiarity relates to them. The variable for brand familiarity (N = 298) is constituted by 92% of responses that considered the brands as familiar, while 8% as unfamiliar. The large percentage related to familiarity can be explained by the fact that the authors chose for this study brands well-known worldwide in order to reach a larger pool of respondents. The large percentage of familiarity of the advertised brands can be seen also in Figure 8 which relates familiarity to variables captured by questions 19 and 20. These in turn refer respectively to the respondents' video games experience (i.e. whether they play or do not play video games) and their opinion (i.e. fan, neutral, not a fan) towards the genre of the video games shown in the questionnaire. As suggested before, the figure shows a large predominance of brand familiarity in both variables.

Figure 8. *General statistics on brand familiarity*
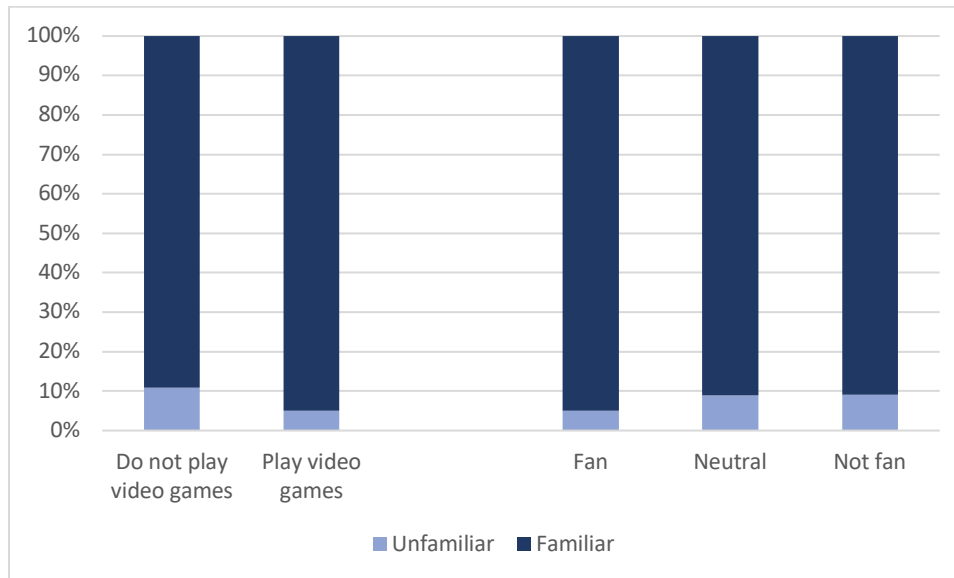
Source: figure made by the authors

H2a-e: Brand awareness, association, attitude, attachment and activity

Hypothesis 2a suggested that familiar brands would have a positive impact on brand awareness compared to unfamiliar ones. The Mann-Whitney test reveals that the relation between the two variables, brand familiarity and brand awareness, is statistically significant at a 95% confidence level, since $p < 0.05$. Additionally, the test shows that observations of familiar brands also score higher in terms of brand awareness (Table 8). On the other hand, being unfamiliar with a brand hinders the respondents' ability to recall and recognize a brand in the video. Those results back up the hypothesis developed by the authors since they indicate that participants were more aware of brands that were familiar to them. Due to the findings, hypothesis 2a is therefore supported.

Hypotheses 2b, 2c, 2d and 2e propose that familiar brands would positively impact brand association, attitude, attachment and activity. Since brand familiarity is a dichotomous variable that takes values '0' or '1', the Mann-Whitney U test is again employed to understand the relation of the two groups of brand familiarity with respect to the remaining levels of Keller's CBBE pyramid. The results of the Mann-Whitney test show that none of the comparisons between familiarity and brand association, attitude,

attachment and activity is statistically significant since p > 0.05 (Table 8). As a result, brand familiarity does not have an effect on the higher levels of the CBBE pyramid and hypotheses 2b, 2c, 2d and 2e are rejected.

Table 8. Brand familiarity and brand awareness, association, attitude, attachment and activity

Mann - Whitney					
	Familiarity	**N**	**Rank Sum**	**Mean Rank**	**p-value**
Brand Awareness	Unfamiliar - 0	23	2046.5	88.98	0.0001
	Familiar -1	275	42504.5	154.56	
Brand Association	Unfamiliar - 0	23	3429	149.09	0.9775
	Familiar -1	275	41122	149.53	
Brand Attitude	Unfamiliar - 0	23	3561	154.87	0.7164
	Familiar -1	275	40990	149.05	
Brand Attachment	Unfamiliar - 0	23	3377.5	146.85	0.8416
	Familiar -1	275	41173.5	149.7	
Brand Activity	Unfamiliar - 0	23	3398	147.7	0.9097
	Familiar -1	275	41153	149.6	

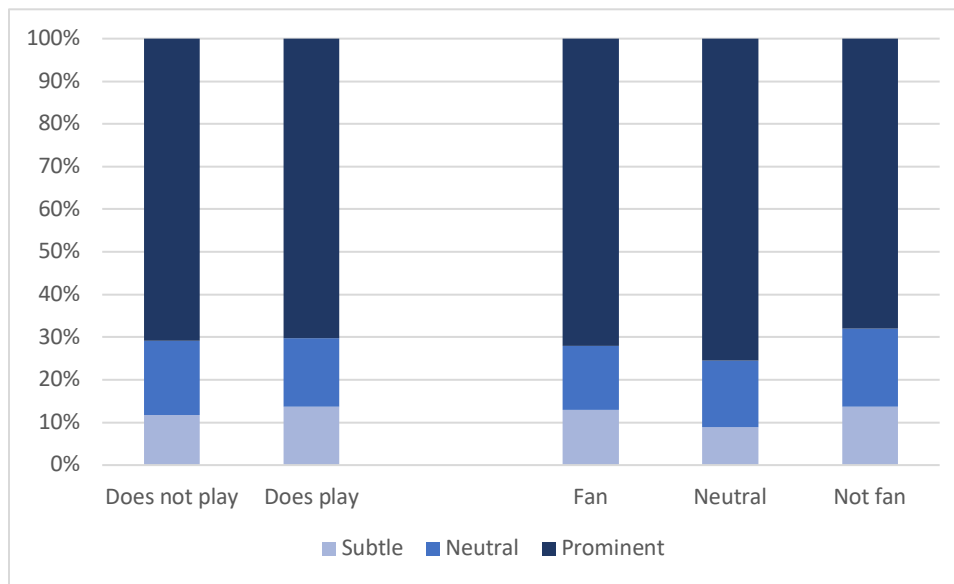*Source: table made by the authors*

7.3.3 Brand prominence

In the conceptual framework (Section 4.2.3), the authors have developed one hypothesis related to brand prominence and it refers only to the lowest level of Keller's CBBE pyramid, brand awareness. In fact, the first step for a brand to achieve brand equity entails getting customers to be aware of the brand, which is therefore dependent on the degree to which it noticeable. The level of prominence however, is assumed to only affect brand awareness, but not the higher levels of the pyramid, as the degree to which an advertisement is noticed does not positively or negatively affect the consumers' perception of a brand's benefits and characteristics.

The variable for brand prominence (N = 298) is constituted by 70% of responses that considered the brands as prominent, while only 13% as subtle and 17% had a neutral opinion. The high prevalence of prominent brands can be explained by the fact that, by including in the analysis only the data of the brands that were

noticed by each of the participants. In fact, respondents tended to consider the brands that they had seen as more prominent than others that they may have missed and thus considered more subtle.

Analyzing brand prominence with respect to the respondents' experience in playing video games and their opinion towards the violent genre of video games, it appears that prominent brands are consistently more prevalent across the various variables compared to brands that are seen as subtle or neutral (Figure 9).

Figure 9. *General statistics on brand prominence*

Source: figure made by the authors

H3: Brand awareness

Hypothesis 3 which states that prominent brands achieve a greater score in terms of brand awareness compared to subtle ones, is examined through the Kruskal-Wallis and the Mann-Whitney test. The first test is statistically significant, as $p < 0.05$, and thus an effect of prominence on brand awareness exists. Therefore, the Mann Whitney test is executed. The test is statistically significant since the p-value for the pair Subtle-Prominent and Prominent-Neutral is $p < 0.05$ and it can thus be assumed that a relationship exists between brand prominence and brand awareness. Table 9 shows that the responses considering a brand prominent also on average had a higher awareness of the presence of such brand in the gaming environment. Additionally, brands that were perceived as being subtly positioned were also associated with

a lower brand awareness, compared to brands which were considered neither subtle nor prominent. Given the statistically significance of the test and the results of the analysis, H3 is supported by the data.

Table 9. *Brand prominence and brand awareness*

		Kruskal-Wallis H test			Mann-Whitney U test		
	Prominence	N	Rank sum	Mean Rank	Pairs	Rank sum	p-value
Brand awareness	Subtle – 1 Neutral – 2 Prominent – 3	38 50 210	3776 6160 34615	99.37 123.20 164.83	1 2	1521 2395	0.1100
					2 3	5040 28890	0.0005
					1 3	2996 27880	0.0000

Source: table made by the authors

7.3.4 Arousal from violence

The variable of arousal from violence (N = 298) is characterized by 50% of the respondents that found violence in the video clip impressive, 12% that found it boring and 38% that were not affected by it.

The perceived level of arousal greatly differed based on the respondents' video games habits: responses of those who do not play regularly video games found more impressive the violence from the videos compared to those who play and that had a neutral opinion about it and were thus not aroused. Also, the ones who were not fans of the violent video games genre were more struck by it compared fans or those who feel neutral about it (Figure 10).

Figure 10. General statistics on arousal from violence
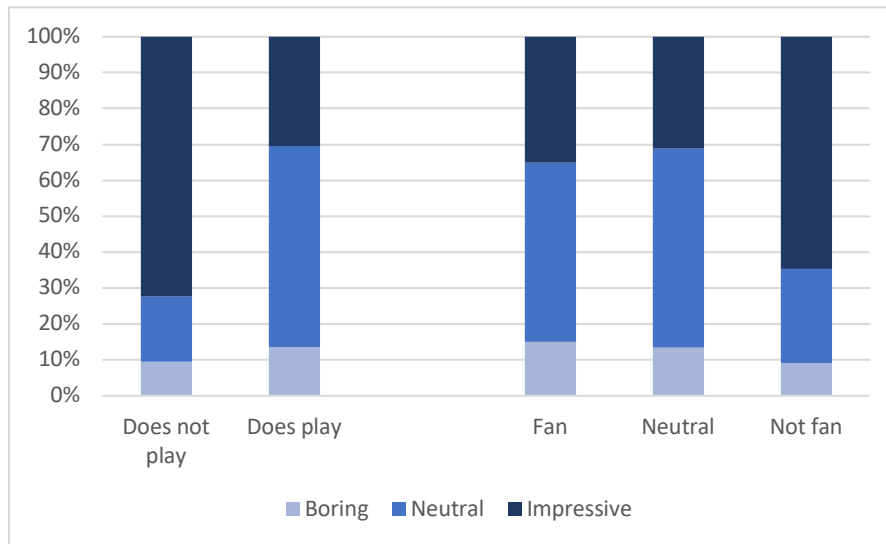
Source: figure made by the authors

H4a: Brand awareness

Hypothesis 4a states that arousal from violence would negatively impact brand awareness. Given that the independent variable (arousal from violence) is an ordinal variable, the relationship between arousal from violence and brand awareness is explored through the use of the Kruskal-Wallis test.

The distribution of the answers shows that, generally, responses stating that the violence in the video was either impressive or neutral were similarly distributed in their level of brand awareness. On average, the observations found to be very excited and impressed by the violence present in the video. Additionally, many observations stated that they found the violence in the video impressive but were also highly aware of the brands advertised. (Figure 11). The results of the Kruskal-Wallis test, however, are not statistically significant ($p > 0.05$), therefore it is not possible to conclude that the arousal from violence has an effect on brand awareness, and thus hypothesis H4a is rejected.

Figure 11. *Arousal from violence and brand awareness*
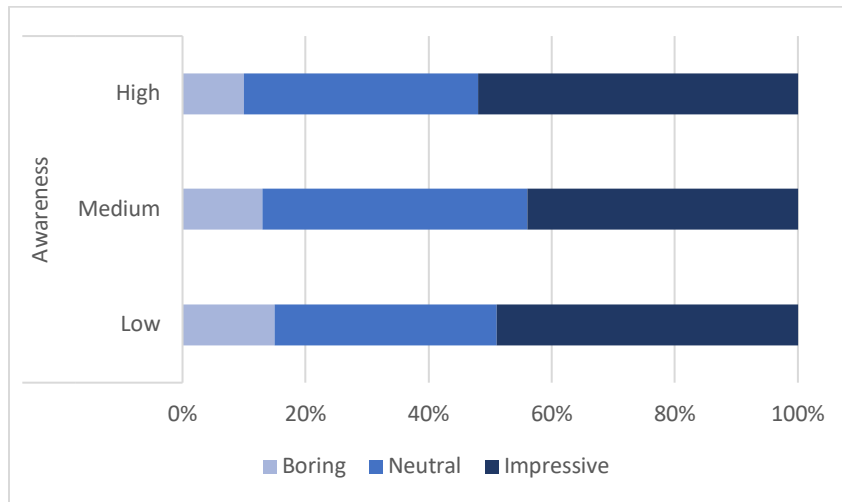
Source: figure made by the authors

H4b-e: Brand association, attitude, attachment and activity

Hypotheses 4b, 4c, 4d and 4e propose that the greater the arousal perceived, the less neutral the changes in brand equity would be. In order to test such hypotheses, the variables for brand association, brand attitude, brand attachment and brand activity have thus been coded in 'Effect' and 'No Effect', regardless if the change in brand equity was deemed positive or negative by the respondent. On the other side, the degree of arousal from violence is calculated on a 3-point scale. Given that the independent variable is calculated on a 3-point scale, whilst the dependent variables are of binary nature, the analysis is conducted through the use of Chi-square tests. A statistically significant result was displayed for association and attitude, respectively $\chi^2 (2, N = 298) = 11.9341, p < 0.05$ and $\chi^2 (2, N = 298) = 10.0130, p < 0.05$, but not for attachment and activity which were insignificant respectively with $\chi^2 (2, N = 298) = 5.0349, p > 0.05$ and $\chi^2 (2, N = 298) = 1.0729, p > 0.05$.

In the case of association, the results showed that the majority of the observations characterized by a great level of arousal from violence were also reporting no change in association after viewing the video. In fact, as illustrated by Table 10, 56% of the observations that were highly excited by the violence portrayed in the video shown, reported a neutral effect on association. A similar result was also reached by the analysis of the brand attitude observations distribution: in fact, 56% of the observations reporting that respondents

were highly excited by viewing the violent content of the video games, had a neutral opinion on their change in brand attitude.

A first glance at the results shows that more than half of the observations for brand association and attitude state that watching the video had no effect on either of these levels of brand equity. Nonetheless, the level of arousal had a significant effect on both association and attitude. Table 10 shows in fact that for brand association, the percentage of observations stating that brand association was unaffected decreases with the increase of the level of arousal perceived from the video games, going from 86% to 56%. If respondents felt that they were very little aroused by the violence in the video, 86% of such observations also perceived that the video had not affected their change in brand association, while the percentage was smaller for the highly aroused ones. Parallelly, the percentage of those who perceived that their brand association was affected increased the more they were impressed by violence, going from 14% to 44%. A similar result can also be concluded by analyzing the effect of arousal on brand attitude. Given the statistically significance of these results, hypotheses 4b and 4c are supported. No statistical significance is instead present in the analysis of the effect of arousal on brand attachment and activity. Therefore, hypotheses 4d and 4e are not supported.

Table 10. *Arousal from violence and brand association, attitude, attachment and activity*

	Chi-square test					
	Arousal from violence	**N**	**Low arousal (boring)**	**Neutral**	**High arousal (impressive)**	**p-value**
Brand Association	No effect - 0	191	86%	68%	56%	0.003
	Effect -1	107	14%	32%	44%	
Brand Attitude	No effect - 0	192	80%	70%	56%	0.007
	Effect -1	106	20%	30%	44%	
Brand Attachment	No effect - 0	220	83%	78%	68%	0.081
	Effect -1	78	17%	22%	32%	
Brand Activity	No effect - 0	163	63%	54%	53%	0.585
	Effect -1	135	37%	46%	47%	

Source: table made by the authors

7.3.5 Violence as a moderating factor

Given the focus of this thesis on the effect of violence on in-game advertising, the level of arousal from violence on the other independent variables is also examined in order to understand if violence is correlated with one or more of the other elements of the conceptual framework. Thus, the Cramer's V test and the Spearman's rho test were conducted with the aim of discerning whether violence has a moderating effect on the other factors of the conceptual framework, namely congruity, brand familiarity and brand prominence. The analysis suggests that there exists a correlation only between familiarity and prominence, which however is rather low.

Table 11 shows that the results specific to the correlations of the arousal of violence with the other elements of the conceptual framework are not significant, thus it can be concluded that it does not have a moderating effect on congruity, brand familiarity and brand prominence.

Table 11. *Strength of association between independent variables*

	Congruity	Brand familiarity	Brand prominence	Arousal from violence
Congruity	1.0000			
Brand familiarity	-	1.0000		
Brand prominence	-	0.1721*	1.0000	
Arousal from violence	-	-	-	1.0000

*at 0.05 significance level

Source: table made by the authors

7.4 Overall results of the quantitative study

From the above analysis, it can be concluded that only 8 of the 16 hypotheses developed by the authors were supported, namely H1b, H1c, H1d, H1e, H2a, H3, H4b and H4c while the rest were rejected (Table 12). The element from the conceptual framework that appears to have the largest impact on brand equity is congruity that affects brand association, attitude, attachment and activity (H1b, H1c, H1d and H1e). Moreover, brand familiarity and brand prominence have an impact only on the bottom level of Keller's

CBBE pyramid (H2a and H3). Finally, arousal from violence is found to affect brand association and brand attitude (H4b and H4c). In general, the four independent variables have been found to have an impact on all five the levels of Keller's CBBE pyramid.

Table 12. Summary of supported and rejected hypotheses

		a	b	c	d	e
		Brand awareness	**Brand association**	**Brand attitude**	**Brand attachment**	**Brand activity**
H1	**Congruity**	Rejected	**Supported**	**Supported**	**Supported**	**Supported**
H2	**Brand familiarity**	**Supported**	Rejected	Rejected	Rejected	Rejected
H3	**Brand prominence**	**Supported**	-	-	-	-
H4	**Arousal from violence**	Rejected	**Supported**	**Supported**	Rejected	Rejected

Source: table made by the authors

The findings relative to congruity suggest that there is no significant relation between incongruent brands and awareness. This means that by inserting an advertisement that does not fit well in a violent video game environment, the brand would not benefit from higher impact on brand awareness compared to if the ad was inserted in a context more congruent with the brand's characteristics. However, the significant relation between congruent brands and the higher levels of Keller's CBBE pyramid implies that companies using advertising that has a good fit with the context of the game can positively impact brand equity. In fact, inserting congruent brands increases the player's perception of the benefits and attributes of the brand (brand association), its attitude towards them, its connection (brand attachment) to the brand and its inclination towards future purchase of the brand (brand activity), compared to placing incongruent brands in such video games. It should be noted that, whilst congruity has a clear positive effect on brand attitude and association, its impact on the highest levels of Keller's pyramid (i.e. brand attachment and brand activity) is not so indisputable. Brand - video game congruity has a positive impact on brand attachment and activity only if compared to incongruent brands. Thus, if the players either think that the brand is congruous to the game or if they have a neutral opinion, advertising companies do not gain in terms of brand attachment nor activity. Therefore, companies should carefully weight their brand fit with the game, as the harm of inserting an incompatible brand in a game can outweigh the benefits of placing an appropriate brand, in terms of brand attachment and activity.

Fans of the violent genre and those who have experience playing video games tend to perceive brands as more congruous (Figure 7). Therefore, it could be argued that as in reality they are the ones that would more likely play violent games and be subject to the advertisement displayed in them, companies should even more incentivized to insert brands that fit well in the game.

Results from brand familiarity indicate that the familiarity of a brand impacts only brand awareness: if a respondent had already been exposed to a brand in various ways, then he/she would more easily remember a brand's presence in the video. This can be explained by the fact that individuals could more easily recall and recognize brands that already know and have in memory. However, as familiarity does not impact the higher levels of Keller's CBBE pyramid, it could be argued that also brands that are generally not very well-known to the customers could adopt in-game advertising in violent games as their brand equity would not be largely penalized for not being familiar. At the same time, they should consider the fact that if they were to place in video games brands that are not familiar to the users, the latter would be less receptive to its advertising. Thus, the benefits that could be gained at the higher levels of the brand equity pyramid would be hindered.

Findings from brand prominence, which was studied only relatively to brand awareness, suggest that prominent brands increase the brand awareness of the individuals playing violent video games. This could be justified by the fact that brands that are more easily noticeable to the eye are then recalled and recognized more clearly. Thus, inserting an advertisement that appears prominently on the video game can help companies increasing the awareness of their brand. Thus, although the presence of violence may drift the viewers' attention away from the in-game advertisement, if the ad of a brand is prominent in the video game, it is still be more noticeable to the users compared to a more subtle one and it positively impacts brand awareness. However, as brand prominence was not analyzed in relation to brand association, attitude, attachment and activity, it cannot be determined whether or not it would affect the upper levels of the brand equity pyramid.

The results from the level of arousal from violence suggest that when individuals are impressed by violence in video games, its effect on brand association and brand attitude would be strong, but the direction of such effect (positive or negative) cannot be determined. Differently, when individuals' level of arousal is lower (i.e. they find the violence in video games neutral or boring) then the effect on brand association and attitude would also be progressively minor. It can be argued that a violent context sharpens the effects that the in-game advertising has on brand association and attitude. Therefore, advertising companies should take in consideration the fact that the impact (either positive or negative) of in-game advertising on these levels of the brand equity pyramid are magnified in a violent context. Moreover, from Figure 10, it can be noticed

that those who play video games or that are fans of the violent genre are considerably less impressed by violence compared to those who do not play or are not fans. This could be explained by the fact that by being more frequently exposed to video games or to a certain degree of violence, these individuals are less aroused by violence when they see it. Thus, it could be argued that, in a real-life scenario, the ones that would most likely play a violent video game and be fan of the genre, could not be affected as much by violence and therefore its effect on brand equity could be reduced.

8. Qualitative research findings

This section presents the findings originated from the semi-structured interviews. After having explained the process of data collection adopted for the qualitative data, the authors examine the elements of the conceptual framework (i.e. congruity, brand familiarity, brand prominence and arousal from violence) in relation to the dimensions of Keller's CBBE pyramid and analyze the results also taking into consideration the findings from the quantitative study.

8.1 Qualitative data collection process

In order to explore more in detail the effect of brand congruity, familiarity, prominence and the level of arousal from violence, the authors carried out six semi-structured interviews. Prior to conducting the interviews, the authors therefore discussed and agreed on a series of questions that would be asked to the participants of the study.

The questions were inspired by the ones used for the questionnaire in the collection of the quantitative data study, and therefore the authors used the survey as blueprint for the interview questions. The latter covered the points that were also tackled in the questionnaire, posing a greater focus on the questions related to the hypotheses that were supported in the quantitative section. However, the questions were rearranged and reformulated in order to encourage a smoother discussion with the interviewees.

The questions thus covered both the levels of the brand equity pyramid and the elements of the conceptual framework created by the authors. Additionally, given the nature of the semi-structured interviews, occasionally the order of the sections within the overall structure was adapted in order to follow the flow of the conversation.

8.2 Qualitative results

This section discusses the results obtained from conducting the qualitative interviews. The findings are reported with respect to the four elements of the conceptual framework and their effect on the various dimensions of brand equity is examined.

8.2.1 Brand - game congruity

Congruity between advertised brand and the video game it is portrayed in often improves the viewers' perception of the video games, and this positive impact can also stretch out to the brands advertised. On the other side, brands that are incongruous to the video game context can be perceived more by the viewers, as they stand out from the gaming environment.

The segments of video games used in the experiment encompassed four different scenarios: the first one depicted a shooting taking place in an apartment, where one of the shooters is wearing Nike (sport apparel) branded shoes. The second scene instead shows a car chase in a suburban setting, involving also some shootings between the criminal and the police. The criminal escaping from authority is driving an Audi (automotive) car, whilst during the chasing, a Ben & Jerry's (ice cream) billboard can be seen in the background. The third scene shows a shooting between characters in military clothing, and it is set in a very urban context: a McDonald's (fast - food) billboard again can be seen in the background. Finally, the last video segment shows a boxing fight between two athletes: on the ring, the Burger King (fast - food) and Everlast logo (sport and boxing apparel) can be seen.

Overall, all the scenes are set in a modern and realistic environment and none of them is placed in an indisputable unrealistic or fantasy scenario or set in a different time. Given these main characteristics of the gameplay segments, the interviewees had a different opinion on the degree of congruity between the brands and the video game, although in general they all agreed that there was a fairly high degree of good fit between the brands and video games.

It seemed that for many interviewees, the degree to which a brand and thus advertisement was compatible with the video game depended on the level to which it could resemble real-life situations. For example, many interviewees found that the billboard of McDonald's in the third video segment fitted well in the scene and, as specified by Interviewee 6, *'It could have been easily something that I would have seen in reality'.* However, the compatibility was more due to the fact that the brand appeared as a billboard, as interviewees did not pay attention to the characteristics intrinsic of the brand or the fact that it belonged to the fast-food industry when asked to judge if the brand fitted well in the game it was placed in.

When asked about the compatibility of Burger King in the boxing scene, instead, the reactions from the interviewees were conflicting, but all of them referred to the fact that Burger King is a fast-food chain. Thus, depending on how each individual participant views the sport of boxing, the compatibility of the advertisement with the video games differs. For example, some interviewees see compatibility between

fast-food and the gaming environment either because a boxing match is similar to a stadium, where snacks and soft drinks are often sold (Interviewee 6). On the other hand, other interviewees see boxing as a premium sport or associate it with a healthy lifestyle, thus hindering the good fit of the advertisement of an affordable and unhealthy fast-food chain (Interviewees 1, 3 and 6).

When it came to product placements (i.e. Audi and Nike), most interviewees also agreed on the fact that there was a good fit between the car and the video game scene. The compatibility was however more dependent on the fact that the advertisement was placed on a car rather than the compatibility of the Audi brand with the scene. As noted by interviewee 3: '*Now, the thing is, if it was a Toyota, I would have probably also remembered the Toyota, if it would have been any other brand. So, I don't think I remember the Audi because there was an Audi. I remember the Audi because it was a car and an active part of the scene*'.

Once the main effects of congruity have been described, the impact of congruity on the five factors of brand equity are explored. From the analysis of the quantitative data, the congruity of brand and video game resulted to have a positive impact on association, attitude, attachment and activity (H1b-e), whilst incongruity would have no effect on awareness (H1a).

Brand awareness

As suggested by hypothesis 1a, a bad fit between the brand and the video game it is advertised in can increase the viewers' and players' attention, as incongruent information can be perceived as unconventional and draw the users' attention towards it (Lee & Faber, 2007).

From the qualitative data collection, little effect of incongruity was found on the viewers. Generally, the participants found the brand Burger King to have the least congruity with the boxing fight it was placed in mainly because the life - style associated with boxing was not in line with the one related to the fast-food brand. When asked if bad fit between brands and video game had an impact on the ability to recall and recognize the advertisements, several interviewees agreed that congruity had no effect.

However, at least one interview explicated that a highly incongruent brand placement could have had an impact on his degree of awareness of the advertisement. As stated by interviewee 1: '*[…] if it had been like McDonald's on the back of the car, I definitely would have been like 'What is that?''*. This type of incongruity was however more linked to the type of advertisement rather than the congruity of the brand or product category to the type of video games. The effect of congruity between the brand and the video game did not seem impact the degree to which the respondents were aware of the advertisement.

Brand association, attitude, attachment and activity

The quantitative data gathered through the survey confirmed the positive impact that congruity had on the higher levels of the brand equity pyramid. In particular, congruity was associated with an improvement in brand association, attitude, attachment and activity.

Interviewees showed that at a conscious level, the congruity of advertisement did not seem to impact higher levels of the pyramid. In fact, when asked if the congruity of the brand and the video game had an impact on their attitude, interest or likeliness of the brands, many responded that they perceived that it had no large impact on them. However, several also noted that seeing such brands in the video games had an impact on the attributes and characteristics that they associate to the brands: for example, interviewee 3 stated that seeing the Audi advertisement in the video game strengthened the perception of higher quality of the brand.

Additionally, interviewee 1 underlines the problem with highly incongruent brands: when asked how his perception would change if the brands were extremely unfitting with the video game and quite prominent, he responded: '*I get irritated. I wouldn't like the game and I wouldn't like the brand. [...] My perception of both of them would decrease*'. Thus, the impression of both the video game and the brand would be negatively affected.

In conclusion, the degree of congruity of the brand with the video game depends on many factors. Generally, the interviewees saw a good fit of the brands with the video games, mainly because on how well the placement of such advertisement resembled real-life situations and scenarios, was the brand either displayed as a billboard (marketing display, e.g. McDonald's) or as an actual product (product placement, e. g. Audi). Additionally, interviewers found that the level of congruity with the video game depended on the degree to which the brand and its characteristics were in line with those of the video game.

On average, the interviewees found a good match between the video game and the advertisements incorporated in those. Although some have mentioned how an extremely incongruent advertisement would potentially have caught their attention and thus increased brand awareness, none of the advertisements in the video clip achieved this effect. On the other side, the effect of congruity between the brand and the video game on the higher levels of the brand equity pyramid was slightly more positive. In fact, the degree of connection and interest (and thus attachment and activity) to the brand had not changed, but some respondents mentioned that their perception and attitude towards the brand had improved. Additionally, one of the respondents underlined the negative effect on the brand and video game perception if they viewed

an extremely incongruent advertisement, thus confirming the negative impact of brand mismatch on the higher levels of the brand equity pyramid.

8.2.2 Brand familiarity

Familiarity refers to the degree to which a brand is known and experienced by the consumers. Having already had contact with or experienced a brand can improve not only the degree of awareness that a consumer of such advertisement, but could also affect the perception that users have of the brands.

Generally, the interviewees were already quite familiar with the brands that they were able to identify in the video and none of them did recall the advertisement of a brand they were not already familiar with. The fact that the advertised brands are very well-known worldwide can have had an impact on such result.

When analyzing more in depth the results of the qualitative data, a pattern emerges: certain effects of familiarity are not only restricted to the specific brand, but are extended to the greater product category to which that brand belongs. If a participant to the study was in fact fan of one of the product categories appearing in the video clip, then he/she would also pay more attention to it. For example, being particularly familiar and interested in cars, interviewee 3, which noticed the brand Audi during the video, states: *'I think it's because I'm familiar with Audi. Yeah, I mean, I'm familiar with all the brands [of cars] to be honest. I'm not more familiar with Audi then other car brands. I just really like the category of cars, I am familiar with the category of brands'.* A similar reasoning can be applied also to unfamiliarity of brands which can be extended to the whole category. Interviewee 6, which is not interested in cars or familiar with the various brands, states: *'[…] I didn't remember the car brand because I'm very much not into cars. For me, it could have been a sports car or a truck'.*

Brand awareness

The first hypothesis related to brand familiarity concerned brand awareness (Hypothesis 2a) and suggested that familiar brands have a more positive impact on brand awareness compared to unfamiliar ones.

During the interviews, the respondents commonly agreed that being familiar with the brands helped them remember them from the video. Interviewee 6, for example, noticed the McDonald's billboard because *'it was one of the most familiar brands and that I'm aware of, so I guess I made a connection based on familiarity'.* Interviewee 1 also agrees that being familiar with a brand is important in order to be aware of

it, he argues: *'[...] I'm sure there were other brands in there which I didn't notice because I don't know them that well'*.

Brand association, attitude, attachment and activity

As the hypotheses 2b-e connected to the higher levels of Keller's CBBE pyramid (i.e. brand association, brand attitude, brand attachment and brand activity) were not supported by the quantitative analysis, the authors have not directly addressed questions related to them. Despite this, during the interview, interviewee 2 suggested: *'[...] the fact that you're focusing on something else prevents you from seeing other brands that you don't know, you just see the ones you know. Then once you really know those brands, seeing them in a video game doesn't really change the impact of these brands. It just makes you more aware of them'*. This statement is consistent with the findings from the quantitative section since it suggests that the impact of familiarity is limited to brand awareness and does not affect the higher levels of the brand equity pyramid.

8.2.3 Brand prominence

An advertisement can be considered prominent when it is placed in the focal area of the gaming environment, and thus can be better perceived and remembered by the viewers (Hypothesis 3). Thus, the more noticeable an advertisement, the better it should be remembered by the interviewees.

The six participants to the interview noticed repeatedly only three of the six brands included in the study, namely Burger King, McDonald's and Audi. When asked '*Why do you think you remembered these ones?*', they commonly agreed that one of the main reasons was prominence. Additionally, it should be noted that these three advertisements were appearing in the video in different ways. The brand Audi was appearing as a product placement (the car used by the player), whilst McDonald's and Burger King appeared as marketing displays. McDonald's in particular was displayed as a billboard in the street, whilst Burger King appeared as a logo in the middle of the boxing ring where the two athletes would fight. Despite the different types of placements, interviewees found that they were rather noticeable in the gameplay.

In particular, interviewee 3 remembered the advertisement for Burger King since it was *'pretty big'*, while interviewee 5 noticed the McDonald's sign because it was *'a huge billboard in the stree*t*'*. Interviewee 1 which recalled the two fast-food brands and Audi argued that '*they were pretty big close-ups. So like, the McDonald's sign. Well, it's red so you can really see it in the corner. Burger King was right in the middle*

because it was really filmed by itself zooming out to the match. And the Audi car was the first thing that appeared before the car went away'. Additionally, the fact that the Audi branded car was used by the player and was located in the center of the scene at all times in the chasing clip played a role in increasing the awareness for the Audi brand. As recalled by interviewee 3 '*I think I remember the car because it was used, […] it's something which actually takes an active part in the scene'*.

The brands that were not recalled, Nike, Ben & Jerry's and Everlast appeared more marginally on the screen. For example, the Nike shoes worn by the shooter from the first video segment, were displayed at the bottom of the screen, distant from where the shooting was taking place. When asked about the Nike sneakers, interviewee 5 said: '*I really didn't see them. They must have been very small compared to the scene and probably at the bottom of the screen. Well, I think I didn't notice them because their presence wasn't particularly significant in the scene'*. Similarly, also Ben & Jerry's and Everlast appeared more subtly in the video: Ben & Jerry's only appeared for a very brief time as a billboard whilst the car was passing by. Everlast instead appeared also in the boxing ring, but it is smaller and more peripheral compared to Burger King. Thus, the qualitative assessment relative to brand prominence and brand awareness is consistent with the quantitative findings analyzed in the previous chapter.

8.2.4 Arousal from violence

Violence in the media has been found to have different impact on the effectiveness on advertisement, also when used in video games. Given that violence draws the users attention towards itself, it can impact the players' ability to recall and recognize advertisement in the video game.

In general, the interview participants did not perceive the game as being particularly violent and they viewed the overall degree of violence as not very exciting. However, the many interviewees identified different levels of violence among the various scenes of the video that was shown to them. The segments that evoked more arousal were the ones concerning shooting, while the car chase and the boxing match were considered less violent. More specifically, interviewee 5 differentiates the scenes based on three levels of violence, he argues: '*So, there were three different types of violence. The first one was violence inside the house, so you would feel more negatively towards the violence. And I thought that was the worst type of violence, and also the fact that you can see blood. The second one, you can relate it more to movies, so it's less violent because you don't see the dead bodies. The third one is acceptable violence because it's part of the sport'*.

Additionally, if the interviewer was a greater fan of violent video games and played more of them, they would also be less impressed by the degree of violence shown in the video clip. When asked if he found the video game violent, interviewee 1 in fact stated: '*It was nothing, it wasn't very violent. The first segment was perhaps, like relatively higher, but there are much more wild video games out there*'.

Finally, the interviews show that sometimes violence it is correlated in the players' mind to a negative misconception can worsen the players' conception of the brands that decide to be advertised in these types of video games.

Brand awareness

The first hypothesis (H4a) assumes that a high level of arousal from violence negatively impacts brand awareness. When asked whether they thought that the level of violence in the video may have had an impact on the degree to which they remembered the brands, the interviewees had different reactions. While some such as interviewee 3 did not feel like violence had an impact on brand awareness, others had a different opinion. For example, interviewee 1 stated: *'[…] in my perspective, the more violent the game is the more distracted you are by the violence and the less aware you are of your surroundings. I would say that the first segment of the video with the guy in the living room, probably GTA I guess, and I take that one because every segment must have had a brand, I didn't even notice any brand there. It was so subtle or my intention was so consumed by the violence that I didn't care to look around. But I don't know if you guys are familiar with the more like peaceful games, there's one that's very popular right now: Animal Crossing. If I saw a brand in there, I would definitely notice it'*.

Those contrasting views can be explained by the fact that interviewees were affected differently by the element of violence. However, some interviewees that found the violence in the video clip arousing to some degree did not feel like it had an impact on their brand awareness (Interviewee 3). Thus, the hypothesis 4a, which was not supported by the quantitative data, gives contrasting and not definitive results in the interviews.

Brand association, attitude, attachment and activity

Hypotheses 4b-e state that the greater the level of arousal from violence, the more extreme is the evaluation of brand association, attitude, attachment and activity. In the quantitative analysis, only the hypotheses

related to brand association and brand attitude (H4b-c) were supported by the data and thus, when asking interviewees questions regarding the level of arousal from violence, those two elements were examined more in detailed compared to brand attachment and brand activity (H4d-e).

Most of the interviewees' perception towards the brand did not change due to the presence of violence in the video game. Moreover, interviewee 1 argues that that for him it is important that if brands shown in violent video games are there to create a sense of realism, his perception of them remains unvaried. Otherwise, he believes that brands that are already associated with violence should be included in the game. In fact, he argues: *'[…] if it's not aiming at a simulation, then I personally would find it more in line if the brands that were put in the video game were already kind of like stigmatized in a way. So smoking brands, they align somewhat with violence arms manufacturers, they align with violence. But I wouldn't like to see a kid's clothing brand in there. So the key here is, what is the game trying to achieve? Is it realism? Or is it just like, you know, just random stuff? If it's realism, then it makes sense. If it's not, then it doesn't make sense'*.

Differently, interviewee 5, is strongly against brands placed in violent settings and his perceptions of such brands was negatively affected. He argues: '*[…] knowing that McDonald's and Burger King are in violent games, I feel that they are exploiting the audience of young people which are very excited while playing violent games'*. Thus, in this context, arousal from violence is stimulating a reaction and a negative change in evaluation.

This could be explained by the fact that the level of arousal from violence from interviewee 5 was higher compared to interviewee 1 and consequently his evaluation of brand association and attitude were more extreme. In fact, when referring to the violence in the scenes, interviewee 5 stated: *'[…] none of them made me indifferent. All of them triggered something'*. This finding is consistent with the quantitative study, but in addition to it, it suggests that the extreme evaluations of the brand originated by the exposure to violence could be of a negative nature. However, before making a conclusion of the valence of the effect to the exposure of violence, several factors should be taken into consideration. Firstly, as stated by interviewee 1, the type of brand advertised and the context within which the ad is placed also play a role in assessing the valence of the effect. Additionally, a player's personal attitude to violence should be considered: if an individual associates violence to a negative connotation, the same negative misconception could be placed in the brands advertised in violent video games.

With respect to brand attachment and activity, participants suggested that their connections to the brands and their interest in them had not changed after having seen them in a violent context. For example,

interviewee 1 argued: *'[...] I'm more concerned with the videogame than I am with the brands and the video game is good, I am happy and I don't care about the brands. If it's not good, then I don't care about them either'.* Similarly, interviewee 2 stated: *'[...]It doesn't affect me in that sense. I like those brands in the same way or don't like them in the same way'.* Thus, those last two hypotheses which were rejected by the quantitative data, do not seem to be supported by the qualitative data either.

8.3 Overall results of the qualitative study

The results from the qualitative analysis appear to be generally in line with the ones from the quantitative analysis. Despite showing some discrepancies with the quantitative findings, this section was able to better motivate the quantitative results and to find additional insights.

Results from brand - game congruity indicate that the brand awareness of the participants to the study was not impacted by incongruity. This can be explained by the fact that the interviewees attributed a fairly good fit between the brands and video games as they could resemble real-life situations. However, the findings related to the higher levels of Keller's CBBE pyramid report interviewees were not affected by the good fit between the video game and the brand. In fact they suggested that, at a conscious level, congruity of advertisement did not positively impact their association, attitude, attachment and activity towards the brand.

Findings relative to brand familiarity suggest that familiarity has a positive effect only on brand awareness, while the higher levels of the brand equity pyramid are not impacted. Furthermore, the analysis highlighted that the effects of familiarity are not only restricted to the specific brand, but could potentially be extended to the greater product category to which that brand belongs.

Results from brand prominence, which was analyzed only with respect to brand awareness, report that prominence improved brand memory. In fact, the prominence of the brand is seen to positively affect the awareness towards such brand. Moreover, characteristics including the centrality of the brand, its size and the dynamism of its role seemed to make a brand prominent in the screen.

Finally, findings relative to arousal indicated conflicting results with respect to brand awareness since a high level of arousal was connected to both a neutral and a negative effect on brand awareness. From the interviews, it also emerged that fans of violent video games and those who played more, would be less

impressed by the degree of violence shown. Arousal from violence was found to have an extreme effect on brand association and brand attitude. However, it also suggests that those extreme evaluations of the brand originated by the exposure to violence could be of a negative nature. Furthermore, brand attachment and activity were not affected by the arousal from violence.

9. Analysis of the research results and implications

This chapter discusses both the quantitative and the qualitative results of the study and connects them to previous research and theories. The five factors of Keller's CBBE pyramid are analyzed with respect to the elements of the conceptual framework. Moreover, it suggests possible implications for companies and aspects that they should take into consideration when deciding to use in-game advertising as a marketing tool.

Brand awareness constitutes the initial step of the brand equity pyramid: in order for a company to have a lasting impact in the mind of the consumers and convey its communication messages, it first needs to ensure that the consumers are aware that its brand is advertised in the video game.

Usually, in-game advertising is developed so that it seamlessly integrates with the gaming environment and context. Additionally, the more advertisement resembles real-life situations, and hence appears ordinary to the eyes of the players, the more it is appreciated by the consumers.

Being able to blend so well in the gaming scenes can however bring disadvantages to the effectiveness of the advertisement. Companies in fact should be aware that there are two main hurdles to awareness when advertising in violent video games. The high integration of the ads in the video games can make it difficult for advertisements to be perceived by the players, thus resulting in a low level of brand awareness. This effect is even more acute in violent gaming environments, where players can get distracted by the violence and thus be less aware of the potential advertisement present in the video game.

The study conducted in this work shows that the majority of the respondents were highly aware of the brands advertised: more than 50% in fact noticed the advertisements both at a recall and a recognition level. Such result could have been caused by the fact that only the responses that noticed one of the brands under analysis were considered for further examination.

In general, it was found that brand awareness was mainly dependent on the degree of the participants' familiarity with the brands identified and on how prominent the advertisement was. If the participants were familiar with some of the brands advertised, it was also easier for them to spot such advertisements in the video games. This result supports the study conducted by Nelson et al. (2006) and the limited capacity model (Section 3.6): the latter in fact predicts that individuals have limited processing capabilities (Lang, 2000). As familiar brands are more easily processed by individuals since connections to the brand are

already present in the players' mind, recalling and recognizing the advertisement for a known brand would be easier. Instead, placing in the video games brands players are not familiar with and did not have prior exposure to, would hinder the ability of the players to notice the advertisement. Companies should therefore bear in mind that, if placed in a video game, novel brands would be very little noticed by the players, they should hence rely on the advertisement of more stablished brands in order to be noticed by players.

Prominence of the advertisement was also found to have an impact on brand awareness: the more a brand was noticeable in the gaming scene, the better it was recognized. The study conducted by Lee and Faber (2007) supports this result, as they observed that the format of the placement of such advertising in the game can influence its recall and recognition by the users. In fact, if the advertising appears to be very prominent and eye-catching, it is more easily remembered by the viewers.

From the analysis of the questionnaire it results that congruity between the brand and the gaming environment shown does not to have an effect on brand awareness. However, it should be noted that in the interviews it has been underlined that a highly incongruent placement of an advertisement would have greatly attracted attention. The study by Lee and Faber (2007) shows that the increase in brand awareness would occur only where the brand is highly incongruent with the video games, but an increase in brand recall and recognition would not arise if the brand was moderately incongruent. In fact, a brand that does not fit the video game would be able to attract the players' attention only if it is extremely uncommon and unforeseen (Lee & Faber, 2007). One possible explanation for this result could be that, if congruity was found not to have an impact on brand awareness, the brands used in the experiment were not enough incongruent with the video game itself. This proposition can also be supported by the fact that most of the participants to the study thought that there was a good fit between the brand and the advertisement.

Finally, the level of arousal of violence perceived by the viewers did not have any effect on their ability to recognize brands. This conclusion is opposed to the results drawn in the study by Lull et al. (2016), which found that violence would hinder the players' ability to recognize advertisements in the game, as it would attract attention towards itself. On the other side, the study by Jeong et al. (2011) shows that players would be able to recollect more brands if those were advertised in a violent context. It could be argued thus that arousal of violence still has an unclear effect on brand awareness. However, as a result of the analysis of the qualitative interviews, it has been noted how the level of violence in the experiment did not hinder brand recognition abilities, but it has also been underlined that probably, in a calmer video game setting, the in-game advertising could have been perceived as being more prominent and visible. This finding can be the result of many factors. Either the decrease in brand awareness due to the presence of violence occurs if the

content of the video game is more violent, or other factors which have not been analyzed in this study are involved in such relationship. Nonetheless, from the results of the study, it can be inferred that a moderate degree of violence does not hamper brand awareness. On one side, arousing situations are better remembered than non - arousing ones (Jeong et al., 2011). On the other side, however, violence attracts the players' attention towards itself. Due to the limited capacity theory, players of violent video games have therefore less capacity to process and remember the advertisement in the game. The fact that violence triggers two opposite effects on brand awareness could be the reason laying behind the fact that it was found not to have any impact on brand recall and recognition.

The quantitative analysis suggests that brand advertisements in video games does not affect the higher steps of the pyramid quantitative analysis shows that generally the higher steps of the pyramid, namely brand association, attitude, attachment and activity, were perceived as being less influenced by the viewing of the advertising in the video games. In fact, generally more than 60% of the observations did not show that the placement of the advertisement of a brand in a video game had any impact of the brand equity steps.

Such majority of neutral responses could be the result of other various factors: for example, it could be caused by the fact that the questions prepared for the survey were not responsive or sensitive enough to the participants' change of impression. The results of the qualitative study however support the thesis that in-game advertising does not substantially impact the higher levels of the brand equity pyramid. In fact, many of the respondents acknowledged that the effect of viewing the advertisement had a larger impact on their awareness for the brand, but smaller in terms of perception, attitude or interest.

In general, as the effects on the pair brand association and attitude, and on the pair brand attachment and activity, appear to be similar, the results from the study are going to be discussed together.

Brand association captures the performance and imagery of a brand in the consumers' mind and depicts the main characteristics and benefits that people associate to a brand. Brand attitude instead describes the opinion and evaluation that a consumer gives to a brand.

The results from the quantitative study show that one of the main effects on brand association and attitude was driven by the level of congruity of the brand with the video game. The better the fit between the advertised brand and the video game, the more positive are the players' views of the characteristics and benefits of the brand advertised. Not only the brand association would meliorate, but also the consumers' personal opinion for the brands would improve. In fact, the players' judgments and personal feelings

towards the brand were more positive if they deemed that a good fit exists between the brand the video game.

Thus, when the brand is in line with the video game it is portrayed in, the company advertising the brand gains in terms of more beneficial brand associations and attitude from the consumers. If the advertisement seamlessly fits into the gaming environment, the players do not find it out of place or inappropriate, ultimately increasing their enjoyment of the video game itself. These positive feelings also spill over onto the perception of the brand and its characteristics. This result is supported in the studies conducted by several other previous literature on the topic (Chang et al., 2010; Herrewijn, 2015; Lewis & Porter, 2010). Therefore, in-game advertising has to be placed organically in the video game in order for the advertisement to have a positive impact on brand association and attitude.

Another predictor of brand association and attitude was found to be the individual's level of arousal from violence. In particular, the more players are aroused by the violence in the video game, the less likely they are to think that their perception and opinion of a brand is intact after viewing the brand advertised in a violent gaming environment. The arousal from viewing violent behavior in the video game is in fact transposed to the players' judgment of the brand advertised through the excitation transfer model, by either improving it (if positive) or harming it (if negative) (Mitchell, 2014).

The fact that the violence exacerbates the players' association for the brand advertisement has to be taken into consideration by the companies that decide to place an advertisement in video games.

A brand that is seamlessly placed in a video game is going to be acknowledged more positively by the players if the video game contains some violent content. Nonetheless, the inorganic placement of an advertisement in a video game can potentially harm the brand, especially if placed in a violent gaming environment as the players' perceptions are less likely to remain unaffected. Companies should therefore be aware of such finding: a moderately incongruent advertisement would not gain in terms of brand awareness and could harm advertising effectiveness in terms of brand association and attitude. The only way for a company to gain in terms of brand awareness could be to place a highly incongruent brand in the video games: would this be a violent video game, however, the risk of the brand being badly perceived by the players will increase exponentially.

The last two factors of Keller' brand equity pyramid are brand attachment and activity. The former reflects the degree to which a consumer is loyal to a brand, whilst the latter the purchasing behavior of the brand. The quantitative study shows that the advertised brand gains in terms of attachment and activity if the brand is congruous to the video game, compared if the brand is instead incongruous. Thus, the better the fit of the

brand with the video game, the more positive the overall brand resonance. Again, the fact that an advertisement organically fits in the video game meliorates the players' perception of the game itself. This positive effect then radiates also to how the players feel about the brand advertised. However, it must be noted that there is no statistically relevant difference in the attachment and activity among brands who players think have positive congruity or brands of whom players have a neutral opinion in terms of brand – game congruity.

The fact that good fit does not have per se a positive effect on attachment and activity is also reported in the qualitative study, showing that congruity does not have an impact on attachment and activity. The main implication for companies is that a good fit between brand and video game does not per se improve the purchasing behavior of customers or their level of loyalty to the brand. Instead, incongruous advertisement placement can harm a company's investment in terms of brand attachment and activity.

As final note, violence was not found to have a moderating impact on how familiarity, prominence or congruity impacts brand equity.

Such results can be summarized in order to answer the research question:

How is in-game advertising impacting brand equity when placed in violent video games?

Overall the study suggests that all levels of brand equity are impacted by in-game advertising, in the context of a violent video game. More specifically, main driver of brand equity is the congruity between the brand advertised and the video game. A good fit between the brand and the gaming environment improves the players' perception of the video games, which in turn results in more positive brand association, attitude, attachment and activity. Players have different opinions on what congruity means: first of all, a brand is considered to fit well the video game if it is well integrated into the gaming environment, by conveying a greater sense of realism to the scene. Secondly, congruity between the brand and the video game is also achieved if the brand advertised is aligned to the placement in the video game.

Additionally, the degree to which players are able to recall and recognize a brand advertised in the video game is dependent on how familiar the players already are with the brand and how prominent is the placement of the advertisement. Players are able to better memorize brands portrayed in the video game if they are already familiar with them or if the advertisement is significantly prominent. They perceive that the prominence of advertisement positively depends on three factors: the size of the advertisement itself, the level of interaction with a branded product and the centricity of the advertisement's placement in the

gaming environment. In order to be detected by the players, companies should thus keep into consideration that the advertisement (either as marketing display or as product placement) of their brands should be at least large, central to the gameplay or in interaction with the player

Finally, the element of arousal from violence was found to have an effect only on association and attitude, it affects the players' change of brand association and attitude, by exacerbating such impact.

10. Conclusion

With the increase in popularity of video games, companies have started advertising their brands within this media. Particularly, through in-game advertising, companies are able to advertise their brands and thus improve their brand equity while seamlessly integrating them in the gaming environment. However, they should keep into consideration that a large share of such video games include some sort of violent content.

Previous research has not developed a framework that relates in-game advertising, violence and brand equity. Therefore, when preparing their marketing strategies, companies might find it difficult to determine how to successfully advertise their brand in video games.

This thesis aimed at providing a more thorough study of the effect of in-game advertising in violent video games by analyzing brand equity from a customer perspective, hence intending to close this gap in research. This work attempted to answer the research question: *How is in-game advertising impacting brand equity when placed in violent video games?*

In order to understand in which ways in-game advertising affects brand equity when placed in violent video games, the authors developed, building on previous research, a conceptual framework consisting of four factors: brand - game congruity, brand familiarity, brand prominence and arousal from violence. To determine whether those factors had an impact on brand equity, the authors carried out a cross-sectional study using mixed methods. First, they used a quantitative questionnaire to gain preliminary insights and subsequently, through semi-structured interviews, they conducted a more in-depth investigation.

The results from both the quantitative and qualitative analyses indicated that the various factors of the conceptual framework had an impact on brand equity. Thus, they should all be considered by companies if they decide to use in-game advertising as a marketing tool in violent video games.

More specifically, the results showed that brand familiarity and brand prominence had a positive impact on brand awareness and that therefore are relevant factors as they help the brand be noticed in the video game. Brand associations and brand attitudes were instead positively impacted by congruity. In fact, including brands that fit well in the gaming environment helps improve the perception, feelings and thoughts towards the brand. Those two levels of brand equity were also affected by arousal from violence since players excited by the content would have more extreme reactions to violence, either positive or negative. Finally,

with regards to the last two steps in achieving brand equity show that an incongruous placement of advertisement can harm brand attachment and activity.

The findings try to fill the gap present in literature review by providing insights on what companies should take into account when deciding to adopt in-game advertising in violent video games. However, these results should not be generalized, but used as a starting point for future research to develop more comprehensive and reliable tools to help companies in their marketing strategies.

11. Limitations and future research

This chapter addresses the limitations of the thesis and provides suggestions on how they could be mitigated and overcome in future research.

Given of the cross-sectional nature of the research, participants to study were only briefly exposed to in-game advertising through a stimulus that, despite trying to recreate the experience of playing a violent video game, was not completely realistic. Moreover, the research explored only the short-term impact of in-game advertising and long-term repercussion were not analyzed. Another aspect that should be taken into account is that this thesis did not analyze the change in brand equity comparing participants responses from before and after watching the video, but only the effect after. Future studies could include active gameplay of the players for a prolonged period of time to ensure a more realistic gaming experience. Furthermore, using a longitudinal time horizon would allow to repeat the experiment multiple times and to monitor the effect of in-game advertising. Thus, the impact on brand equity could be explored more in depth and more comprehensive results could be suggested for the factors of brand attachment and brand activity which are more connected to a long-term time horizon.

To carry out the quantitative and qualitative part of the research, the authors used non-probability sampling. Because of this, the results from both the questionnaire and the semi-structured interviews cannot be generalized without hesitation as they are not fully representative of the population, however they can be used as a starting point for further analysis. Future research should aim at creating a more representative sample of participants in order to develop results that can be more easily generalized to different segments of the population.

The effects on the pair of dependent variables brand association and brand attitude as well as for the pair brand attachment and brand activity, appeared to be similar throughout the analysis. This could be explained by the fact that participants to the study found it difficult to differentiate the elements within the two pairs as they were described mostly theoretically. Furthermore, as the study does not include implicit associations, the actual effect of the independent variables on brand equity remains uncertain as it does not take into consideration unconscious biases. Researchers should make sure to better explain the various elements of Keller's CBBE pyramid to the study participants to ensure that their answers reflect their beliefs and that are not affected by misunderstanding. Moreover, they should try to understand the implicit associations created unconsciously by those that come across in-game advertising.

In the quantitative analysis, the research did not investigate whether there was a significant association between the dependent and independent variables and did not control for any of the variables and thus direct causality between them cannot be fully proven. Moreover, the study did not explore whether additional factors not included in the conceptual framework might have an impact on the brand equity pyramid. In the future, research should investigate the strength of association between dependent and independent variables and their causality to better understand the extent of their impact on the study. Moreover, they should integrate additional factors in the conceptual framework (e.g. previous involvement with the brand, attitude towards in-game advertising, frequency of exposure to in-game advertising) to understand whether they might have significant effect on brand equity. Further research could expand the scope of this study also by taking into considerations aspects such the different effects of in-game advertising on various video game platforms (e.g. mobile, console, PC), the effect of social factors such as social interaction during gameplay or the culture of the individual on brand equity.

In this work, the effect on brand equity of the variable arousal from violence was studied mostly in terms of whether or not it caused an effect on the various dimensions of brand equity, without specifying if such impact was associated more with a positive or negative effect on brand equity. Future studies could try to explore the valence of this impact.

Arousal from violence from the results in this study and previous literature has ambiguous effects on brand awareness: future research should explore more in depth such relationship, in order to understand the elements involved between arousal from violence and brand awareness.

Finally, the analysis of the results indicated the aspects that should take into account by companies that want to advertise their brands through in-game advertising, but the thesis does not extensively discuss how companies can practically implement those findings and include them in their marketing strategies. Future research should try to overcome this limitation by creating a more practical tool that can be adopted by companies that want to optimize their marketing strategies.

12. Reference list

Aaker, D. A. (1991). *Managing brand equity: capitalizing on the value of a brand name*. New York: Free Press.

Acar, A. (2007). Testing the Effects of Incidental Advertising Exposure in Online Gaming Environment. *Journal of Interactive Advertising*, *8*(1), 45–56. https://doi.org/10.1080/15252019.2007.10722136

Acock, A. C. (2016). *A gentle introduction to Stata* (5th ed.). College Station, Texas; A Stata Press Publication.

Alba, J. W., & Hutchinson, J. W. (1987). Dimensions of Consumer Expertise. *Journal of Consumer Research*, *13*(4), 411–454.

Baalaki, S. (2012). *Consumer Perspective of Brand Equity Measurement: A New Scale*. University of North Texas.

Baltezarević, R., Baltezarević, B., & Baltezarević, V. (2018). The video gaming industry: From play to revenue. *International Review*, (3–4), 71–76. https://doi.org/10.5937/intrev1804071b

Bardzell, J., Bardzell, S., & Pace, T. (2008). *Player Engagement and In-Game Advertising*.

Barry, T. E., & Howard, D. J. (1990). A Review and Critique of The Hierarchy of Effects in Advertising. *International Journal of Advertising*, *9*(2), 98–111.

Benedy, I. (2020, February 4). Is In-Game Advertising the Next Big Thing in AdTech? *MarTech*. Retrieved from https://martechseries.com/mts-insights/guest-authors/is-in-game-advertising-the-next-big-thing-in-adtech/

Boyd, G., & Lalla, V. (2009). Emerging Issues in In-Game Advertising. Retrieved March 25, 2020, from http://www.gamasutra.com/view/feature/3927/emerging_issues_in_ingame_.php

Brave, S., & Nass, C. (2002). Emotion in Human–Computer Interaction, (January 2002), 53–68. https://doi.org/10.1201/b10368-6

Breuer, J., Scharkow, M., & Quandt, T. (2014). Tunnel vision or desensitization? the effect of interactivity and frequency of use on the perception and evaluation of violence in digital games. *Journal of Media Psychology*, *26*(4), 176–188. https://doi.org/10.1027/1864-1105/a000122

Bryman, A., & Bell, E. (2011). *Business Research Methods* (3rd ed.). Oxford: Oxford UP.

Bushman, B. J., & Bonacci, A. M. (2002). Violence and sex impair memory for television adsfile:///Users/aact/Downloads/If the television program bleeds, memory for the advertisement recedes_Bushman and Phillips_2001.pdf. *Journal of Applied Psychology*, *87*(3), 557–564. https://doi.org/10.1037/0021-9010.87.3.557

Bushman, B. J., & Phillips, C. M. (2001). If the television program bleeds, memory for the advertisement recedes. *Current Directions in Psychological Science*, *10*(2), 43–47. https://doi.org/10.1111/1467-8721.00111

Campbell, M. C., & Keller, K. L. (2003). Brand Familiarity and Advertising Repetition Effects. *Journal of Consumer Research Inc.*, *30*. Retrieved from https://academic.oup.com/jcr/article-abstract/30/2/292/1831686

Cauberghe, V., & De Pelsmacker, P. (2010). Advergames: The Impact of Brand Prominence and Game Repetition on Brand Responses. *Journal of Advertising*, *39*(1), 5–18. https://doi.org/10.2753/JOA0091-3367390101

Chambers, J. (2005). *The Sponsored Avatar: Examining the Present Reality and Future Possibilities of Advertising in Digital Games*.

Chang, Y., Yan, J., Zhang, J., & Luo, J. (2010). Online In-Game Advertising Effect: Examining the Influence of a Match Between Games and Advertising. *Journal of Interactive Advertising*, *11*(1), 63–73. https://doi.org/10.1080/15252019.2010.10722178

Chen, F.-P., & Leu, J.-D. (2011). Product Involvement in the Link Between Skepticism Toward Advertising and Its Effects. *Social Behavior and Personality: An International Journal*, *39*(2), 153–159.

Copley, P. (2014). *Marketing Communications Management: Analysis, Planning, Implementation* (2nd ed.). London: SAGE.

Crotty, M. (1998). *The Foundations of Social Research*. London: Sage.

Dardis, F. E., Schmierbach, M., & Limperos, A. M. (2012). The Impact of Game Customization and Control Mechanisms on Recall of Integral and Peripheral Brand Placements in Video games. *Journal of Interactive Advertising*, *12*(2), 1–12. https://doi.org/10.1080/15252019.2012.10722192

de Chernatony, L. (1999). Brand Management Through Narrowing the Gap Between Brand Identity and Brand Reputation. *Journal of Marketing Management*, *15*(1–3), 157–179. https://doi.org/10.1362/026725799784870432

Edery, D., & Mollick, E. (2008). *Changing the Game: How Video Games Are Transforming the Future of Business*. Upper Saddle River: Pearso Education, Inc,.

Egholm, L. (2014). *Philosophy of Science: Perspectives on Organisations and Society*. København: Hans Reitzels Forlag.

Entertainment Software Association. (2019). *Essential Fact About the Computer and Video Game Industry*.

Fill, C. (2011). *Essentials of Marketing Communication* (1st ed.). Financial Times/ Prentice Hall.

Giddings, S., & Kennedy, H. W. (2006). Digital games as new media. In *Understanding Digital Games* (pp. 129–147). https://doi.org/10.4135/9781446211397.n8

Ginn, A. (2020). New research shows the power of in-game ads. *Iab.Uk*. Retrieved from

https://www.iabuk.com/opinions/new-research-shows-power-game-ads

Grigorovici, D. M., & Constantin, C. D. (2004). Experiencing Interactive Advertising beyond Rich Media. *Journal of Interactive Advertising*, *5*(1), 22–36. https://doi.org/10.1080/15252019.2004.10722091

Gross, M. L. (2010). Advergames and the effects of game-product congruity. *Computers in Human Behavior*, *26*(6), 1259–1265. https://doi.org/10.1016/j.chb.2010.03.034

Gunter, B., Harrison, J., & Wykes, M. (2003). *Violence on Television : Distribution, Form, Context, and Themes* (1st ed.). Routledge. Retrieved from https://ebookcentral-proquest-com.esc-web.lib.cbs.dk:8443/lib/kbhnhh-ebooks/detail.action?docID=474564.

Herrewijn, L. (2015). *The effectiveness of in-game advertising: The role of ad format, game context and player involvement*. Universiteit Antwerpen. Retrieved from https://search.proquest.com/docview/1695814456?accountid=44128%0Ahttp://resolver.ebscohost.com/openurl?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+Global&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rf

Herrewijn, L., & Poels, K. (2017). Exploring Player Responses towards In-Game Advertising: The Impact of Interactivity.

Interactive Advertising Bureau. (2010). *Game Advertising: Platform Status Report*.

Jeong, E. J., Biocca, F. A., & Bohil, C. J. (2008). Effects of Representational Realism in 3D Violent Games. *PRESENCE 2008 Annual Convention*, (October), 191–200.

Jeong, Eui Jun, Bohil, C. J., & Biocca, F. A. (2011). Brand Logo Placements in Violent Games. *Journal of Advertising*. https://doi.org/10.2753/joa0091-3367400305

Keller, K. L. (2008). *Strategic Brand Management - Building, Measuring and Managing Brand Equity* (3rd ed.). Pearson International Education.

Khoros. (2020). The 2020 social media demographics guide. Retrieved from https://khoros.com/resources/social-media-demographics-guide

Kim, Y., & Leng, H. K. (2017). Effectiveness of In-game Advertisement: An Examination of Repetition Effect, Brand Familiarity and the Relationship Between Gaming Skills and Advertising Execution. *Journal of Global Sport Management*, *2*(1), 42–64. https://doi.org/10.1080/24704067.2017.1281714

King, C., & Grace, D. (2009). Employee based brand equity: A third perspective. *Services Marketing Quarterly*, *30*(2), 122–147. https://doi.org/10.1080/15332960802619082

Küster, I., Vila, N., Hernández, A., Canales, P., & Castillo, V. (2015). *Product placement in video games: Image transference among emotions. Engaging Consumers through Branded Entertainment and Convergent Media*. https://doi.org/10.4018/978-1-4666-8342-6.ch007

Lang, A., Newhagenn, J., & Reeves, B. (1996). Negative video as structure: Emotion, attention, capacity, and memory. *Journal of Broadcasting and Electronic Media*, *40*, 460–477.

Lang, Annie. (2000). The limited capacity model of mediated message processing. *Journal of Communication*, *50*(1), 46–70. https://doi.org/10.1111/j.1460-2466.2000.tb02833.x

Lee, M., & Faber, R. J. (2007). Effects of product placement in on-line games on brand memory: A perspective of the limited-capacity model of attention. *Journal of Advertising*, *36*(4), 75–90. https://doi.org/10.2753/JOA0091-3367360406

Lee, M., & Youn, S. (2008). Leading national advertisers' uses of advergames. *Journal of Current Issues and Research in Advertising*, *30*(2), 1–13. https://doi.org/10.1080/10641734.2008.10505243

Lewis, B., & Porter, L. (2010). In-Game Advertising Effects: Examining Player Perceptions of Advertising Schema Congruity in a Massively Multiplayer Online Role-Playing Game. *Journal of Interactive Advertising*, *10*(2), 46–60. https://doi.org/10.1080/15252019.2010.10722169

Lull, R. B., & Bushman, B. J. (2015). Do sex and violence sell? A meta-analytic review of the effects of sexual and violent media and ad content on memory, attitudes, and buying intentions. *Psychological Bulletin*, *141*(5), 1022–1048. https://doi.org/10.1037/bul0000018

Lull, R. B., Gibson, B., Cruz, C., & Bushman, B. J. (2016). Killing characters in video games kills memory for in-game ads. *Psychology of Popular Media Culture*, *7*(1), 87–97. https://doi.org/10.1037/ppm0000108

Mack, A., & Rock, I. (1999). *Inattentional Blindness: An Overview By Arien Mack & Irvin Rock*. *PSYCHE* (Vol. 5). Retrieved from http://psyche.cs.monash.edu.au/v5/psyche-5-03-mack.html

Mackay, T., Ewing, M., Newton, F., & Windisch, L. (2009). The effect of product placement in computer games on brand attitude and recall. *International Journal of Advertising*, *28*(3), 423–438. https://doi.org/10.2501/S0265048709200680

Malhotra, N. K., Nunan, D., & Birks, D. F. (2017). *Marketing research: An applied approach* (Fifth ed.). Harlow, England: Pearson. Retrieved from www.pearson.com/uk

Martí-Parreño, J., Bermejo-Berros, J., & Aldás-Manzano, J. (2017). Product Placement in Video Games: The Effect of Brand Familiarity and Repetition on Consumers' Memory. *Journal of Interactive Marketing*, *38*, 55–63. https://doi.org/10.1016/j.intmar.2016.12.001

Mau, G., Silberer, G., & Constien, C. (2008). Communicating brands playfully: Effects of in-game advertising for familiar and unfamiliar brands. *International Journal of Advertising*, *27*(5), 827–851. https://doi.org/10.2501/S0265048708080293

McGrath, J. M., & Mahood, C. (2004). The impact of arousing programming and product involvement on advertising effectiveness. *Journal of Current Issues & Research in Advertising*, *26*(2), 41–52.

Melzer, A., Bushman, B. J., & Hofmann, U. G. (2008). When items become victims: Brand memory in violent and nonviolent games. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, *5309 LNCS*(June 2014), 11–22. https://doi.org/10.1007/978-3-540-89222-9-2

Mitchell, A. A., & Olson, J. C. (1981). Are Product Attribute Beliefs the Only Mediator of Advertising Effects on Brand Attitude? *Journal of Marketing Research*, *18*(3), 318–332. https://doi.org/10.1177/002224378101800306

Mitchell, T. (2014). *Branded entertainment in emotional scenes: excitation transfer or direct affect transfer?* University of Illinois at Urbana-Champaign.

Nelson, M.R. (2005). Exploring consumer response to 'advergaming.' In C. P. Haugtvedt, R. Yalch, & K. A. Machleit (Eds.), *Online Consumer Psychology: Understanding and Influencing Consumer Behavior in the Virtual World* (pp. 156–182). Lawrence Erlbaum Associates.

Nelson, Michelle R. (2002). Recall of brand placements in computer/video games. *Journal of Advertising Research*, *42*(2), 80–92. https://doi.org/10.2501/JAR-42-2-80-92

Nelson, Michelle R., Keum, H., & Yaros, R. A. (2004). Advertainment or Adcreep Game Players' Attitudes toward Advertising and Product Placements in Computer Games. *Journal of Interactive Advertising*, *5*(1), 3–21. https://doi.org/10.1080/15252019.2004.10722090

Nelson, Michelle R., Yaros, R. A., & Keum, H. (2006). Examining the influence of telepresence on spectator and player processing of real and fictitious brands in a computer game. *Journal of Advertising*, *35*(4), 87–99. https://doi.org/10.2753/JOA0091-3367350406

Newzoo. (2019). *Global Games Market Report 2019*.

O'Donohoe, S., & Tynan, C. (1998). Beyond sophistication: dimensions of advertising literacy. *International Journal of Advertising*, *17*(4), 467–482. https://doi.org/10.1080/02650487.1998.11104733

Ovidiu, I. M. (2005). The concept of brand equity - A comparative approach. *Munich Personal RePEc Archive*, (32013), 212–220.

Pan European Game Information. (2017). What do the labels mean? Retrieved from https://pegi.info

Percy, L. (2003). Advertising and Brand Equity. In F. Hansen & L. Christensen Bech (Eds.), *Branding and Advertising* (1st ed., pp. X, 380 S. : graph. Darst.).

Peters, S., & Leshner, G. (2013). Get in the game: The effects of game-product congruity and product placement proximity on game players processing of brands embedded in advergames. *Journal of Advertising*, *42*(2–3), 113–130. https://doi.org/10.1080/00913367.2013.774584

Peterson, S. (2011). Games With Advertising: The Way Forward. Retrieved March 25, 2020, from https://www.businessinsider.com/games-with-advertising-the-way-forward-2011-9?r=US&IR=T

Ravaja, N., Saari, T., Turpeinen, M., Laarni, J., Salminen, M., & Kivikangas, M. (2006). Spatial presence and emotions during video game playing: Does it matter with whom you play? *Presence: Teleoperators and Virtual Environments*, *15*(4), 381–392. https://doi.org/10.1162/pres.15.4.381

Ravaja, N., Turpeinen, M., Saari, T., Puttonen, S., & Keltikangas-Järvinen, L. (2008). The Psychophysiology of James Bond: Phasic Emotional Responses to Violent Video Game Events.

Emotion, *8*(1), 114–120. https://doi.org/10.1037/1528-3542.8.1.114

Raziq, M. M., Ahmed, Q. M., Ahmad, M., Yusaf, S., Sajjad, A., & Waheed, S. (2018). Advertising skepticism, need for cognition and consumers' attitudes. *Marketing Intelligence and Planning*, *36*(6), 678–693. https://doi.org/10.1108/MIP-11-2017-0273

Rechsteiner, A. (2020, January 17). The history of Video Games. *Blog National Museum*. Retrieved from https://blog.nationalmuseum.ch/en/2020/01/the-history-of-video-games/

Saunders, M., Lewis, P., & Tornhill, A. (2016). *Research Methods for Business Student* (7th ed.). Pearson IEducatino Limited.

Schlegelmilch, B. B. (2016). *Global Marketing Strategy*. Springer. Retrieved from http://www.springer.com/series/10101

Sesselmann, J. (2016). *Empowering Brands with Customer Integration*. Springer Gabler.

Shimp, T. A. (1981). Attitude toward the ad as a mediator of consumer brand choice. *Journal of Advertising*, *10*(2), 9–48. https://doi.org/10.1080/00913367.1981.10672756

Simons, D. J., & Chabris, C. F. (1999). Gorillas in our midst: sustained inattentional blindness for dynamic events. *Perception*, *28*(9), 1059–1074. https://doi.org/10.1068/p2952

Singh, S. N., & Churchill, G. A., J. (1987). Arousal and advertising effectiveness. *Journal of Advertising*, *16*(1), 4–40.

Skalski, P., Campanella-Bracken, C., & Buncher, M. (2010). Advertising: It's in the game. In *Handbook of Research on Digital Media and Advertising: User Generated Content Consumption* (pp. 437–455). IGI Global. https://doi.org/10.4018/978-1-60566-792-8.ch022

Skalski, P., Tamborini, R., Shelton, A., Buncher, M., & Lindmark, P. (2011). Mapping the road to fun: Natural video game controllers, presence, and game enjoyment. *New Media and Society*, *13*(2), 224–242. https://doi.org/10.1177/1461444810370949

Smith, Martin Wiliamson, Sun, W., & Mackie, B. (2014). In-Game Advertising influencing factors: a Systematic Literature Review and meta-analysis. *The Computer Games Journal*, *3*(2). Retrieved from www.computergamesjournal.com

Smith, Martin Williamson, Sun, S., Mackie, B., & Sutherland, J. (2014). Game Advertising: A Conceptual Framework and Exploration of Advertising Prevalence. *The Computer Games Journal*.

Srull, T. K., & Wyer, R. S. (1989). Person memory and judgment. *Psychological Review*, *96*(1), 58–83. https://doi.org/10.1037/0033-295x.96.1.58

Terlutter, R., & Capella, M. L. (2013). The gamification of advertising: Analysis and research directions of in-game advertising, advergames, and advertising in social network games. *Journal of Advertising*, *42*(2–3), 95–112. https://doi.org/10.1080/00913367.2013.774610

Twitch Tracker. (2019). TWITCH STATISTICS & CHARTS. Retrieved March 25, 2020, from

https://twitchtracker.com/statistics

Vedrashko, I. (2006). *Advertising in Computer Games*. Massachusetts Institute of Technology. Retrieved from http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:ADVERTISING+IN+COMPUTER+GAMES#0

Verberckmoes, S., Poels, K., Dens, N., Herrewijn, L., & De Pelsmacker, P. (2016). When and why is perceived congruity important for in-game advertising in fantasy games? *Computers in Human Behavior*, *64*, 871–880. https://doi.org/10.1016/j.chb.2016.07.062

Webb, K. (2019, October 1). The $120 billion gaming industry is going through more change than it ever has before, and everyone is trying to cash in. *Business Insider*.

Wijaya, B. S. (2012). The Development of Hierarchy of Effects Model in Advertising. *International Research Journal of Business Studies*. https://doi.org/10.21632/irjbs.5.1.73-85

Wiles, M. A., & Danielova, A. (2009). The worth of product placement in successful films: An event study analysis. *Journal of Marketing*, *73*(4), 44–63. https://doi.org/10.1509/jmkg.73.4.44

Wydick, J. (2008). *The impact of in-game advertising on players' attitudes and purchasing behvior towards video games*. University of North Carolina Wilmington.

Yoo, C. Y., Kim, K., & Stout, P. A. (2004). Assessing the Effects of Animation in Online Banner Advertising. *Journal of Interactive Advertising*. https://doi.org/10.1080/15252019.2004.10722087

Yoo, S. C., & Peña, J. (2011). Do violent video games impair the effectiveness of in-game advertisements? the impact of gaming environment on brand recall, brand attitude, and purchase intention. *Cyberpsychology, Behavior, and Social Networking*, *14*(7–8), 439–446. https://doi.org/10.1089/cyber.2010.0031

Zillmann, D., Katcher, A. H., & Milavsky, B. (1972). Excitation Transfer from Physical Exercise to Subsequent Aggressive Behavior. *Journal of Experimental Social Psychology*, *8*(3), 247–259.

Zillmann, D. (1990). Television viewing and physiological arousal. In J. Bryant & D. Zillmann (Ed.), *Responding to the screen: Reception and reaction processes* (pp. 103–134). Hillsdale, NJ: Lawrence Erlbaum Associates.

Zillmann, D. (2006). Dramaturgy for emotions from fictional narration. In J. Bryant & P. Vorderer (Ed.), *Psychology of entertainment* (pp. 215–238). Mahwah, NJ: Erlbaum.

13. Game reference list

Atari (1983). *Pepsi Invaders*, Coca-Cola.

Blitz Games (2006). *Sneak King,* King Games.

Criterion Games (2008). *Burnout Paradise*, Electronic Arts.

Digital Equipment Corporation (1973). *Lunar Lander*, Digital Equipment Corporation.

DSD & Camelot (1983). *Tooth Protectors*, Johnson & Johnson.

EA Canada (2004). *Need for Speed: Underground 2*, Electronic Arts.

EA Chicago (2006). *Fight Night Round 3*, EA Sports.

EA Sports & EA Tiburon (1998-2013). *Tiger Woods PGA Tour* game series, Electronic Arts.

Kojima Productions (2010). *Metal Gear Solid: Peace Walker*, Konami.

Marvin Glass and Associates (1983). *Tapper*, Bally Midway

Rockstar North (2013). *Grand Theft Auto V*, Rockstar Games.

Sony Online Entertainment (2004). *EverQuest II*, Sony Online Entertainment, Square Enix, Ubisoft.

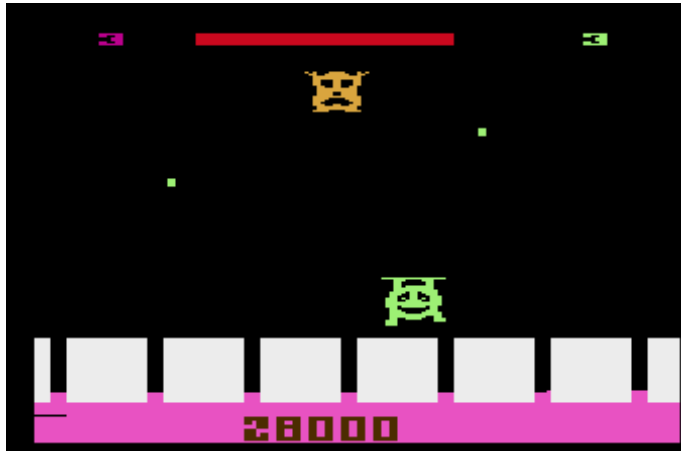Treasure & Sega (1993). *Treasure Land Adventure*, Sega Genesis.

14. Appendices

Appendix 1 – Video games

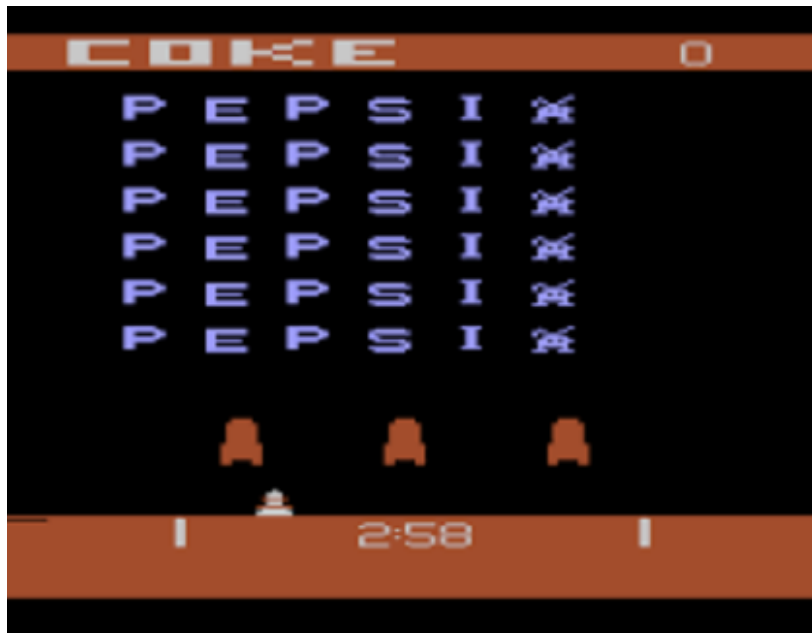*Appendix 1a.* *'Tooth Protectors': early example of advertising in video games*

Source: DSD & Camelot (1983)

Appendix 1b. *'Tapper': early example of advertising in video games*

Source: Marvin Glass and Associates (1983)

Appendix 1c*. 'Pepsi Invaders': early example of advertising in video games*

Source: Atari (1983)

Appendix 1d. *'Treasure Land Adventure': early example of advertising in video games*

Source: Treasure & Sega (1993)

Appendix 1e. *'Burnout Paradise': dynamic in-game advertising for Obama's presidential campaign*

Source: Criterion Games (2008)

Appendix 1f. *'Sneak King': an advergame developed by Burger King*

Source: Blitz Games (2006)

Appendix 1g. Marketing display (billboard) and product placement (branded vehicle) in 'Burnout Paradise'

Source: Criterion Games (2008)

Appendix 1h. Product placement in 'Metal Gear Solid: Peace Walker'
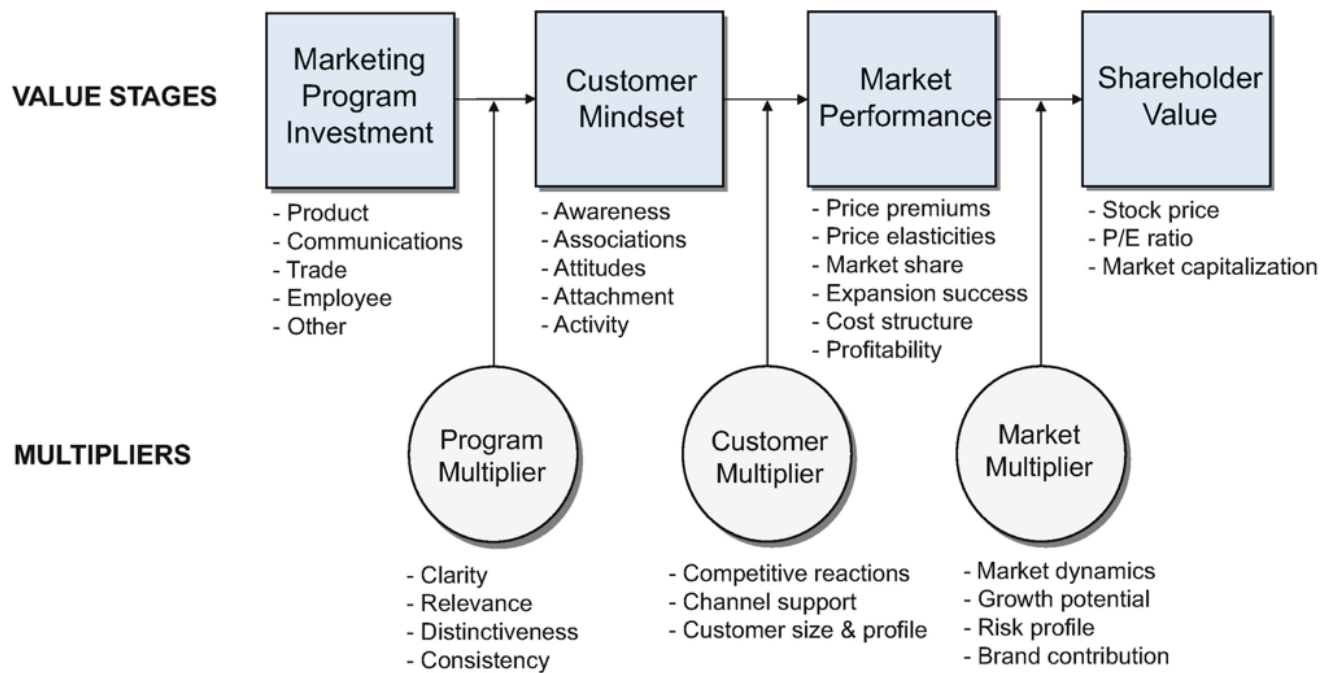

Source: Koijima Productions (2010)
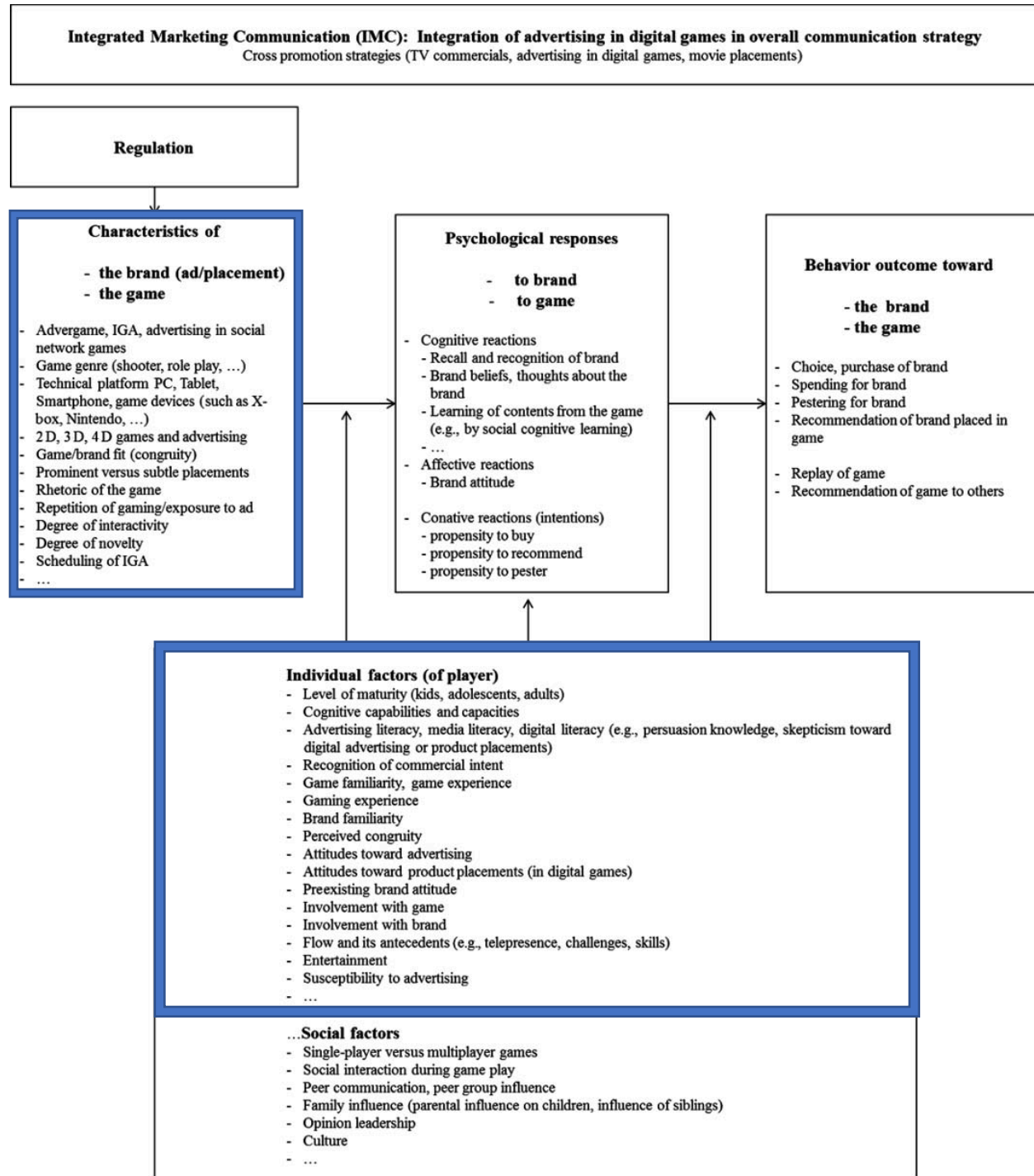
Appendix 1i . *Tiger Woods in 'Tiger Woods PGA Tour 14'*

Source: EA Sports & EA Tiburon (2013)

Appendix 2 – Keller's brand value chain

Source: Keller (2008, p. 318)
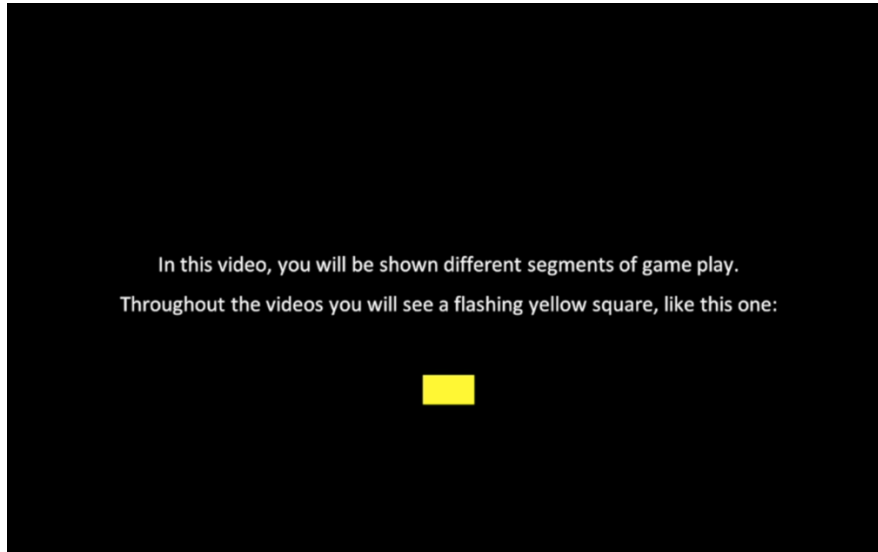
Appendix 3 – Effectiveness of in-game advertising

Integrated Marketing Communication (IMC): Integration of advertising in digital games in overall communication strategy
Cross promotion strategies (TV commercials, advertising in digital games, movie placements)

Regulation

Characteristics of

- the brand (ad/placement)
- the game

- Advergame, IGA, advertising in social network games
- Game genre (shooter, role play, …)
- Technical platform PC, Tablet, Smartphone, game devices (such as X-box, Nintendo, …)
- 2 D, 3 D, 4 D games and advertising
- Game/brand fit (congruity)
- Prominent versus subtle placements
- Rhetoric of the game
- Repetition of gaming/exposure to ad
- Degree of interactivity
- Degree of novelty
- Scheduling of IGA
- …

Psychological responses

- to brand
- to game

- Cognitive reactions
  - Recall and recognition of brand
  - Brand beliefs, thoughts about the brand
  - Learning of contents from the game (e.g., by social cognitive learning)
  - …
- Affective reactions
  - Brand attitude

- Conative reactions (intentions)
  - propensity to buy
  - propensity to recommend
  - propensity to pester

Behavior outcome toward

- the brand
- the game

- Choice, purchase of brand
- Spending for brand
- Pestering for brand
- Recommendation of brand placed in game

- Replay of game
- Recommendation of game to others

Individual factors (of player)
- Level of maturity (kids, adolescents, adults)
- Cognitive capabilities and capacities
- Advertising literacy, media literacy, digital literacy (e.g., persuasion knowledge, skepticism toward digital advertising or product placements)
- Recognition of commercial intent
- Game familiarity, game experience
- Gaming experience
- Brand familiarity
- Perceived congruity
- Attitudes toward advertising
- Attitudes toward product placements (in digital games)
- Preexisting brand attitude
- Involvement with game
- Involvement with brand
- Flow and its antecedents (e.g., telepresence, challenges, skills)
- Entertainment
- Susceptibility to advertising
- …

…**Social factors**
- Single-player versus multiplayer games
- Social interaction during game play
- Peer communication, peer group influence
- Family influence (parental influence on children, influence of siblings)
- Opinion leadership
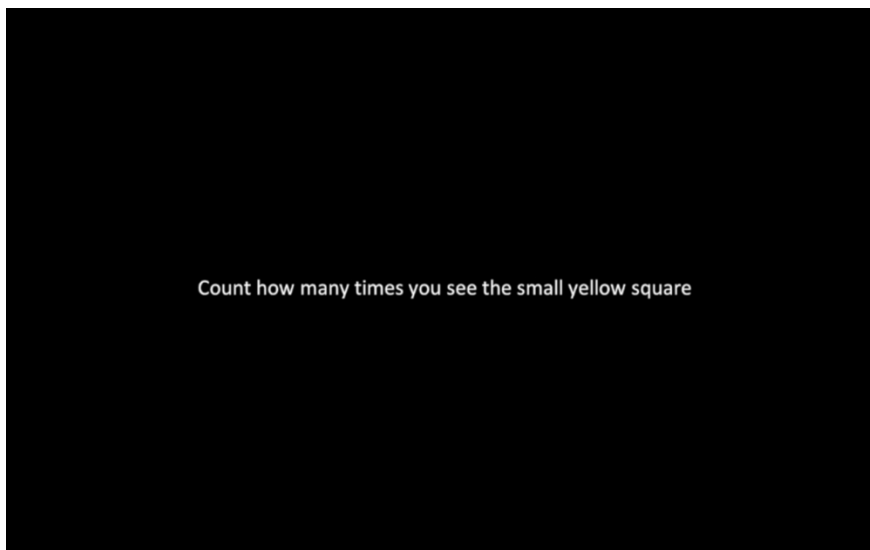- Culture
- …

Appendix 4 – Video game stimulus

*****Appendix 4a.*** Instructions at the beginning of the video clip*

Source: image made by the authors

*****Appendix 4b.*** Instructions at the beginning of the video clip*

Source: image made by the authors

Appendix 4c. *Example of yellow square flashing during the video*

Source: image made by the authors

Appendix 5 – Questionnaire in English

Q0. Hello there,

We are two students from Copenhagen Business School working on our Master Thesis. We are investigating the video game market and in order to familiarize ourselves with the industry, we would like to ask you some questions.
This survey will take approximately 7 minutes. The participation is anonymous and your information will be treated confidentially and used only for the specific purpose of this study.
Thank you in advance for taking your time to support us!
Angela and Elisa

Q1. You are now going to watch a short video clip showing segments of video games' gameplay containing a moderate degree of violence. Please put the full screen and turn the audio on in order to improve the viewing experience. Follow the directions present at the beginning of the video clip.
After you have viewed the video clip, please click on the arrow to start the questionnaire.

https://www.youtube.com/watch?time_continue=2&v=wBlLcl077Mc&feature=emb_logo

Q2. How many yellow squares did you count?

▼ 0 (1) ... 25 (26)

Q3. Do you recall seeing any brand in the video?

○ Yes (1)

○ No (0)

Q4. Please write all brands that you remember seeing.

_____

Q5. Do you recall seeing any brand belonging to these categories? Please add the names of the brands that you remember in the respective categories. If you don't remember any, please proceed to the following question.

○ Clothing/Sport (1) _____

○ Automobiles (2) _____

○ Food/Fast-food chains (3) _____

Q6. Do you remember seeing any of the following brands? Select all the ones that you remember. If you don't remember any, please proceed to the following question.

- [ ] NIKE
- [ ] BEN&JERRY'S
- [ ] BURGER KING
- [ ] McDonald's
- [ ] EVERLAST
- [ ] Audi
- [ ] Häagen-Dazs
- [ ] SUBWAY
- [ ] STARBUCKS COFFEE
- [ ] Mercedes-Benz
- [ ] adidas
- [ ] Champion
- [ ] (25)
- [ ] Other _____

Q7. How much do you agree with these statements? Please note that *perception* refers to the way you value the benefits and characteristics of a brand.

	Strongly agree (1)	Agree (2)	My perception has not changed (3)	Disagree (4)	Strongly disagree (5)
My perception of **Nike** has improved	○	○	○	○	○
My perception of **Ben & Jerry's** has improved	○	○	○	○	○
My perception of **Burger King** has improved	○	○	○	○	○
My perception of **McDonald's** has improved	○	○	○	○	○
My perception of **Everlast** has improved	○	○	○	○	○
My perception of **Audi** has improved	○	○	○	○	○

Q8. After watching the video, how much do you agree with each of these statements related to brand attitude (i.e. your opinion and feelings about the brand)?

	Strongly agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)
My attitude towards **Nike** is more positive	○	○	○	○	○
My attitude towards **Ben & Jerry's** is more positive	○	○	○	○	○
My attitude towards **Burger King** is more positive	○	○	○	○	○
My attitude towards **McDonald's** is more positive	○	○	○	○	○
My attitude towards **Everlast** is more positive	○	○	○	○	○
My attitude towards **Audi** is more positive	○	○	○	○	○

Q9. Each brand has its own *personality* and people can feel more or less connected to it. After watching the video, how connected to you feel to each brand?

	I definitively feel closer to the brand (1)	I feel closer to the brand (2)	It has not changed how close I feel to the brand (3)	I feel less close to the brand (4)	I definitively feel less close to the brand (5)
Nike	○	○	○	○	○
Ben & Jerry's	○	○	○	○	○
Burger King	○	○	○	○	○
McDonald's	○	○	○	○	○
Everlast	○	○	○	○	○
Audi	○	○	○	○	○

Q10. After watching the video, how much do you agree with the following statements describing your purchasing behavior in the future?

	Strongly agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)
I will be more inclined to purchase **Nike** products	○	○	○	○	○
I will be more inclined to purchase **Ben & Jerry's** products	○	○	○	○	○
I will be more inclined to purchase **Burger King** products	○	○	○	○	○
I will be more inclined to purchase **McDonald's** products	○	○	○	○	○
I will be more inclined to purchase **Everlast** products	○	○	○	○	○
I will be more inclined to purchase **Audi** products	○	○	○	○	○

Q11. Before viewing this video, which of the following brands were you already familiar with (i.e. you were exposed to them through advertisements or word-of-mouth or you used/purchased them)?

	Familiar (1)	Unfamiliar (0)
Nike	◯	◯
Ben & Jerry's	◯	◯
Burger King	◯	◯
McDonald's	◯	◯
Everlast	◯	◯
Audi	◯	◯

Q12. To what extent do you believe there was a good fit between the brands and the type of video games they were displayed in?

	Definitely a good fit (1)	Somewhat a good fit (2)	Neither a good nor a bad fit (3)	Somewhat a bad fit (4)	Definitely a bad fit (5)
Nike	◯	◯	◯	◯	◯
Ben & Jerry's	◯	◯	◯	◯	◯
Burger King	◯	◯	◯	◯	◯
McDonald's	◯	◯	◯	◯	◯
Everlast	◯	◯	◯	◯	◯
Audi	◯	◯	◯	◯	◯

Q13. To what extent did you find prominent the display of the following brands in the video?

	Definitely noticeable (1)	Somewhat noticeable (2)	Neither noticeable nor subtle (3)	Somewhat subtle (4)	Definitely subtle (5)
Nike	○	○	○	○	○
Ben & Jerry's	○	○	○	○	○
Burger King	○	○	○	○	○
McDonald's	○	○	○	○	○
Everlast	○	○	○	○	○
Audi	○	○	○	○	○

Q14. What do you think of the violence that was displayed in the video you watched?

○ Definitely impressive (1)

○ Somewhat impressive (2)

○ Neither impressive nor boring (3)

○ Somewhat boring (4)

○ Definitely boring (5)

Q15. How old are you?

○ Younger than 18 (1)

○ 18-25 (2)

○ 26-33 (3)

○ 34-41 (4)

○ 42-49 (5)

○ 50-57 (6)

○ 58-65 (7)

○ Older than 65 (8)

Q16. What is your gender?

○ Male (1)

○ Female (2)

○ Would rather not say (3)

Q17. In which country do you currently reside?

▼ Afghanistan (1) ... Zimbabwe (1357)

Q18. What is your occupation?

○ Employed (1)

○ Unemployed (2)

○ Student (3)

○ Self-employed (4)

○ Would rather not say (5)

Q19. How many hours per week do you usually spend playing video games?

○ More than 15 hours (1)

○ Between 11 and 15 (2)

○ Between 6 and 10 hours (3)

○ Between 1 and 5 hours (4)

○ Less than one hour (5)

○ I don't play video games (6)

Q20. Are you a fan of violent video games (e.g. the ones watched on the video clip)?

○ Definitely yes (1)

○ Somewhat yes (2)

○ Neither yes nor no (3)

○ Somewhat no (4)

○ Definitely not (5)

Appendix 6 – Interview guide

First of all, thank you for participating in our study. You are now going to watch a short video clip showing a few segments of video games' gameplay containing a moderate degree of violence. Please put the full screen and turn the audio on in order to improve the viewing experience. Follow the directions present at the beginning of the video clip. After the video we will ask you a few questions about it.

1. *How many yellow squares did you count?*
2. *Do you recall seeing any brand in the video?*
   - *Where do you remember viewing the brand?*

Ok, great. So you remembered [insert brands] from watching the video.

3. *Why do you think you remembered those brands? How did they catch your attention?*

[If they don't mention prominence, congruity, familiarity or violence, ask the following:]

4. *I know that you saw the brands only very briefly, but*
   - *Do you think that the fact that the brand was noticeable helped you remember the brand? Or was it not prominent?*
   - *Do you think that the fact that the brand was compatible or incompatible with the video game helped you notice the brand?*
   - *Were you familiar with the brands before? Do you think that the fact that you were familiar with the brand helped you remember it?*
   - *Do you think that the fact that the game was violent helped you remember the brand?*

5. *Now, try to think about the characteristics of the brands that you saw. What do these brands remind to you of when you think about them? Do you like it/them? What do you like/dislike about it/them?*

- *Do you think the brands were in line with the context of video game? Has it influenced the way you see the brands somehow? (In what ways? Can you give me an example?)*
- *After having seen the video do you like it more than before?*
- *Are you more interested in this brand than before?*

6. *If you did not know the brands, do you think that finding them advertised in these video games would have given some information finding them in this type of video game?*

7. *As you may have noticed, this video had a certain degree of violence. What did you think about it? Did you find it exciting or boring?*
    - *Think about the characteristic of the brands we discussed before and what it makes you think about. Does the fact that they are related to a violent context change your idea of them? Did it change the idea of the brands that you saw in the video? How?*
    - *After having seen the brand in a violent context, do you like it more than before? Are you now more interested in this brand?*

8. *How many hours per week do you play video games?*

Appendix 7 – Interview transcripts

Interview n. 1

Date: 02/05/2020

Interviewer: Do you remember how many squares did you count?

Interviewee 1: Yeah, I counted 11.

Interviewer: What we are studying here is the effect of in-game advertising on the brands that are advertised and especially in this violent context and so we're going to ask you some questions about it. So you remember any brands that you saw in the video?

Interviewee 1: I remember McDonald's. I remember Burger King. Okay. And I remember the one with the rings…Audi! Yeah, that was it. I only recognized three of them.

Interviewer: Do you think there's any particular reason why you remember these ones and why you saw these ones?

Interviewee 1: Oh yeah, Burger King was obvious, it was in the game with the boxing and it was right smack dab in the middle of the ring. So that was like the easiest one. Audi was a bit more difficult because it was in the racing game, but just because the car kind of turned a bit I noticed the logo at the back, but otherwise I probably wouldn't have. And McDonald's was also a bit hard to catch. I think it's just the perspective of the video. If the guy who was shooting in and that video was facing towards McDonald's, it would have been super easy to notice that. It was just because it was a bit in the corner. Yeah, it was a bit difficult to find, but otherwise it was very prominent the M of the McDonald's.

Interviewer: Do you think that the fact that some brands were not very in line with the video games helped you to remember them better or is it mainly because they were very prominent?

Interviewee 1: I would say that it for me at least it really matters what kind of genre it is so Burger King with a boxing video doesn't make any correlation. It could have been Audi, it would have been the same result. For McDonald's, I felt like that was more to make the aesthetic of the game feel realistic because this is a very commonplace feature and in that type of game it's supposed to be more like a realistic version of combat. If it was portraying modern US than I would take it was an attempt at realism since McDonald's is basically in every town. And the Audi one, it also again makes sense. It's a car game, it's like you're driving. It has an Audi, it has a BMW, a Mercedes… So I felt like it was in line, but for me it could have been any other brand that has gears, you know.

Interviewer: So it's more the type of product more than the brand itself. I mean, it could have been any other brand that was in line with it.

Interviewee 1: Yeah, if it had been like McDonald's on the back of the car, I definitely would have been like 'What is that?'

Interviewer: And do you think that the fact that you knew these brands before helped you remember them?

Interviewee 1: Oh, yeah, definitely. Because I'm sure there were other brands in there which I didn't notice because I don't know them that well. And just to clarify, I actually did notice one other brand. But that's not a brand, that was the developer itself, EA Electronic Arts, down in the boxing game. So yeah, that's because I'm familiar with the games. But I didn't think that was like a product brand.

Interviewer: Yeah, exactly. And of course you may have noticed there is some kind of violence in the video games do you think they may have influenced the fact that you have seen some brands and some other you didn't?

Interviewee 1: Actually, in my perspective, the more violent the game is the more distracted you are by the violence and the less aware you are of your surroundings. I would say that the first segment of the video with the guy in the living room, probably GTA I guess, and I take that one because every segment must have had a brand, I didn't even notice any brand there. It was so subtle or my intention was so consumed by the violence that I didn't care to look around. But I don't know if you guys are familiar with the more like peaceful games, there's one that's very popular right now: Animal Crossing. If I saw a brand in there, I would definitely notice it.

Interviewer: Yeah, of course, it makes sense. So now we want to ask you to try to think about the characteristics of the brands that you saw and what you like about them and what you don't like about them? So McDonald's, Burger King and Audi.

Interviewee 1: So, I would start with McDonald's: affordable, convenient. And then for Burger King: delicious, I guess. I like Burger King. McDonald's is your cheap, fast-food place and Burger King is where you go when you have the money: the fancier option. But also, for both these brands I would also add is unhealthy. And for Audi it's reliability, speed and power.

Interviewer: Yeah. And now that you thought about these characteristics do think that they are in line with the type of video games that they were in?

Interviewee 1: So let's start with McDonald's. It would not be in line. It would only be in line if it were to convey realism but the characteristics of the brand do not align with the neat feature and the character of the game. It was a combat based game with action. Affordable and convenient does not exactly match up. For Audi, I think it matches up with the videogame characteristics. So that was like, high speed pursuit, you're running from police blockades power. And then reliability perhaps not so much. And finally for Burger King no, it doesn't actually match up. Maybe if you took the fancier element of like the characteristics I said, then I guess you could say that boxing is considered a bit more of a premium sport, so for example it's not the same as wrestling, it's more prestigious in a certain way, and that might add up. But generally, I don't feel there's too much of an alignment there.

Interviewer: Okay. And do you think that maybe your perception and your interest in any of these brands have changed after viewing the videogame?

Interviewee 1: In this regard, I would say no. It's because personally speaking, I'm more concerned with the videogame than I am with the brands. Mm hmm. If the video game is good, I'm happy if it's not good, I'm not happy. The brands inside are largely inconsequential. But that might also be because I don't have any very strong feelings for these brands. So let's say I love one brand and I saw that, then I would definitely maybe have changed my perspective of it.

Interviewer: What if you found a brand that you think it's highly incongruent with the situation? Do you think that your attitude towards the video game and the advertisement would have changed?

Interviewee 1: Could you give me an example?

Interviewer: Yeah. What if you were playing a videogame that is placed in the medieval times and you see a panel for McDonald's or of a brand that you pretty much like.

Interviewee 1: Yeah, I would actually laugh if it was McDonald's. I would take it as… not as an allegory, but how do you call it? If it was basically just for fun, right? It's an Easter egg or something. But if it were a brand I love, then I would actually maybe like the game a bit more.

Interviewer: Okay, even if it's very incongruent with the whole situation. What if a game instead like tries to, like really force a very incongruent advertisement and keeps showing you the same brand in a very prominent way and actually kind of can disturb the playing?

Interviewee 1: I get irritated. I wouldn't like the game and I wouldn't like the brand. Okay, okay. My perception of both of them would decrease.

Interviewer: Okay, makes sense. So, of course, you've seen that there's some element of violence in all the video games, how did you find it? Did you find that very high or do you think it's not that violent, compared to what you are used to?

Interviewee 1: Probably I'm going to be flagged as a serial killer. It was nothing, it wasn't very violent. The first the first segment was perhaps, like relatively higher, but there are much more wild video games out there.

Interviewer: So you didn't find it any exciting, but you've kind of find boring the element of violence?

Interviewee 1: Yeah, actually. A bit boring.

Interviewer: Okay. Before we discussed about the characteristics of each of the brands that you saw, do you think these are in line with the concept of violence?

Interviewee 1: No, none of them. If I were to see a brand for arms manufacture, I think of one in the US called Radian or something, or also there's this company called Heckler & Koch, and their guns come up in video games a lot because it's a real life company. And if I saw that in a video game, I'd be like, that's either realism or, you know, that makes sense. Because, for example, they have this gun that pops up probably in any combat based game in the modern times. You'd probably see one of their guns in there. I wanted to ask you again, what was the question? Because I was thinking I had another point, but now I don't recall it.

Interviewer: it was about the characteristics of the brands that we were talking about, if they are in line with the concept of violence, based on what every individual thinks. So some people maybe might like more violence, some people are very kind of reject it or don't really like it so it can also influence the way they perceive the brands that want to be associated with the violence.

Interviewee 1: Yeah, so in that regard, it's a bit more complicated. When a game is trying for realism, then it makes sense. If it's a simulation game, for example, then it makes sense that they have McDonald's and Levi's and Nike and all that stuff. Because my perception of the brand doesn't increase or decrease. It's just a simulation. But if it's not aiming at a simulation, then I personally would find it more in line if the brands that were put in the video game were already kind of like stigmatized in a way. So smoking brands, they align somewhat with violence arms manufacturers, they align with violence. But I wouldn't like to see a kid's clothing brand in there. So the key here is, what is the game trying to achieve? Is it realism? Or is it just like, you know, just random stuff? If it's realism, then it makes sense. If it's not, then it doesn't make sense.

Interviewer: Perfect. Thanks. And after seeing this video, given the fact that these video games have something with violence, do you think you liked some brands more than others, or do you think it has not changed the perception of them?

Interviewee 1: My perception hasn't changed in this regard.

Interviewer: Okay. And your interest towards these brands?

Interviewee 1: No. So as I said, my perspective varies because people would have different approaches. But for me, I'm more concerned with the videogame than I am with the brands and the video game is good, I am happy and I don't care about the brands. If it's not good, then I don't care about them either.

Interviewer: Yeah, so this is the last question. How much do you play video games?

Interviewee 1: If you're asking currently, then now I'm barely playing anything with the thesis that I have. But normally, I would say 20 hours a week, or a bit less, 16 maybe. I play three hours a day, I guess.

Interviewer: What's your favorite genre of video games?

Interviewee 1: I have a favorite for the different genres. I love real-time strategy and that one has barely any violence because it's more like chess. But I also like shooter games. And, like, there's two kinds of shooter games: first person and third person. And then I like horror games as well. And yeah, anything apart from sports and driving, I'd play it.

Interviewer: I think that's it. Thank you for your time!

Interview n. 2

Date: 02/05/2020

Interviewer: How many yellow squares if you count?

Interviewee 2: 12.

Interviewer: Okay, so basically what we're studying is the effect of in-game advertising in video games. So you may or may not have noticed some brands advertised in the video game. Did you remember any?

Interviewee 2: Audi, McDonald's and Burger King.

Interviewer: And do you remember where you saw them?

Interviewee 2: The Audi one was just on a car and during one of the games, Burger King was during the box match and McDonald's was a big billboard in the middle of the street.

Interviewer: Why do you think you remembered these ones?

Interviewee 2: Um, I think they were pretty big close-ups. So like, the McDonald's sign. Well, it's red so you can really see it in the corner. Burger King was right in the middle because it was really filmed by itself zooming out to the match. And the Audi car was the first thing that appeared before the car went away.

Interviewer: Okay, so they were very noticeable and prominent?

Interviewee 2: Yeah.

Interviewer: And do you think that the fact that you knew these brands before helped you seeing them?

Interviewee 2: Yeah, sure.

Interviewer: Do you think that some of these brands were not compatible with the video game they were placed in? And do you think that this helped you? I mean, they popped out because you maybe thought 'Oh, this doesn't really have to do with this video game'?

Interviewee 2: I don't know about the video game but with I think they were pretty okay within the scenes. So like, on average, it was just a billboard in the street and during a boxing match, I think there are a lot of sponsors so it's okay to see it on the box. And the Audi was on a car, so...

Interviewer: Do you think that the violence in the, in the video game has in some way distracted your attention from the advertising?

Interviewee 2: Well, I was mainly focused on finding the yellow thing. So maybe I might not have seen some advertisements because of that.

Interviewer: Now I'm going to ask you to try to just to think about the characteristics of the brands that you saw. So McDonald's, Burger King, and Audi, and the things that you may like about them and the things that you don't like about them, and what it reminds you when you think of them.

Interviewee 2: So for example for both Burger King and McDonald's I don't like fact that it's unhealthy food, but I like the food itself.

Interviewer: Now that you have thought about the characteristics of the brand, do you think they were in line with the video games? Do you think there was some kind of mismatch in seeing, for example, an ice cream brand advertising which was in one of the scenes of the video? Do you think that maybe it's not in line with a video game where there's shootings and cars running around?

Interviewee 2: I think it really depends on the scene of the video. So even if it's violent, if it's in the streets, then it's normal that you see the McDonald's billboard for example. And no, they don't were out of place.

Interviewer: Also for Burger King. You don't think that maybe seeing fast-food advertising in a boxing match was out of a place or the Audi in the type of video game it was in?

Interviewee 2: Maybe in the fact that well, Burger King it's not really a healthy solution and box is a sport so it's a healthy choice of life. So then yes, this is a mismatch I could think of.

Interviewer: Okay but you would say that in general they fit well in the inner game?

Interviewee 2: Yes

Interviewer: Also seeing the brands in this context, does it influence the way you see them now? Now that you know that Burger King put its ads on the boxing video game, or Audi with the other one with the shootings.

Interviewee 2: I don't think so.

Interviewer: In what ways though?

Interviewee 2: They're pretty famous brands and what I knew of them didn't really change after I saw them in these video games. So my perception of them didn't change. And also, well, maybe the fact that I saw the Audi car just strengthened the fact since I don't know much about cars, maybe just the fact that Audi is a really big brand and famous brand, if they if they're putting it in a video game.

Interviewer: After having seen this video, do you like those brands that you saw more than before? Do you think less of them?

Interviewee 2: Maybe just the Audi, maybe I just think of it as more of a higher quality item now.

Interviewer: Okay. Is your interest in these brands changed?

Interviewee 2: No.

Interviewer: Do you think being familiar with the brands helped you see how you view them after seeing the video game?

Interviewee 2: Well, maybe the fact that you're focusing on something else prevents you from seeing other brands that you don't know, you just see the ones you know. Then once you really know those brands, seeing them in a video game doesn't really change the impact of these brands. It just makes you more aware of them.

Interviewer: About the violence, there are a lot of segments in the video, but they all have some degree of violence. What did you think of the violence in the video?

<u>Interviewee 2</u>: I don't think he was too violent. It's bearable. Not too gruesome.

Interviewer: Did you find it exciting somehow? Or was it something you were absolutely used to and didn't make you feel anything?

<u>Interviewee 2</u>: I was kind of used to because I've been used to see these video games at home. It didn't really struck me in that sense.

Interviewer: Okay, and now think again about the characteristics of the brands that were discussing before. Do you think that there are in line with a violent video game as the one that you have seen? Compared to the question before where the context in was the video game in general, now it's about the violence.

<u>Interviewee 2</u>: No, I wouldn't really match the characteristics of those brands with violence. So in that sense, they don't fit, I would say.

Interviewer: So you don't like the fact that maybe Audi, Burger King or McDonald's are in violent video games.

<u>Interviewee 2</u>: I wouldn't say that I don't like it. It doesn't affect me in that sense. I like those brands in the same way or don't like them in the same way.

Interviewer: So the fact that they're in violent video games it does not change the interest that you have in them.

<u>Interviewee 2</u>: Yes, exactly.

Interviewer: Well, that was it, thank you for your time.

<u>Interviewee 2</u>: Thank you.

Interview n. 3

Date: 02/05/2020

Interviewer: How many yellow squares did you count?

<u>Interviewee 3:</u> 11

Interviewer: Do you recall seeing any brands in the video?

<u>Interviewee 3:</u> Yes I do. Audi, EA Sports, Burger King. And that's it.

Interviewer: Okay. What about other clothing brands?

<u>Interviewee 3:</u> Okay, there was probably something on the belt of the boxers but I can't remember what it was.

Interviewer: What about other fast-food chains other than Burger King?

Interviewee 3: I don't remember

Interviewer: *And what about the other ones? Did you remember seeing them in some specific place?*

Interviewee 3: No, I know that in one scene where there was a car there was something in the back. But I don't know what it was. So like if the scene was longer I would have seen it. But since the scene was short, I couldn't see it. I remember there being something.

Interviewer: *Why do you think you remember these ones?*

Interviewee 3: Burger King was pretty big. EA Sports was in the center of the scene, the gloves were always in the centre of the scene. I remember Audi because I think I like cars, so it's probably because of that, perhaps that's why my attention goes more on the car. Also the scene was pretty long.

Interviewer: *So you think that that you remember Audi because you were more familiar with the Audi and car brands?*

Interviewee 3: I think it's because I'm familiar with Audi. Yeah, I mean, I'm familiar with all the brands to be honest. I'm not more familiar with Audi then other car brands. I just really like the category of cars, I am familiar with the category of brands.

Interviewer: *Do you think maybe the fact that some of the brands were compatible or not compatible with their video game helped to remember them?*

Interviewee 3: I think I remember the car because it was used. So maybe compatible. So, it's not something in the back. It's just not published in the back, but it's something which actually takes an active part in the scene. Generally when I think about compatibility, if it fits to the scene properly, in that case I think that Audi fitted to the scene. Now, the thing is, if it was a Toyota, I would have probably also remembered the Toyota, if it would have been any other brand. So I don't think I remember the Audi because there was an Audi. I remember the Audi because it was a car and an active part of the scene.

Interviewer: *Did you find that the Burger King signs fitted well with the with the scene?*

Interviewee 3: Honestly not really. I'm just not used to seeing Burger King, I don't see the fit with the boxing in general, I think there are other category of brands that fit better to a boxing scene than Burger King. That's what I'm saying. Then fast-foods, you know, it's not really sporty fast-food.

Interviewer: *Do you think that the level of violence may have had an impact on the degree to which you remembered the brands?*

Interviewee 3: No, in my case, I don't think so.

Interviewer: *What did you think of the violence in the game?*

Interviewee 3: It was not super high. I mean, yeah, actually, one scene a couple of like boxing scenes is not violent, like sport that many people watch. So it's not like on a spectrum from low violence to high violence, I would say it's medium violence. Other obviously have higher violence. Well, yeah, I mean, it's, I can still sleep tonight. It's not that pretty high level of violence and I don't play violent games, so it's pretty violent but nothing too special.

Interviewer: And, okay, so now I want to ask you to try to think about the characteristics of the brands that you saw, what they remind to you when you think of them, and if you like them, if you don't like them and what you like and what you don't like about them. Do you think that after you have viewed the video game they have been changed or influenced in some way?

Interviewee 3: It's difficult but maybe slightly. The thing is Audi for me, It's not like a sports car. It's like a limousine and pretty elegant car. And in the scene, it was used as a sports car. So it's not 100% perfect fit. Maybe now I see it could be the I would see it a bit different. Like if I would play the game for longer, and I would always use an Audi probably then I would think about the Audi as being like more of a sports car. You know what I mean? Now, but obviously the scene was too short to have like a durable impact on me but if I would play be it longer than perhaps I would, I would see how the differently. About EA sport, I don't see it differently to be honest.

Interviewer: Do you think that the characteristics of this brand are in line with that of the game that they are into?

Interviewee 3: I think so, the thing is, I think EA Sports make so many different games. I think eSports makes also FIFA. I'm not a specialist of EA Sports. So perhaps it could be that the characteristic change. I saw EA Sports more of a non-violent games producer. That could also be because I don't play violent game. Like I cannot build a strong opinion on this. I'm just not too familiar with the brand to say that. Regarding Burger King, I don't like fast-food myself and I don't like Burger King maybe if I would play the game I would see it since it's associated to sports. It could be that I would associate to more healthy food with respect to competitors perhaps.

Interviewer: Do you think that their characteristics are in line with that of the sports game it was into?

Interviewee 3: So I don't think Burger King itself is aligned with sports game at all. But among the sports game, it would probably be more aligned to a boxing game, then golf for instance. And that's because perhaps the social class of people that that watch boxing, like if you think about the history of boxing, it's less wealthy type of sport that may be aligned with fast-food more than golf or sailing.

Interviewer: Do you think that your interests have changed for these brands?

Interviewee 3: So after this video, no. But the problem is that I would not buy them currently for several reasons. So I don't know how to define interest. Like, for me interest in a brand is interest to buy or to use. And in this case, I don't play a lot of video games, and I don't have the budget now to buy a car, definitely not an Audi. What was the other one? Burger King, I don't eat fast-food. So like those three categories. They don't apply to me too much.

Interviewer: As you saw, there was some kind of degree of violence in all of the games. What do you think about it? I mean, you started to say that there's the degree of violence in different video games and you were not to aroused by it.

Interviewee 3: The boxing scene was less violent, while the rest was more violent. And then among the rest, also the scene with the car was a bit less violent. But the rest, just everything that involves shooting, is more violent. I'm generally I'm not a fan of violent games. Like, it's fine. I think it's fun to play them sometimes. But it's not like I really enjoy them.

Interviewer: But you remember the brands that were in the less violent scenarios in your opinion, though.

Interviewee 3: Yeah, that's true. But that's because in the others I think the reason is because it's more centered in the game. It's more like how the brand was shown, rather than in what scene it was shown, I think. And because I don't remember in the shooting game, like if there were some brands, I think they were all in the outside of the of the screen, whereas in the boxing scene and in the driving scene, they were pretty much at the center. So the gloves, the Burger King sign, and the car were the center of the screen. And so it was just the first thing to see.

Interviewer: If you think about, again, about the characteristics of the brand and what you like and dislike about them. What do you think of the fact that they're in this kind of violent context? Does it have any impact on you knowing that they decided to be placed in some violent video games?

Interviewee 3: I mean, I think it's pretty binary for me. There's some brands that fit to violence and some that don't. And those brands that I saw they all don't fit generally to violence.

Interviewer: Why don't you think that they fit into violent video games?

Interviewee 3: They could fit in a violent video game. I don't think Audi fits with violence but it still fits to the scene, because it's a fast driving scene. I don't see a fit with violence but I see the fit with the scene. And also think that it makes sense for Audi to be shown in a scene like that. Because people just associate it positively, people don't think, 'oh, Audi is a bad brand', but 'wow Audi is a strong and fast car'. At least the positive side, I think is stronger than a negative connotation. And regarding Burger King, since its publicity, people that watch it, I don't think associate with being bad because it's showing in a boxing scene, but they just see it, you know, and there's no positive or negative connotation there, I think. And the same as for EA Sports, I don't think there is a positive or negative connotation. So if I think for a brand it makes sense to put it into a game If I would think about EA Sports, yes, I think it's a fit with violence if they make violent games, because that's exactly the audience that they're showing it to. And Burger King itself it's not a fit for violence itself. But it makes sense to show it again, because then people perhaps see the Burger King. You know what I mean? Fitting with violence itself, perhaps it's only EA Sports because they sell violent video games.

Interviewer: So after you've seen the brand in this violent context, like Audi and Burger King, do you like them more than before? You already liked Audi but what about now?

Interviewee 3: It's difficult. So the thing is, I don't know it's difficult to say whether I like it more or less. But as I implied before, if I would play it for a long time, I was probably associated with a faster car. And if one day I would need a fast car I may perhaps consider Audi more than before. But yeah, but it's not like I like it more but perhaps one of the characteristics for me now it's stronger than before which is speed. So maybe yes generally I could like it more but yeah, I don't know. And Burger King I don't like it more because I didn't like it in the first place and it's not like because I see it again know like it more. For EA sports, since I'm not a gamer, it's difficult to say and maybe I like it more I'm not sure.

Interviewer: How often do you play video games?

Interviewee 3: Actually now I don't play that much video games, a couple of hours per week, mostly shooting.

Interviewer: Alright. Well, this is it. Thank you for your time.

Interview n. 4

Date: 03/05/2020

Interviewer: What we are trying to do in this thesis is try to understand the impact of advertising and video games on the perception that people have on the brands that are advertised. Therefore, we're going to ask you some questions regarding the brands that you saw in the video games, if you have seen any of these brands. First of all, do you remember how many squares you count?

Interviewee 4: 12.

Interviewer: Okay, perfect. And do you remember seeing any brands?

Interviewee 4: I remember Burger King and EA, and that's about it.

Interviewer: Do you think there's any particular reason why you remember these brands?

Interviewee 4: Burger King because it was on the ring and it was very big. And EA was in the same scene but behind, where the flashing lights were.

Interviewer: And if we ask you about categories of brands, do you remember seeing like some clothing or sports brand? Or automobile?

Interviewee 4: No, I don't remember.

Interviewer: Okay. So you saw the brands EA sport and Burger King. Do you think that the fact that maybe these were compatible or less compatible with the video game helped you remember them? Maybe they were not very compatible with the video game and you thought it was strange?

Interviewee 4: Yes, I thought Burger King was strange. And EA not really, because it's a video game.

Interviewer: Were you familiar with the brand before?

Interviewee 4: Yes.

Interviewer: And do you think that helped to remember them?

Interviewee 4: Yes.

Interviewer: You may have noticed that there's some type of violence in all the videos. Do you think this was a problem for you when trying to focus on the brand?

Interviewee 4: I don't know, probably.

Interviewer: Now I want to ask you to think about the characteristics of Burger King and what you like about Burger King and maybe what you don't like about the brand. And maybe give us two or three adjectives when you think of the brand.

Interviewee 4: Okay, so first one is fries. Amazing french fries. And it's not a brand that I really consume a lot. It's more of an alternative for me. Probably, this is due to the fact that in the city where I live, it came after McDonald's, so for me it's just the alternative. And I would say that they also have amazing desserts.

Interviewer: What ideas do you associate to the brand?

Interviewee 4: Good food, late night. Party food to eat with friends after a night out.

Interviewer: Okay, now that you have thought about the characteristics of this brand, do you think that they're in line with the video game it was in, so boxing?

Interviewee 4: No, not really.

Interviewer: Why don't you think that they're in line?

Interviewee 4: I just don't see a connection between boxing and Burger King, or a connection between boxing and most restaurants. I don't see a boxing match as a place where people would even consume fast-food, for example a football match or something like that.

Interviewer: So when you think of boxing, you don't associate with food or food advertisement?

Interviewee 4: No.

Interviewer: What if there was an advertisement with clothing brand that makes boxing clothes? Do you think it would be more relevant? Or do you still think it would be a bit weird?

Interviewee 4: It depends on the brand of clothing. If it's like a sport brand, probably would be more relevant. Or if it was like, you know, there is a brand that's called Boxer, so I think maybe that would be a more relevant match.

Interviewer: And do you think that after viewing the video your perception of Burger King has maybe changed a bit?

Interviewee 4: No.

Interviewer: What about your interest in it?

Interviewee 4: Now I want Burger King. It makes you think about it, for sure.

Interviewer: Do you see the brand differently now?

Interviewee 4: No. I think it was a clever advertisement. It's in a place that's very evident. Okay. I feel like because it's where you have the focus of the video game: you're watching people fighting and on the floor there is Burger King. So I think it's a clever thing.

Interviewer: But did you find it somehow disturbing?

Interviewee 4: No, not really.

Interviewer: In all the videos, you may have noticed that there's some type of violence. How did you find it? Did you find it disturbing?

Interviewee 4: I find disturbing the use of firearms. Like boxing is a sport: so it's violent, but it's a sport. You know, they are competing. I found more disturbing the use of guns inside the house, or in the streets.

Interviewer: What do you mean by disturbing?

Interviewee 4: I wouldn't play a video game like that. And I wouldn't necessarily want to watch someone else playing it.

Interviewer: So actually, in all this segments that you saw, there were one or more brands. Do you think there is a connection between the fact that you didn't notice the brands in the in those segments that you consider more violent?

<u>Interviewee 4</u>: Yes, definitely there is. First, I was trying to focus on the on the yellow square, and I'm not good at multitasking. And then, when you see something that you don't necessarily want to really watch, it draws away the attention, I think.

Interviewer: So, Burger King was in this boxing match which it's not very violent, but it has some elements of violence. Do you think that the characteristics of Burger King that you said before are in line with this type of violence?

<u>Interviewee 4</u>: No, I wouldn't say they're in line.

Interviewer: Okay. For example, there was another video, in which there was, for example, a McDonald's billboard and the guy was shooting. Do you think in that context was more or less in line with the violence?

<u>Interviewee 4</u>: I find it's equally out of line. I don't associate food and violence.

Interviewer: If you were to decide which type of brands to advertise and these type of violent video games. Which type of brands would you place?

<u>Interviewee 4</u>: From one hand, I think that showing something that doesn't associate violence is good because it draws the attention. Obviously, I didn't see McDonald's, but someone that plays the video game for like an hour or more, probably noticed. And about other brands, maybe cars. Mostly because of the context: we were in a street, it just makes sense.

Interviewer: Do you think that maybe the fact of the brands were placed in violent video games have changed your perception about them? Or do you think there was no change?

<u>Interviewee 4</u>: No, I don't think there was any change.

Interviewer: What about your interest or perception about it? Thinking that they're placed in this violent video games.

<u>Interviewee 4</u>: I think you have to look at the target of the video games. And, for sure isn't me. So mainly boys, probably and mainly teenaged boys to young adults, and that's a very good target. So, I think it's a clever move for who you are targeting.

Interviewer: Okay, just one last question. How much do you play video games? More or less?

<u>Interviewee 4</u>: Before quarantine, not at all. I don't want to ruin the statistics, because now we're playing a lot since we have nothing to do. But before quarantine not at all. Now maybe a couple of hours every few days, like every three or four days.

Interviewer: Which games you play?

<u>Interviewee 4</u>: Stupid ones. I played like one about Looney Tunes. We played Monsters Inc.

Interviewer: And what type of videogame is it?

<u>Interviewee 4</u>: It's adventure, like arcade video games.

Interviewer: And did you notice an advertisement in any of them?

Interviewee 4: No, but I think it's due to the fact that they are very old games. 15 years old maybe.

Interviewer: But if you had to find a brand advertised on that kind of game, how would you feel about it?

Interviewee 4: Probably I would notice, because I'm playing and maybe like, if it's something like food, I would like to get my mind to go buy that food, but it wouldn't disturb me and I wouldn't find it distracting from the game.

Interviewer: The interview is over. Thank you for your time.

Interview n. 5

Date: 03/05/2020

Interviewer: First of all, thank you for completing the study. How many yellow squares did you count in the video?

Interviewee 5: I think there were 10 or 11.

Interviewer: Okay, so basically what we're doing is that we want to see what is the effect of advertising in video games. So you may or may have not noticed that there's some type of advertising in the videos that you saw and what we are trying to see is what is the effect of placing this type of advertisement in this type of video game. Do you mean do you recall seeing any brand in the video?

Interviewee 5: I definitely saw McDonald's, Burger King, Electronic Arts and I think that's it. I started seeing advertisement only from the car race, at the beginning I did not notice any advertisement. When the guy was shooting inside I'm not sure if there was any, but that I did not see any advertisement.

Interviewer: Why do you think you remember these ones better? Why do you think you noticed these brands?

Interviewee 5: I think that the fact that I accidentally saw the yellow M of McDonald made me more aware of all their advertisement in the area. Plus, I would not expect to see advertising inside the house so I did not see any of the very beginning of the video.

Interviewer: Can you maybe elaborate a bit more?

Interviewee 5: If you're specifically talking about brands, I did not notice any brand in the house at the beginning. Probably in a more familiar space I would not notice brands as much as seeing a huge billboard in the street in the second part of the video.

Interviewer: Okay, so you think that the fact that it was a huge billboard of McDonald's, helped you be aware of the fact that there was this type of advertisement in this game?

Interviewee 5: Yes. Also because it's where I would expect to see an advertisement.

Interviewer: During the video that took place inside the apartment, the shooter was wearing Nike sneakers. Why do you think you didn't notice them?

Interviewee 5: I really didn't see them. They must have been very small compared to the scene and probably at the bottom of the screen. Well, I think I didn't notice them because their presence wasn't particularly significant in the scene.

Interviewer: Do you think that he fact that these brands may or may not be compatible with the video game they were in helped to see them? In other words, would you expect such type of brands in that video game?

Interviewee 5: Yes, for two reasons, one because I would expect the game to be an American video game for younger people so evidently, they would be the target. Second, the fact that it's located in a street in the US.

Interviewer: Can you elaborate a bit more?

Interviewee 5: I can give you a great example. If a video game would be located in Italy, I would not expect to see advertisement of fast-food chains.

Interviewer: Remember the last video with the boxing, did you think that Burger King was compatible or not with the scene?

Interviewee 5: No, I don't consider Burger King compatible in a boxing scenario probably because I would relate sports with other type of brands, another type of advertising, not Burger King. So probably if I would be keen on boxing and I would buy a boxing video game, I would not expect to see Burger King advertising in in that video game. While in the previous game, I think it was GTA, I would have expected Burger King to target the average gamer in GTA.

Interviewer: Do you think that the fact that you were familiar with these brands helped you see them in the scenes?

Interviewee 5: Definitely.

Interviewer: you may have noticed that there's some kind of degree of violence. Do you think that this may have influenced the degree to which you saw the advertisements in the videos?

Interviewee 5: I think that the violence makes you way more attentive, way more focused on the game and way less on the scenario. I think actually this is more for the boxing part. As an average gamer, if you play sports games such as boxing, you are very focused on the details of the game. While if you play a shooting game, you would be a bit more focused also on the environment because one has to move, run, change places. Your span of attention is also very different. So in games such as GTA, where missions or whatever you have to do in the game takes longer time than a sports' one, your span of attention is also different. So you would distract yourself and see the environment. while in the sports game is more difficult to get distracted.

Interviewer: Now think about the characteristics of the brands that you saw. So mainly McDonald's and Burger King, and think about the things that you like, and you maybe don't like about them, and maybe give us two or three adjectives to describe them. What makes you think about them, if it is either positive or negative, it's up to you.

Interviewee 5: Okay, so McDonald's could be more familiar. And happy. Also the fact that it's easier for a kid to start going to eat fast-food with McDonald's. For Burger King I would say big and the fact that there are less choices compared to McDonald's.

Interviewer: So do you personally like both of them or not?

Interviewee 5: Yes, I like both of them, but I have a different perception of the two brands.

Interviewer: Do you think that, given these characteristics, that these brands are in line with the video games they were in?

Interviewee 5: Burger King, yes. McDonald's, no.

Interviewer: Why?

Interviewee 5: So McDonald's, according to me, would be more for families. So in a violent game, I would not see McDonald's as compatible as Burger King.

Interviewer: Do you think Burger King would be more in line for a violent video game whilst McDonald's would be more congruous in a non-violent video game?

Interviewee 5: Yeah, exactly.

Interviewer: Do you think it's your perception or the way you like them has changed after viewing the video and knowing that they are advertised this type of games.

Interviewee 5: Yes, it did change because by knowing that McDonald's and Burger King are in violent games, I feel that they are exploiting the audience of young people which are very excited while playing violent games.

Interviewer: Okay, so in what way has it changed your perception of them?

Interviewee 5: It changed negativity for both of them.

Interviewer: It is because you think they're just trying to exploit the excitement of young people playing these games, right?

Interviewee 5: Exactly.

Interviewer: What if they were placed in non-violent video games. Would you still view them negatively? I mean, do you view them negatively because they're placed in violent video games or just because they have advertisement in video games?

Interviewee 5: No, just because it's in a violent game.

Interviewer: So if they were placed in some way, for example, in a medieval context, or a fantasy game. How would you react to that?

Interviewee 5: I would be surprised, but if the brand as a logo would be specifically modified for that scenario, I would probably be more keen on remembering the advertisement in a positive way. So if in a fantasy world I would see the name of McDonald's with fluorescent signs, it would surprise me in a positive way and I would consider this a positive advertisement.

Interviewer: Okay, so your issue is just with the with the violent aspect?

Interviewee 5: Yes.

Interviewer: What do you think of the violence in the in the videos that you saw? Did you like it? Or maybe you thought it was not violent, or it was very violent?

Interviewee 5: So, there were three different types of violence. The first one was violence inside the house, so you would feel more negatively towards the violence. And I thought that was the worst type of violence, and also the fact that you can see blood. The second one, you can relate it more to movies, so it's less violent because you don't see the dead bodies. The third one is acceptable violence because it's part of the sport.

Interviewer: Okay. And did you like the violence in any of these? Or did you dislike in all of these or did you like them more in some and less in others?

Interviewee 5: I dislike the first two types of violence and I like only the one in the boxing game.

Interviewer: But none of them made you indifferent?

Interviewee 5: No, none of them made me indifferent. All of them triggered something.

Interviewer: And talking about the violent context again. So, you said you like the brands less than before because that are placed in a violent context, and also the interest about the brands has decreased?

Interviewee 5: Yes.

Interviewer: Okay. Do you like to play video games?

Interviewee 5: I was a gamer above average, but less than nerd. Now I am below average.

Interviewer: And how much do you play more or less?

Interviewee 5: I don't play anymore. So I cannot say zero because if I'm in a house and someone has the Xbox or PlayStation I do play. But I don't have it anymore.

Interviewer: Okay. What's your favorite kind of game?

Interviewee 5: Racing and shooting.

Interviewer: This is it. Thank you so much for your time!

Interview n. 6

Date: 03/05/2020

Interviewer: So first of all, how many squares yellow squares did you see?

 Interviewee 6: 12

Interviewer: What we are studying is the effect of in-game advertising on the brands that are advertised in violent video and so we're going to ask you some questions about this. Did you remember seeing any brand in the video?

Interviewee 6: I think I saw McDonald's, but I'm not sure.

Interviewer: Okay, where do you remember seeing it?

Interviewee 6: It was one of the scenes that there was like on the road, and I think there was a kind of a parking or like a gas station and seemed like a very American setting.

Interviewer: Okay. If I tell you more general categories, for example, like clothing or sports or automotive, can you think of any other brand?

Interviewee 6: No to be honest no, I was super interested about the yellow squares.

Interviewer: Why do you think you remember McDonald's?

Interviewee 6: Just because it was probably yellow and at one point I saw another yellow thing, and I thought it was a yellow square. It seems that it was something else, like it wasn't a square. I saw it at a distance, I remember at the top left of the video.

Interviewer: Do you think that the fact that the brand was noticeable helped you remember it? Did you find the brand like the McDonald's billboard noticeable?

Interviewee 6: I think it was not noticeable to me at least because probably it was one of the most familiar brands and that I'm aware of, so I guess I made a connection based on familiarity.

Interviewer: Do you think that McDonald's in that context was compatible or not?

Interviewee 6: I think it was compatible based on the fact that like he was on the road. And at one point I would have expected like it's a gas station or somewhere on the road there is like, those spots where you can like, do to your gas line, like refill and eat or drink. It could have been easily something that I would have seen in reality.

Interviewer: Maybe you have noticed that the video game was quite violent in some points. Do you think that the fact that it was violent helped you remember the brand?

Interviewee 6: I don't think so. I remember one probably it was the Grand Theft Auto, and because I'm aware of the video game it also reminded me of when I was playing to those games in the past and stuff. So probably that's why it also really didn't make me focus too much on what I was seeing in terms of branding and the pictures. It's just like it just reminded me like two connections to what I was doing when I was playing GTA.

Interviewer: Was it the visual things that you saw that made you remember of GTA or was it the music?

Interviewee 6: It was both. It is the kind of music that like recharges your batteries when you play video games like it pushes you to play even more. Also, at one point there was the logo of GTA.

Interviewer: Now try to think about the characteristics of McDonald's. Try to think about what are your feelings and thoughts? What makes you think when you think about McDonald's and if you like it or not.

Interviewee 6: As I said before, I probably did that connection based on familiarity because it's a place where I go to sometimes with my friends, and reminds me to free time with friends or late time with friends. Sometimes the hours where I go McDonalds those are pretty much random. Like it's not that I want something for lunch, I go there, but it's a place where sometimes you happen to be with your friends, so for sure, like it reminds me of like fun moments and time that I spend with my friends when I go out.

Interviewer: But, so thinking about these characteristics that you just described, do you think that McDonald's was in line with the context of the game?

<u>Interviewee 6</u>: Not too much, because I think in those cases where you're pretty much individualistic rather than, time did you spend with your friends, I mean, in those contexts, like you're really on your own, or at least that was how I imagined it, but of course it could have been if I was, for example, playing together with my friends over the internet and stuff, but I don't feel the connection based on my first impression when I saw that video frame.

Interviewer: Seeing the McDonald billboard in this context, has it influenced the way you see the brand?

<u>Interviewee 6</u>: It influenced my perception of the context of the video frame, because I thought it was the US. Maybe it wasn't.

Interviewer: So it didn't impact the way you see the brand in like a positive or negative way.

<u>Interviewee 6</u>: The fact that I thought that the game was shot in the US didn't impact me in a positive or negative way. I think it's more like on the impression that I have the whole settings other than positive or negative feelings connected to it.

Interviewer: so you think the actually the brand was fitting in the context?

<u>Interviewee 6</u>: It's something that I would have expected.

Interviewer: What if you knew that it wasn't in the US but what if you knew the video game was shot?

<u>Interviewee 6</u>: I think that the brand is global. It could have had, like, it could have been a fit. But the location itself didn't look like elsewhere. I think it was a very contemporary setting, because it was a violent game. And weapon seemed kind of technological or fine-tuned weapons. And the cars and the way they're dressed looked very casual or like, urban outfits. The house scene, it was super modern. Like, I was pretty sure that we were talking about 21st century. I felt connected that way. When I said before that these things could have happened in reality is that maybe also the quality of the scene and they those are things that when watching a movie you could have seen such a scene.

Interviewer: Would you say you're more interested in McDonald's than before watching the video?

<u>Interviewee 6</u>: No.

Interviewer: If you did not know the brands if they like there was another brand that you didn't know in the game, would you have associated with them in some way?

<u>Interviewee 6</u>: I think that it would have been hard for me to, to remember it because I wasn't focused on the brands. Because I've been highly influenced by the yellow. And I was also like, more inclined to watch all the yellow elements. But other elements that I remember was one of the traffic signals because like, I remember that there was an image focusing on the traffic signal. And then I think like afterwards Immediately afterwards, there was a yellow square there. I think that if I didn't know the brand, and for sure there are other brands maybe that I haven't seen, and it would have been harder for me to remember characteristics about them, because if I was not familiar, and I was focused on something else, it would have been hard. And maybe also I didn't remember the car brand because I'm very much not into cars. For me, it could have been a sports car or a truck.

Interviewer: So okay, so we said before that there is a certain degree of violence? How did you react to it?

Interviewee 6: I think the genre like a violent game doesn't relate to me that much now compared to the past. The context was contemporary and stuff, but I am not playing video games right now. So it kind of reminded me of the times when I was playing video games.

Interviewer: Talking about the level of excitement, like towards violence, did you find it boring or exciting?

Interviewee 6: I don't find it boring. But I didn't find it shocking. I don't love even love this video games now, like I feel neutral about them.

Interviewer: So talking about the characteristics of McDonald's again, are they in line with the violent aspect of the video game?

Interviewee 6: I don't think so. I feel that violent for me it's perceived as a more individualistic and I don't see the McDonalds as individualistic brand. But a violent game for me, it's individualistic.

Interviewer: Which ones would you say would fit better in this context?

Interviewee 6: Maybe clothing, it could be because you can like choose your own brands when it's not that they're individualistic, but it's a category where you can choose the things that fits you and maybe your close ones would never choose or would never prefer all the other brands. But, for example, as I perceived the video game to be individualistic, I could have like my own style wearing certain type of clothing brands, so I don't know, especially sports. Sport brands are the ones that I see being the most fit.

Interviewer: Do you refer to the clothing that the avatars are wearing? What billboards around the city, which categories do you think would fit the better?

Interviewee 6: The oil and gas, and maybe something related to groceries was on the road or electronic appliances, brands, for the TVs in the house and technological devices in the house. I think ones that I saw the most probably because it's the scene that I remember the most is oil and gas because I mean there were cars and there was like they were fighting. I don't know I feel that gas station.

Interviewer: What about the last one with the boxing scene? What do you think would be the categories of brands that would fit better this type of game?

Interviewee 6: I think beers, beverages, mostly beers. Or like, Pepsi, or Coke, stuff like that. They're similar to stadium settings. And sports brands.

Interviewer: What if you saw the Burger King brand in the boxer scene, what would you think?

Interviewee 6: I can see the fit, for all the fast-food chains. Food and beverages for sure fast, fast-food and soft drinks, beers, they would fit.

Interviewer: You said before that you associate McDonald's with night out with friends. Seeing this brand in a context where there's shooting, does it change your idea of the brand? The way you relate to the brand?

Interviewee 6: I think it doesn't change it. It makes me feel that it's probably a brand that is easily adaptable to violent settings because it's more about an easygoing brand. And usually like, you see in violent video games, usually the people are either gangsters or easygoing.

Interviewer: After having seen this video, are you more interested in McDonald's than before? Considering this violent context, do you like it more than before?

<u>Interviewee 6</u>: No, I am not more interested and I don't like it more than before.

Interviewer: In the second video, there's this car racing. There's one girl that gets into the car and just fleeing from the police. And she's actually driving an Audi car. What do you think of this type of product placement? Do you think it fits? Given what you think of the brand already?

<u>Interviewee 6</u>: I don't really see Audi to fit in a violent context. For me, it is more of a traditional brand, so in calmer settings.

Interviewer: What about Nike, because for example in the first video, the shooter was wearing Nike shoes.

<u>Interviewee 6</u>: I think that I would see the fit because it's a sport clothing brand. And I see they would fit essentially, but for Audi, I see it for more like not formal settings, but less violent.

Interviewer: And you said you used to play video games? How much?

<u>Interviewee 6</u>: Yes. Yeah, a lot. When I was in middle school, and I had a tough time because I was playing every afternoon. PlayStation 3. And GTA I think it was seven or eight years ago. So I remember it's super nice.

Interviewer: This was the last question, the interview is over. Thank you for your time!