

# Assessing the Effectiveness of Advertising in Video Games

By

Allison Wheeley

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By

Allison Wheeley

APPROVED:

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Dr. Tricia M. Farwell  
Associate Professor  
School of Journalism and Strategic Media

---

Dr. Gregory Pitts  
Director  
School of Journalism and Strategic Media

---

Dr. Philip E. Phillips  
Associate Dean  
University Honors College

## **Abstract**

Video games are fairly new media that advertisers have attempted to take advantage of. But how effective are these in-game advertisements? This thesis seeks to see how effective current in-game advertisements are by delving to the topic of advertising in video game and allowing participants to report their own experiences with the various kind of advertisements that appear video games. The results indicated that current in-game advertisements are only somewhat effective and revealed some possible ways for companies to improve upon the current tactics used by companies.

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## **Introduction**

When compared to more traditional forms of media like television or radio, video games are a fairly young form of entertainment. However, over the years they have managed to gain a tremendous foothold in the entertainment industry, with 75% of American households having at least one person who plays video games in them (2019 essential facts about the computer and video games industry”). With the gaming industry being so popular in the United States, it is no surprise that companies have started to see this medium as another way to advertise their products. Advertisers have had to learn how to advertise in video games over the years, with many different styles and types of advertisements turning out to be more useful than others. Some forms of video game advertisement are familiar, such as commercials placed in video games and product placements, while other forms of in game advertising were created around the concept of video games itself, such as with the advergame.

What is most important is how much of an impact these advertisements have on consumer’s memories. Do the advertisements that companies pay to have put in video games cause players to have a stronger brand association? The purpose of this thesis is to answer this question by seeing how effective advertising is when placed in video games. This study is meaningful because it could help companies decide if they want to pursue this particular medium of advertising by providing more research on how well video game players recall the advertisements they see. This thesis seeks to fill a gap in the research by having participants answer survey questions about their experiences with ads in video games in a natural setting and not in a lab.

In the world of business, oftentimes the goal of a marketer is to gain the interest of his or her target market. With the world's tendency to change rapidly in recent years, many businesses are adapting and finding new ways to capture audiences that are growing harder to reach through traditional media such as television and radio. One way that marketers have attempted to reconnect with potential consumers is through placing various types of their advertisements in video games. Video game players are a market that holds a great deal of potential for companies when and if utilized properly. For that potential, companies must be willing to pay big money to try and draw attention to their brand through this interactive media; global spending on advertising in video games during 2015 was valued at \$2.75 billion dollars and is expected to almost double to \$5.05 billion by 2020 ("Global video games ad spend 2010-2020"). Paying for these advertisements to be placed in video games does tend to yield positive results. One study conducted by Nielsen Entertainment demonstrated that the averages of brand familiarity, ad recall, brand rating, and the average purchasing consideration were each raised between 30% and 65% ("Games Advertising"). What does it mean for a company to properly utilize these video game advertisements? Placing an ad in a video game is not the same as a television commercial or magazine ad. The ad's focus has to be on different messages, and the delivery has to be done a certain way for the ad to be eye-catching but not intrusive (Terlutter and Capella). Various studies have listed ways to help ads gain attention in a good way when placed in games: advertisement congruency, the use of movement within the advertisement, and the player's engagement with the video game itself.

For the first item of this list, advertisement congruency in video games simply means that the advertisement aligns with the content or context of the game in which it appears. For example, the THQ game MX Unleashed is a motorcycle racing game that contains banners with company names on them in a way that would be considered very realistic. One of the companies advertised this way is OGIO, which is a company that sells, among other things, gear bags for motorcyclists. This would be an example of a highly congruent ad in a video game, because the product being advertised directly relates to the gameplay and content of the game, and perhaps more importantly, aligns with the interests of the person who is most likely playing this game: motorcyclists. If the same ad appeared in a different game that was not about racing the ad might be more incongruent with the game's world, which might draw player's attentions, but not in a positive manner. Incongruency between advertisements and gameplay has been shown to have a negative impact on a player's experience with the game (In Game Advertising Effects). Games that do not take place in a modern or realistic setting are less likely to have advertisements because of the issue of congruency since these types of games would make it difficult for marketers to put congruent advertisements in. For example, a player would never see any type of ad in Minecraft, because it would be horribly jarring and take away from the experience of the game. On the other hand, it would be equally jarring for a football fan playing a Madden NFL game to go without seeing an advertisement, because it is expected that the game would be as close to a real life football game as possible which means the inclusion of advertisements and product placements.

The second factor is the use of movement in an advertisement, which also has an impact on how noticeable the ad can be to the player(s). The simplest example of this would be a billboard style advertisement placed in a video game; much like their real-life counterparts, these ads would most likely be animated to switch between different advertisements or still images. A study titled “The Effectiveness of In-game Advertising: The Impacts of Ad Type and Game/Ad Relevance” tested to see if animated advertisements were a better option over their still counterparts. Two of the four hypotheses proposed by this study were relevant to movement: the first predicted that animated billboard advertisements would be more recognized than static advertisements, and the second predicted that players would have more positive feelings towards animated ads than static ones (Huang and Yang). Both of these hypotheses were proven correct by the study, meaning that movement is another way for a marketer to effectively advertise their product in a video game. Not only is movement more readily recognized, it is also more easily embraced by players as opposed to a static advertisement. Tying this in with the previously mentioned congruency in video games, using movement for advertisements in video games has the added effect of providing more realism since these same types of animated and static billboards can be found almost anywhere in real life.

The final factor, player engagement, has nothing to do with the advertisements at all. Player engagement is a measure of the player’s involvement or focus on the video game that is currently being played. However, this factor has been found to have an impact on a player’s ability to recall the advertisement(s) placed within the game. A study by Jeffery and Shaowen Bardzell, and Tyler Pace revealed an “association between a player’s heightened physiological engagement and the ability to correctly identify



brands from their exposure to in-game advertising” (pg. 10). The same is true for the opposite; this same study reported that there was a recall difference of over 10% between participants who played an engaging game and those who did not, with those who were less engaged with the game having the lower recall rate (Bardzell, et al.). One issue with this factor is that there is no universal way to tell if a game is engaging or not. It is a very subjective concept, and what one person claims to be highly engaging may not be to someone else. The player’s engagement is not a guarantee that he or she will harbor good feelings towards the advertisement or the company that created it. There is a delicate balance between enriching and invading upon an engaged player’s gaming experience. A company should not assume that a player will remember its advertisement fondly, or at all, simply because the player is highly focused on the game.

As with point two about movement within an ad, a player’s engagement relies somewhat on congruency. Regardless of a player’s engagement, a company should make it a goal to keep its advertisements in alignment with the game’s overall content and theme since it is likely meant to appeal with the primary audience of that game.

According to Peter G. Lindmark “[v]iewers who are affectively focused on the program are more sensitive to interruptions, and may notice placements more, especially if the placement is perceived as more than a prop used to create a believable setting”

(Lindmark). Admittedly, this is not always a simple thing to accomplish as some games do not make it easy for marketers to create highly congruent advertisements. Sometimes it all comes down to game genre and player expectation; depending on what genre the game is, placing advertisements in it without destroying the congruency of the game’s world may be outright impossible. Games like this tend to be games where

advertisements just would not make sense in the world, such as games that fall into the fantasy genre. It would be very jarring for a player to encounter an advertisement for Starbucks coffee while playing Dark Souls or Dragon's Dogma because that product would not exist in the world those games have carefully crafted.

Luckily, there is a flip side to this situation: sometimes having advertisements in a game can add to its congruency. Perhaps the best general example of this are sports games; there are very few modern sports games created that do not have at least one advertisement in them. That is because the creators of these games want the gaming experience to be as close to the real-life counterpart of the game as possible, and the vast majority of every sports arena, field, and court has advertisements visible to the audience. Similarly, sports games also have ads that are visible to the audience (the player). This creates a sense of realism for the player, and heightens congruency because the player is not seeing anything that is out of place with the world (Wydick). Neither game creators nor marketers should have a great worry of alienating their audience with advertisements because the primary target audience of these games are sports fans and as previously addressed, sports fans are not strangers to their entertainment being mixed with product advertising. Sports games are not the only genre of video game that can easily and seamlessly include advertisements while not breaking the player's gaming experience. Generally speaking, any game that is meant to mirror the real world or have a realistic setting could hypothetically place advertisements in the game and still have players remain engaged.

The three topics just discussed are only some factors that can go into making an advertisement in video games successful. While these factors may be important, they

must not overshadow the most notable part of advertising in video games: the advertisements themselves. There are many different ways to create an ad that's final destination is meant for a video game, some of which like the animated billboard ad have been mentioned already. There are many more kinds of ads that can be created, much like in the real world. As long as the game has the capabilities to handle the advertisement, a marketer is really only limited by his or her imagination when creating an ad that appears in a game. That said, the previously listed subjects should be kept in mind when designing an ad that has a destination which resides in the virtual world; there are some boundaries that should be followed if the marketer wants to leave a good impression of the brand on a player.

The type of advertisement that should be used will most likely be dictated by what sort of game in which the advertisement will appear. This can most easily be broken up into three categories by the platform which the game can be played on: computer, console, or mobile games. PC games are games that re played on a computer, console games can be played on a console such as the Playstation or Xbox, and mobile games are games that can be played on a phone. For the purpose of this thesis, "mobile" will refer only to cellular phones, not the mobility of a console that can be taken from place to place easily. For example, the Nintendo DS and Switch will be considered console games even though they can be taken anywhere without the need to plug them into a wall. There are further ways to break this down, such as the game's genre; the type of advertisement used in a sports video game would be different that the type of ad used in a survival horror or FPS (first-person shooter) since fans of each genre have different expectations of how the game should be. Since games can have so many differences between them,

marketers must have that same diverse mentality when choosing what sort of advertisement should appear in what game. This is likely what has led to the sheer variety in advertising types in video games. An article written by Jacqueline Zenn provides an excellent if not small list of ads that are likely to appear in mobile games. For the sake of brevity, only a few of the popular advertisement types will be listed and explained (9 Popular Mobile Game Ad Formats).

- Native banners – these advertisements that appear along the edges of a game’s screen. These can be considered one of the more unobtrusive types of advertisements. These are different from regular banner advertisements because native banners make an effort to blend in with the surrounding game.
- Interstitial advertisements – these advertisement types are set to appear at key points in a game, such as when the game first opens, after the player beats a level, or tries to navigate from one page to another (Best Mobile Ad Formats and Sizes).
- Contextual advertisements – these advertisements try to tie themselves into the game in some way. They can appear in the form of a product placement or as a reference to a real product (such as a green coffee cup with a blank white circle appearing as a reference to Starbucks coffee).
- Pop-up advertisements – these advertisements appear suddenly in front of the player, interrupting the gameplay and forcing the player to interact with it to continue playing. Can appear as still images or videos. One of the more obtrusive advertisement types.

- Dynamic advertising – these advertisements allow companies to buy a space within the game even after it has been released. This would allow for companies to target certain audiences and market segments (Howard).
- Static advertising – these advertisements are placed into the game before it is released, and stay within the game without change (Howard).

Besides the variety of advertisements, there are also many different reasons why a person might interact with an ad. In the researcher's experience, players tend to interact more with advertisements when they appear in mobile games. This is because the more intrusive types of advertisements tend to appear within these games, which can force the player to interact with the ad – even if that interaction consists of nothing more than the player looking at the ad in order to find the button that will close it. A game might even offer incentives for players to watch advertisements in the game, such as offering more “lives” or currency for the game so the player can continue playing.

There have been numerous experiments done to discover in what ways advertising is effective within the medium of video games. Many of them focus on various changes to the advertisements themselves, such as the impact that immersion can have on how a player notices advertisements. Circumstances that could break immersion or otherwise pull a player's attention away from the video game (and thus take attention away from any advertisements shown in the game) is if the player is playing alone or not. In one study performed by Laura Herrewijin and Karolien Poels found that playing a game with other people tends to distract players from the game and the advertisements it showed. It was suggested that in “a social play situation, it might be possible to turn the negative distraction effect around by actively embedding brands as a central part of the

gameplay and game strategies of players” (Herrewijn and Poels). This is not always a practical thing to accomplish, depending on the game’s genre or what console the game is being played on. While this is a good way to see if a person can recall an ad they know they have seen, it does not check if the person can recall an ad that they have seen in a more organic and realistic environment. There are distractions, both within the game and in real life, keeping players from noticing advertisements that cannot be accounted for in a sterile setting, even if that setting offers up its own distractions.

While not always subtle, how immersive a game is can allow a real-life product to blend in with the game world itself. This does not even have to extend into the increasingly popular world of virtual reality games; games that are played in a more traditional fashion that also have very realistic settings can achieve this sort of immersion that excuses equally realistic advertisements. Neither the plot nor the gameplay has to be realistic for this immersion to work – it is not only sports games that can receive realistic advertising. Typically, only the location in which the game takes place needs to be realistic for these types of advertisements to be able to slip into the fictional world. For example, Spider-Man for the PlayStation 4 is set in New York and has a very realistic setting to mimic the real-world state. This allows the game to have more advertisements scattered around the game’s setting, and to have the advertisements be more realistic. While swinging from location to location, the player can encounter billboards placed on buildings, much like one would expect to see when visiting New York in real life. Time’s Square is especially reminiscent of its real counterpart; it is covered in billboard advertisements both static and animated.

While many of the billboards shown are not advertising products that can be found in real life, what is being shown are obviously references to these real products. A handful of these billboards do seem to be advertising for real world businesses, or at least coincidentally have the same name or a name that is strikingly similar to a real business on the billboard. Two of these billboards are for the Crow's Nest and Shimmer Factory, which can be seen all around the fictional New York in the game. Both of these seemingly fictional businesses are real though. The Crow's Nest is a restaurant with a waterside view location in New York, and The Shimmer Factory is a company that sells jewelry pieces online. It is unclear in the game if these billboards are paid advertisements for these specific businesses; both billboards are quite generic in appearance and have no explicit reference to either of these businesses. However, that may not matter. One Google search of either of these names will bring up search results for real businesses with the same name, meaning that this could still be free attention for these businesses if they in fact did not pay for these advertisements.

Similarly to this, there are also real-world businesses that can be seen throughout the fictional New York in Spider-Man for the PS4. Friar's Coffee, a coffee shop appearing in the game, is an example of one of these businesses. While this is not an outright advertisement like a pop-up or commercial, it could be considered a form of product placement. It is getting the name of the coffee shop out to an audience (players of the game), likely in hopes that people will notice it and pay the real-life location a visit. This, much like the previously described billboard advertisements would help players on two out of the three previously discussed factors that [blank]: congruency and player engagement. These ads and product placements add to the player's experiences rather

than take away from them, and possibly this could even increase the likeability of the product as well as the game itself. Having a product be likable would be desired by the product's company for reasons such as it makes the player more likely to want to learn more about the product or creating a positive emotional response towards the product (Vermeir, et al.).

Advertisements in some forms of gaming (such as mobile games) are not easy to avoid interacting with, unless the player has paid for an ad-free version of the same game. Often these advertisements are placed within the game so that eventually the player will stumble upon it and at least glimpse it; for example, if a player runs out of chances to beat a level on a mobile game, an advertisement could interrupt the gameplay by appearing in that moment and incentivize the player into watching it by offering an extra life. In the author's experience, it is rare that a player can play through the entirety of a mobile game without seeing a single advertisement or product placement located within the game, even if the ad itself is not invasive towards the player. However, this advertising tactic does seem to be grabbing the attentions of players; John Koetsier stated that, according to a new study, "[m]ore than half of highly engaged mobile games watch video ads, complete surveys, or install apps to earn virtual in-game currency rewards, according to a new study" (Koetsier). Even games that do not have the advertisements placed in obvious ways may still have advertisements in them. In the puzzle game Lily's Garden, there are no ads outside of what can be seen in the top right corner of the game. Tucked away in their own little section, is a pop-up menu that advertises other games made by the same creators. There are no rewards for interacting with these small



advertisements and clicking on any of the images showing off the other games just links the player to the app store.

### **What are the prominent types of advertising in video games?**

Depending on the platform and type of game the player is participating in, there are a few types of advertisements that a player could expect to see. These advertisements could be considered small commercials that appear while the player is playing the game (often referred to as “pop-up” advertisements), interrupting gameplay and forcing the player to watch the commercial before being returned to the game. This type of ad is most popular in mobile gaming. Another example of a popular type of mobile advertisement is the banner ad, which remains visible throughout the game, but stays at the bottom or top of the screen so it is not as invasive to the player’s experience. As stated before, these types of advertisements typically appear in mobile games because not every type of ad belongs in every type of game (Zenn). There are many factors that would impact this decision, but two important factors are player immersion and the invasiveness of the advertisement(s). Based on the author’s experience, someone who is playing a free game on a mobile device may tend to be more forgiving of invasive ads that can break gameplay, since it is understood that since the game was free, the player is “paying” for it by interacting with advertisements. Players on consoles such as Playstation and Xbox are less likely to forgive companies for placing highly invasive, immersion breaking ads into the games they are playing because players are likely much more invested in the game itself, and likely paid a significant amount of money for the game compared to online games (2019 Video Game Industry Statistics, Trends & Data).

For comparison, consider advertisements on Candy Crush (a mobile game) and compare them to advertisements that appear in

If companies want to pursue a different approach to advertising in video games, they can also use product placement. Product placements are built into the game and are placed in such a way that it melds into the world of the game; this is so the product does not interrupt gameplay (thus breaking player engagement) and works more as a form of advertising that keeps the product top of mind while not making it overt to the audience. These advertisements have much more versatility than the two types of advertisements listed before and are more likely to appear in many different types of games rather than just mobile. For example, the 2017 game Prey includes a Lucky's Puccias & Pizzeria pizza box in one of the very first areas of the game that the player can interact with.

While the game itself quickly devolves into a science fiction survival horror situation, the section that the pizza box appears in is still very realistic, if not a bit futuristic. The player begins the game in the character's apartment, going through the motions of preparing for the day (waking up, wandering around the apartment, showering). Rooting this segment in reality allows for the pizza box to make sense to the player; it is likely that the player has seen a leftover pizza box lying around his or her home before. Since it is the beginning of the game, it is also likely that the player will be eager to explore the area a little, making it more likely that they will encounter this product placement. Since the game is based around combat and stealth, using a less invasive type of advertising is also effective because it is less likely to interrupt the player's engagement or break the congruency between the ad and the game. The flaw of this design is that the player may not recognize the brand that is on the box nor is there a guarantee that the player will care

enough to investigate and see if the brand is even real. The player may just assume that it is a fictional pizza brand created by the creators for the sole purpose of adding the box for game realism and just continue on with the plot. However, it is the chance that the player does recognize the brand or is willing to look it up to check that the marketer is hoping for. There is no promise that an advertisement will work no matter what, but an ad can be given the chance to make a good and proper impression on a player through the delivery of it. Comparing this very subtle product placement to a more invasive pop-up ad. The company will not run the risk of having the player overlook the advertisement (unlike with the pizza box) but it would also destroy the realism that the game has built up.

Product placements are not exclusive to console and computer games. An example of this occurring in a mobile game can also be found in Love Nikki: Dress Up Queen, had a special event within the game where players could win an outfit inspired by Mattel's Barbie. The outfit contained multiple references to Barbie, including the name of the doll written on the clothing and references to one of Barbie's occupations as an astronaut. This ties in well with the game because its primary mode of gameplay is to dress your character up in outfits and compete against in-game characters (NPCs) and other players from around the world. Players want to collect as many articles of clothing as possible because the more clothing articles you have the more likely it is that you will be able to complete the game and win the dress-up competitions. This means that Barbie has a high congruency with this game because both Barbie and the game itself revolve around dressing someone (be it a game character or a doll) up in clothing. Since Barbie is a doll that is meant to be dressed up, this relates to the player's desire to collect outfits for

the character, thus creating a meaningful connection between the product placement and the content of the game itself.

The invasiveness that players allow for the advertisement differs from platform to platform and sometimes can even differ between game genres. More prominent advertisements tend to be of the “pop-up” variety mentioned earlier which tend to only appear within the realm of mobile gaming, but there are ways that companies can make these ads be less invasive and thus more available for console games. These kinds of advertisements will often reward players with an incentive for watching the ad, such as giving players an extra life, an amount of in-game currency, or a bonus power-up item that players could use to help them complete a later level. This incentivizes the player into watching an ad in a way that costs the company very little because the in-game reward is not a real reward that the company must create to give to someone. Another, slightly different version of this tactic gives players an in-game reward for advertising the game on a social media platform. For example, the game Food Fantasy, the game will offer the player a form of in-game currency for allowing the game to make a post to the user’s Facebook page.

On the other hand, immersion is something that must be handled with caution regarding product placement. While having an advertisement or the appearance of a real-life product may add to the player’s experience when it is in congruence with the game, companies also run the risk of having its product being easily forgotten. Since players would be more immersed into the world of the game, they are also much less likely to pay close attention to any actual product that makes an appearance in the game’s world (Herrewijn and Poels). There are other similar factors that can have a negative impact on

a player's awareness of a product placement. The social setting the player is in can have an effect on how much attention a player can give to a game, and according to Laura Herrewijn and Karolien Poels if a person plays in a social setting (i.e. a multiplayer game) he or she will not have as high a brand awareness as someone who played the game in a less public setting or even played alone. Another element that tends to get overlooked in the current studies is how the length of time since a player has last seen an ad or product placement impact the player's memory recall ability.

### **When the product outshines the game: Advergames**

There is another form of advertisement in video games that should be mentioned: the advergame. An advergame is defined as “[a] video game which in some way contains an advertisement for a product, service, or company. Some advergames are created by a company with the sole purpose of promoting the company itself or one of its products, and the game may be distributed freely as a marketing tool” (“What is Advergame?”). In summary, a game becomes an advergame when the game and commercial aspect are linked in such a way that they cannot be separated. This kind of game goes beyond the usual type of advertising and transforms the game or the brand/product itself into an advertisement, making it different from an in-game advertisement. While all of the goals for an advergame are simple and beneficial to the company should the game be successful, there are two that stand out as being important for the purposes of this thesis: increasing brand awareness and sales (Obringer).

One of the more notable examples of this is the Pepsi based game titled Pepsiman, created in 1999 for the PlayStation 1 as a Japanese exclusive. In this game, players play as an anthropomorphic can of Pepsi, and the player's goal is to collect cans of Pepsi

while completing each level of the game. Interspersed between bits of gameplay are cutscenes of a man who is interacting with the brand in some way. For example, in one of Pepsiman's cutscenes, this man can be seen crouching in front of a very visible Pepsi branded vending machine. He then proceeds to take a can of Pepsi from the machine and drinks it in front of the camera (with the logo clearly visible to the audience) while an upbeat music track plays. This is an older game, and its cutscenes could be considered blatant commercials that are pasted into this already strange game and overall it feels very for its time. This advergaming could be considered a success, at least when it comes to brand awareness. The game's mascot became an iconic figure in Japan for a short period of time, and even had merchandise made starring Pepsiman himself and after being discovered in America became a notable figure (F).

Another more recent example of an advergaming is Burger King's video game titled Sneak King, which was released in 2006 for the Xbox. In this game, one plays as Burger King's mascot, The King, as he sneaks up on hungry locals throughout each of the levels in order to make a food delivery. This game is considered a successful endeavor by Burger King, having sold 2.5 million copies within the first few weeks of its release (Macarthur). The game had a very tongue-in-cheek sense of humor to it, the first cutscene showing a live action King creeping around the outside of someone's home, popping up in front of the screen and playing basketball in the homeowner's yard in the middle of the night. Sneaking up on NPCs is essential to the gameplay, as allowing your character to be seen causes the player to lose points. A successful and sneaky delivery leads to more points awarded to the player, and the sneakier the player manages to be, the more points get earned which creates a reward system for the player.

The commercial aspect of the game is heavily ingrained with the act of playing it; it is impossible to interact with the game without taking notice of the advertising elements it contains. The connection between the happiness of the NPCs and The King's successful delivery of Burger King food are interconnected, and even when the player does not manage to perform an impressive delivery, the NPC still acts pleased to be receiving the Burger King food item. The repetitive nature of the game itself can lead players into having a more favorable view of Burger King and its products. According to a study performed Sara Catalán, Eva Martínez, and Elaine Wallace "the more times the consumer plays the advergaming, the more positive his or her attitude toward the brand promoted in the advergaming, and the higher his or her intention to buy the products from the brand" (Catalán, et al.). This, coupled with this repetitious delivery service via the player leading to happy NPCs and a higher score, could build a positive outlook on Burger King in the player's mind. This game sold over two million copies near its release time, indicating that it likely succeeded in completing the two advergaming goals by bringing Burger King more brand awareness and sales.

The one aspect that tends to be overlooked in the current research, and will also be discussed in this thesis, is if these advertisements have effectively integrated themselves into a player's long-term memory. While this is only one small part that can be used to judge the success of an ad or product placement, it is an important one as there are many ways that it can impact a brand. The purpose of this is to see if participants can list ads and the games they appeared in with some accuracy without further input from the researcher. Instead of providing a video game with advertisements placed in it and then immediately asking the participant to recount what they saw, the survey asks them to

recount ads from their memories of playing in a natural environment. The researcher believes that this will contribute to the current research by assessing the effectiveness of these advertisements as they are seen in an organic setting by the participant as well as relying only on the participant's memory. While focusing on short-term memory for a survey offers immediate answers, asking the participants to rely on long-term memory to answer questions can reveal multiple insights. Some of which, depending on the questions asked, could delve into the effectiveness of the advertisement itself, possible brand attitudes that the participant holds, and could even reveal if seeing the product in a video game impacted purchase intention.

### **Methodology**

The researcher developed a 20-question survey for the purpose of seeing how well people could recall advertisements in video games they had previously played without any specific request regarding the game or the advertisements in mind. The survey was created using the website Qualtrics, which was the same platform the survey was distributed on. The participants in this thesis are the video game players who responded to this survey, who are 18 years old or older (people below the age of eighteen were automatically stopped from taking the survey). A survey was chosen because it is a simple way to get knowledge from participants, without taking up much of the participant's time. The questions in the survey were chosen for one of three reasons: to gain demographic knowledge, to obtain information regarding the player habits of the participants (such as where the participant prefers to play, what is the participant's preferred genre, etc.), or to obtain knowledge about the participant's interactions/feelings towards advertisements. This study was not limited by parameters such as console choice or



game genre in order to gather as much data as possible from participants. After being collected through Qualtrics, the results were then analyzed for trends through an Excel file, which has been included in the appendix.

The primary target market for this survey was current college students, most of whom are young adults (for the purposes of this study a young adult will be classified as an older teen or someone in his or her early twenties). This group was selected because the average college student would fall into the category of young adult, and most college students play video games, at least on occasion (Jones). However, there is an expectation that there will be a wide variety of age in the respondents since there are many students who can be considered nontraditional, and noncollege students may have taken the survey as well. There was nothing discouraging a variety of participants from taking the survey, as a highly diverse sample was desired for the results of this survey. This survey was approved by MTSU's Internal Review Board before being distributed (see Appendix B). There were only three excluding factors that would cause the participant to be booted from the survey entirely: the participant not giving their consent, the participant being below the age of eighteen, and if the participant answered "No" to the third question (see Appendix A).

The model that this paper used to study the results for the survey given to participants was the limited-capacity model of attention. This model, created by Kahneman, states that an individual must focus on multiple things or tasks at the same time and that only a certain amount of that individual's attention can be spared to each task ("Kahneman [1973] Model of Attention"). When playing a video game, a player must divide his or her already limited attention over any number of tasks. Depending on

the game's genre, the pressures the game may force on the player, and even how invested the player is in the world of the game itself can all impact the attention a person can offer the video game. Along with a player's limited attention, a person's memory is also limited. Memory is the ability to "understand, retain, and successfully recall information" (Amin and Malik). A person's memory can be limited by multiple factors, ranging from internal causes to external causes. A few of these factors and how they may impact the participants ability to retain memories of ads they're seen in video games will be addressed in the later survey questions.

There were only two demographic questions in the survey, one asking for the participant's age (in the form of choosing a year of birth) and one asking for the participant's gender. Both questions were placed at the beginning of the survey and a participant would be able to opt out of the gender question. These questions were asked to see if there were any correlation between these factors and responses to later fill-in questions asking for specific advertisements and video games. If one group such as men or women tends to recall advertisements with greater accuracy than the other, then that would be relevant to the research of this thesis.

## **Results**

The survey received 97 responses during the duration it was released, which was from the launch date September 3, 2019 to its close on October 14,2019. Out of these responses, 88 people completed the survey in its entirety. Most respondents were born between 1999 and 2001, and more females than males also responded to this survey, with 55 participants selecting the female option, 35 participants selecting the male option, and 4 participants selecting the other option. Of the final three participants, 2 indicated that

they would prefer not to answer and 1 left this question blank. After these demographic inquiries, one of the first questions that the participant was asked is “Do you play video games? (This includes mobile phone ap and social media games?” In response to this question 84.5% of participants responded with the answer “Yes.” Since the purpose of this thesis is to assess the effectiveness of advertising in video games, there would be little point in allowing someone who does not play video games to continue taking the survey. The next question “How many hours a week do you play?” received a great variety of answers. The answer which received the most responses (28.8%) was “One to two hours per week.” In the world of gaming, these participants would fall into the category of a casual video game player, reflective of the time that is put into the act of playing a game. 15.4% of participants selected the shortest playtime option of “Less than one hour per week,” 9.2% selected “Three to four hours per week,” 7.2% selected “Five to six hours per week,” 11.3% selected “Seven to eight hours per week,” and 13.4% selected “Nine or more hours per week.” Both option “Four to five hours per week” and option “Eight to nine hours per week” received 0% of participant selections.

In order to get an idea of what genres the participants play, question 7 asked “Which genres of game do you play? Please check all that apply.” There were nine options that participants could select from: “First Person Shooters,” “Fighting/Beat ‘em Ups,” “Action-Adventure,” “Roleplay Games,” “Racing/Sports,” “Horror,” “Simulations (The Sims, Euro Truck sim),” “Casual Games (Bejeweled, Candy Crush),” and “Other (please specify).” Each of these options was selected at least once, with 14 participants leaving this question blank. The options “Action-Adventure” and “Casual” both have the most participant selections (52), “Roleplaying Games” had 47 selections, “First Person

Shooters” had 40, “Simulations” had 38, “Racing/Sports” had 28, “Fighting/Beat ‘em Ups” and “Horror” both had 17, and “Other (please specify)” had 7 participant selections. Of the participants who selected this last option, only 4 responded with follow up answers specifying what other types of games that they play. These were listed as: “MOBA, MMORPG, RTS, Roguelike,” “RPG grinders,” “basketball,” and “Solitaire, Slots.” The other three did specify a different type of game but did not select the “Other (please specify)” option; these inputs were: “Visual Novel,” “Social Media,” and “music based video game.”

Question 8 asked participant’s which platform preference he or she had for playing video games on. The answer that received the highest response was “Console,” which received 37.1% of participant selections and included examples of PlayStation, Xbox, and the Nintendo 3DS as examples. The next two options which indicated a preference for playing on a computer or playing on mobile earned 25.7% and 20.6% of responses, respectively. This is somewhat surprising, since there was been a shift in preference from consoles to mobile devices in the past five years (2019 Video Game Industry Statistics, Trends & Data). 16 of the participants left this answer blank, which can be interpreted to mean different things such as the participant having no preference.

The next set of questions explore how participants feel about and interact with the different types of advertising that appears in video games. The responses to these questions has been evaluated based on how the participant answered and what gender the participant selected in order to see if there is any correlation between the two. The first of these questions was question nine, which asked “Do you usually notice brands in entertainment media?” The options for this answer were divided into three categories,

“Yes,” “Sometimes,” and “No.” The next question, question ten, then asked “When you do notice brands, are they ones you tend to feel loyal towards?” The options for this answer were divided into five sections to allow for more variety of answers; these options were “Always,” “Most of the time,” “About half of the time,” “Sometimes,” and “Never.” This question was asked in order to see if participants tended to notice brands that they liked more than brands that they did not feel as attached to. In response to these questions, 72.7% of females stated that they at least sometimes notice brands in entertainment media, as indicated by an answer of either “Yes” or “Sometimes.” Of that positive segment, only 15% of females indicated that they frequently tend to notice brands that they are loyal to, as indicated by selecting either the “Always” or the “Most of the time” options. Out of the males who answered this question 80% of them indicated that they tended to notice brands in entertainment media, as indicated by an answer of either “Yes” or “Sometimes.” Of that segment, 21.4% of males indicated that they frequently tend to notice brands that they are loyal to, as indicated by selecting either the “Always” or the “Most of the time” options.

Questions eleven and twelve are the same as the two previously discussed, however, instead of asking about brand in entertainment media these questions ask how participants feel about product placements in video games and if they tend to notice these more if they feel loyal to those products. In response to this, both female’s and male’s answers were lower for both questions as compared to the previous responses for questions nine and ten. Only 58.1% of females reported that they noticed product placements in video games, and of that percentage only 12.5% indicated that they frequently noticed placements of products they felt loyalty towards. As for the males,

77.1% indicated that they noticed product placements in video games. However, only 3.7% of that segment indicated that they frequently noticed placements of products they felt loyalty towards.

To gain more information on how participants felt about product placements in video games, an extra question was asked regarding them. Question thirteen asked participants to “Please respond to the following statement: I like seeing product placements in video games.” Similarly to questions ten and twelve, there were five options to choose from to answer this question: “Always true,” “Mostly true,” “Sometimes true,” “Rarely true,” and “Never true.” To this question, responses that had selected either “Always true” or “Mostly true” will be considered positive in nature, indicating that the participant does frequently like seeing product placements. Neutral responses are indicated by participants selecting the “Sometimes true” option, and negative responses are indicated by participants selecting the “Rarely true” or “Never true” options. For female participants, 9% indicated a positive response towards seeing product placements in video games, 23.6% felt neutral, and 50.9% indicated a negative response. Of the male participants, 11.4% indicated a positive response, 34.2% felt neutral, and 57.1% indicated a negative response.

Questions fourteen and fifteen return to the previous pattern and ask, “Do you tend to notice advertisements in video games?” and “When you notice advertisements in video games, are they for products/brands that you feel loyalty towards?” respectively. The answers obtained for this set of questions were reflective of the answers for questions eleven and twelve, as many of these percentages are close to the ones given for those questions. Of the female participants, 67.2% indicated that they tended to notice

advertisements and of that percentage, 13.5% indicated that they tended to notice advertisements that they felt loyalty towards. For the male participants, 80% indicated that they tended to notice advertisements and of that percentage, only 3.5% indicated that they tended to notice advertisements that they felt loyalty towards.

Question sixteen is the first of two questions that ask the participant for his or her input. The question asks, “Can you list any advertisements that you have seen in a video game, and the game it was in? Please list at least three pairs or skip this question.” Of the 97 participants, only 15 answered this question. Of those 15, 9 replied with positive answers, which are answers that listed at least one game/advertisement pair. 3 participants replied with neutral answers, which either only listed a type of advertisement/product or the advertisement/product was vague. Finally, the last 3 participants answered with negative responses, which mean that the participant indicated that he or she could not list any advertisements seen. The rest of the participants left this option blank, which can be interpreted the same as the participant being unable or unwilling to list any ads seen. This is one of the questions with the most focus placed on it because this question is most likely to help assess how effective advertising in video games is. This will be touched on further in the Discussion section.

Question seventeen asked the participants who answered the previous question, “When was the last time you played the most recent of the games you listed? (Leave blank if previous question is unanswered.)” 3 of the participants who did answer question sixteen left this blank and 1 of the participants who did not answer question sixteen filled in an answer. These 4 responses will not be considered, since there is no connection between an ad/video game pair and a date. As for the 11 responses left, 9 of these

responses indicated that the participant had played the most recent of the games they listed was within a week of taking the survey. One participant reported that he or she had played the game two weeks ago, and the latest participant reported that he or she had played the game “About 3 months ago.” For the most part, many of these participants had played one of the video games listed in the previous question very recently which could be a factor in how well they could remember the ad/game pairs since time does impact a person’s memory (Amin and Malik).

Questions eighteen through twenty were asked to see if participants were playing video games in areas/ways that would make it more difficult to notice advertisements. Kahneman’s limited capacity model of attention points out that if an individual can pay attention to a limited amount of things. Following this model, it would then make sense for a participant that tends to play in areas that are high in distractions or play with multiple people, then less of their attention can be devoted to playing the game and thus, that participant will notice less advertisements. This would be something that a company would have to consider if it was deciding if it wanted to pay for an advertising placement in a video game. However, most of the participants who took this survey indicated that they tend to play in what could be considered low-distraction environments. Questions eighteen, nineteen, and twenty ask about the participant’s preferred setting and interactions while playing a video game. Eighteen asked participants where did they most prefer to play video games, which had options for at home, either alone or with other people, or in public, either alone or with other people. The majority of participants chose the option “At home alone” as 48.4% of people picked this option. The researcher would argue that this is the option that has the lowest distraction rate of all the options, meaning



that a participant who selects this option may have a better chance of being able to recall ads in games. As for the other options, 23.7% of people chose “At home with friends/family,” and only 4.1% chose “In public alone.” No participants chose the “In public with friends/family” option. It should be noted that two participants did choose to use the “Other (please explain) option, and both indicated that they preferred to play at home, but with online friends. As for question twenty, over half of the participants indicated that they preferred to play offline over online, with 51.5% choosing the former option and 26.8% choosing the latter. Playing online allows for players to interact with one another to varying degrees.

Question nineteen asked participants “Do you only play the main plotline of a game or do you explore the world/look for secrets?” in order to see how much of the game the participant is interacting with. Similarly, to question eighteen, this question gave insight into how the player interacts with the world. A player who is more likely to explore the world looking for secrets might also be more likely to see more advertisements, since he or she is taking in more of the game’s world than someone who is only trying to play the main plotline. The options for this question were “Only play the main game,” “Prefer to explore/look for secrets,” or “Both.” Most participants selected the “both” option (47.4%), while 17.5% selected the “Prefer to explore/look for secrets” option, and 13.4% selected the “Only play the main game” option.

## **Discussion**

In order to assess the effectiveness in video games, a few calculations must be made to compare responses to certain survey questions. These questions were chosen either based on their relevance to the overall assessment of effectiveness or for their

insights into how to improve current ads in video games. The questions that are meant to assess the effectiveness of advertisements in video games are as follows:

- Were at least some participants able to answer question 16?
- Were the participants who indicated that they noticed at least one of the types of advertising tactics listed in the survey also answer question 16?
- Did over 50% of participants self-report noticing brands, product placements, and advertisements?

The primary purpose of this survey was to see if any participants could answer question 16, which asked participants to recall at least three ads that they remember seeing in a video game and to list what game they had seen each ad in. Not every participant followed these instructions exactly, but 12 were able to give what the researcher considers good responses. Of these good responses, 9 participants were able to give three ad/video game pairings and 3 participants were able to give some response but the ads they described were vague. For the scope of this thesis, it is not important that what the participants said was correct, only that they claimed to recall seeing a specific advertisement in a specific game. For this thesis, any indication that a participant could recall an advertisement, even if it might be a false positive, implies that there may be some level of effectiveness for advertisements in video games. This same logic applies to the 3 answers that were vague; that is still an indication that the participant at least thinks they saw an ad in a video game. All of the 12 participants indicated that they did notice at least some brands, product placements, and advertisements so in regard to those 12 the current form of company ads in video games are effective.

This question was left purposely vague regarding what sort of advertisement should be listed. The purpose of this was to allow as much information as possible to be gathered, as asking for more specific examples from participants might have led to the survey receiving less responses. This was also worded as such so that participants would feel welcome to respond how they wanted for more genuine answers. Some participants listed references to other games made by the same developer as advertisements while others listed ads for his or her own local area. One interesting thing that came up in the answers for question sixteen was that a participant mentioned seeing “spoofs of popular brands” in the game Grand Theft Auto. The researcher was not anticipating any responses mentioning spoofs of brands for this question. However, it is interesting that the participant listed this type of ad alongside the two other inputs, which were actual branded ads. It also brings to light another factor is video game advertising that companies should consider: are spoofs a valid form of advertising for the parent brand and do they work? It is most likely that this spoofed brand that the participant mentioned was not paid for by the company that’s product was being impersonated, however this may not matter. The participant considered this an advertisement and was able to retain it in his or her memory well enough to mention it in a survey as an ad. This could be another avenue available to brands that have a high level of recognizability in markets, such as Coca-Cola or Starbucks. Companies that have obtained this level of brand recognition could encourage spoof products appearing in video games in order to gain more visibility for its products and services.

Another point of interest regarding whether or not participants noticed ads were the responses to questions nine, eleven, and fourteen which asked participants if they

tended to notice brands, product placements, and advertisements. Over 50% of participants for each of these did indicate that they noticed these advertising options at least sometimes, as addressed in the results section of this paper. A question after each of these also asked participants if they tended to notice brands/product placements/advertisements that they felt loyal to. The vast majority of respondents for each of these questions indicated that they “Sometimes” noticed ads that they felt loyalty towards with each of the responses for this option totaling over 40, indicating that loyalty was not a large factor regarding how often a participant noticed an advertisement in a video game. Customer loyalty is an important part of many companies, however since it does not seem to have that much of an impact on video game players, it may not need to be something that companies focus on when creating an in-game advertisement.

The questions that offer insight into how companies can improve upon the current advertisements that are placed in video games to make them more effective are:

- Do males or females tend to notice brands/product placements/advertisements in video games more?
- Did participants who played in distracting environments have a self-reported low recall of brands, product placements, and advertisements?
- What percentage of participants preferred to play offline?

The first of these assessments was made in order to see if there was a more desirable market that companies could target with ads in video games based on gender. If one gender was found to notice in game advertisements more than the other, then that would make said gender a more desirable target for advertisers since it is more likely that

they would notice the ad in the first place. For calculating advertisement effectiveness regarding gender, the researcher has decided to only calculate percentages for the male and female participants, as there were only 4 participants who selected the options for a gender different than those two and that is not a large enough sample to draw any reasonable conclusions from. Regarding brands, this study found that there was not a significant difference between male and female participants. Question nine asked participants to identify if he or she noticed brands in video games and when the responses to this question to the gender of the participant the researcher found that 72.7% of female participants and 82.8% of male participants indicated that they at least sometimes notice brands. As for product placements and advertisements however, male participants self-reported that they tend to notice these more than the female participants. Males at least sometimes noticed product placements 80% while females only noticed these types of ads 58.1% of the time. The results for advertisements were very similar, with males self-reporting that they noticed advertisements at least sometimes 80% of the time and females self-reported that they noticed advertisements 69% of the time. This shows companies that they should consider targeting their product placements and advertisements more towards males and keep the branding in video games more neutral, so to appeal to the audiences that are most likely to notice these types of advertisements.

To decide if participants who played in environments where distractions were a higher risk had a lower self-reported recall rate of brands, product placements, and advertisements in video games, questions eighteen, nineteen, and twenty were compared to the answers received for questions nine, eleven, and fourteen. However, there is one detail that the reader should be aware of: just because a setting is reported as that

participant's favorite does not necessarily mean that the participant spends most of his or her time playing in that setting. These three comparisons will be addressed in the following paragraphs.

This first set of comparisons shows how participants reported his or her ability to notice brands, product placements, and advertisements compared to his or her preferred setting. The percentage of participants who reported "Yes" on questions nine, eleven, and fourteen while also indicating that they preferred to play in the lowest distraction risk environment (At home alone) on question eighteen was 34%. The number of participants who also reported preferring the next lowest distraction risk setting "At home with friends/family" while still reporting "Yes" to questions nine, eleven, and fourteen was 18.5%. Of the participants who reported at least one "No" response to any of the three questions (nine, eleven, or fourteen), only 15.4% reported a preference for the lowest distraction risk preference, 3% reported preferring the next lowest distraction risk preference, and 1% reported the next highest distraction risk option ("In public alone.") No participants selected the highest distraction risk option, which was "In public with friends/family." However, not every participant who played in lower distraction risk settings indicated that they tended to notice brands, products placements, and advertisements. 6.1% of participants answered "No" to question nine while also later indicating that they preferred to play either "At home alone" or "At home with friends/family." This is not a large segment of the participants so it may not be indicative of company's flaws in designing noticeable types of in game advertisements. There is some evidence that playing in a low distraction risk environment helps people to notice advertisements as shown by the higher rate of participants who play at home by

themselves also reporting to notice brands, product placements, and advertisements, but to confirm this is beyond the scope of this thesis.

The next set of comparisons compares the responses to questions nine, eleven, and fourteen to those in question nineteen, which asked, “Do you only play the main plotline of a game or do you explore the world/look for secrets?” A correlation between how a participant plays a game and how often they notice ads may give companies a better idea of how to place their advertisements. For example, if the majority of people who notice advertisements also only focus on the main plot of the game, the company should consider only placing its ads in game world areas that are relevant to the main plot. The percentage of participants who answered “Yes” to all of the in-game ad relevant questions and also indicated that they preferred to either only explore the world or do that while also playing the main game was 45.3%. The participant percentage who indicated the same playstyle preference but did not indicate that they did notice all three of the in-game advertising questions was 8.2%. As for the participants who reported only preferring to play the main plot of a video game, 14.4% answered “Yes” to questions nine, eleven, and fourteen, and 5.1% answered this question while having at least one “No” for those previously listed three questions. Already there is a very distinct suggestion that exploring the world might lead to noticing more ads, but there was also a 5.1% of participants who responded with “No” to each of the three ad questions and indicated that they preferred to explore/look for secrets. This is a small percentage however, and the results do indicate that players that explore the game’s world more do tend to notice more brands, product placements, and advertisements. Due to these responses, companies should consider placing their in-game ads around the world rather

than only in plot-pertinent areas. As stated before however, any firm recommendation regarding this is beyond the scope of this thesis.

For online games, there is typically some level of player interaction available for those who want to engage in it. For games with less interaction, there is typically a leaderboard where players can see how his or her score compares against with other player's scores. Other games that have a higher rate in player interaction can even allow players from all over the world play on the same team and work towards a goal. Much like with question eighteen, the level of possible distractions is what this question is looking for, and similarly the participants indicated that they prefer the option with less options for distraction. Overall, the participants in this survey preferred to play offline as shown in the results. For that segment, 35% also reported "Yes" for question nine, eleven, and fourteen. 13.4% reported at least one "No" for one of these three questions, and 4.1% reported "No" for all three. These percentages for online players were significantly lower in comparison, with only 18.5% reporting "Yes" for all three questions, 6.1% reporting at least one "No," and 1% reporting "No" for all three questions. This large difference in reporting shows evidence that players who play games offline are more likely to notice brands, product placements, and advertisements that are placed within video games. This could be due to the lack of distraction that the online player engagement allows for but to definitively attribute these differences to that factor alone is beyond the scope of this thesis.

Overall, these three comparisons show that out of all the participants, those who preferred low distraction ways of laying a video game had a self-reported higher recall of brands, product placements, and advertisements that were placed in video games. While



more research is certainly needed on each of these possible factors in how these preferences impact player's abilities to notice in-game advertisements, this thesis does indicate that companies should be taking these factors into consideration. An ad placement generally costs a company money so making sure that said company is getting the most out of any advertisement is good practice. While there is no way to tell how a particular player will want to play a game, the data found from this sample regarding how players prefer to explore the game world and play offline should give companies some insight into how they can design and implement their in-game advertisements in order to gain the most attention for that ad.

Using this data, the final assessment is that advertisements are effective in video games, but not to the degree that they could be. While the majority of participants self-reported noticing brands, product placements, and advertisements, only 12 of the 97 total participants responded in a way that indicated they had seen some type of ad, and only 9 of those participants were able to list specific advertisements and what games they had been seen in. While 12 is certainly better than none, this is only a small fraction of the people who did respond. For some companies, this may be enough of a satisfactory answer. However, with video games being such a popular market companies should focus on bettering how their advertisers handle such a medium. It would be illogical to assume that a company would be pleased with an ad receiving roughly 10% of a market's attention when there is room to improve and innovate. A company should want everyone who plays a game to at least notice an advertisement that it paid to have in the game, and based on the results of the survey, not even that is occurring. As stated previously, the highest percentage of participants that self-reported noticing these types of ads in games

at least sometimes was 80%. That still leaves another 20% who are not noticing these ads who could become potential customers of these companies who are advertising in video games.

While not definitive, the results from this survey did reveal possible ways for companies to produce more effective advertisements in video game. Of the three types of advertisements that the survey asked participants about noticing, brands and advertisements received the most positive responses, with brands receiving 72 positive responses and advertisements receiving 69 responses but with more “Yes” responses instead of “Sometimes.” Since these two types of advertisements garnered more attention than product placements, companies could focus their advertising dollars on creating more ads like those in order to make sure that the ads they create are being noticed in the first place, as that is the first step to getting a participant to be able to recall an advertisement. As for genders, the data indicates that for brands there is little difference between male and female participants, since there is less than 10% of difference between the two. However, there is a much larger gap between males and females regarding product placements, with a 19% difference between these self-reported results. The difference for advertisements was not as large, as it was only a 12.8% between the two genders that were compared. Due to the difference between male and female self-reports, it may be a good idea for companies to start creating product placement type ads that target a male audience in order to take advantage of the larger percentage there that tends to notice product placements. The same could also be recommended for advertisements, however not to the same degree as product placements since the difference was not that large.

Using other data found in the survey, companies could gain information about how to better strategically place their advertisements in video games. For example, almost half of the participants indicated that they preferred to play video games at home alone. Using this information, companies could then decide to focus on placing ads in games that are meant to be played solo, instead of placing all its ads in multiplayer games. Most participants also indicated that they enjoy exploring the game's world; this information would be useful to companies who want to know where to put advertisements in games. For example, a company could place a billboard ad for its product right next to where a player finds a hidden item or secret. Since there is the ad is near the reward, the player is more likely to go to that area where the ad is and might have a better chance of noticing it. Participants also showed a distinct preference for playing video games offline. This is something else that companies should take into consideration when creating in-game advertisements since this does impact what sort of ads they can utilize (for example, a company generally cannot buy space for a dynamic ad in a game that does not offer online play).

### **Limitations & Future studies**

There are some limitations to this thesis and survey. The primary one is that the survey is relying on the participant's memory, which may be inaccurate. This could be caused by multiple factors, including among others: the participant's memory recall capabilities, how much attention was placed on the advertisements and/or product placements shown in the video game played, and the time since an advertisement and/or product placement was last seen. The latter of that list is especially likely to have a negative impact on the responses the survey gets, since the passage of time does have a

negative impact on a person's ability to recall memories (Amin and Malik). To further explain here is an example: if a participant plays a mobile game and sees an ad for a product two minutes before taking the survey, he or she would likely be able to recall that ad if prompted by the survey. If this same participant was asked to recall an ad that he or she saw while playing a video game from two months ago, that participant would most likely have a difficult time recalling the correct advertisement that was seen when prompted by the survey, assuming that this participant can recall an ad in the first place.

There is also the assumption that participants are being honest when answering the survey, and not simply inventing an answer for the sake of filling in the box. Participants were told to "Please list at least three pairs or skip this question" in order to avoid pressuring participants into giving an answer in hopes that those that did chose to answer would do so with honest answers. There is no guarantee that the participant's answers came strictly from his or her memory alone, however. There is a possibility that the participant could have web searched for advertisements in video games and used what information found to answer the survey question, although the research has doubts that this occurred.

This survey also does not account for people who watch other people play video games, such as friends watching another play the video game without playing themselves, or someone watching YouTube let's plays. These participants would also be exposed to the same advertisements that the player is exposed to, but unlike the player the viewer has much less attention devoted to the game and may be more likely to notice any advertisements shown. This ties back to the limited-capacity model of attention; since the viewer has less tasks dividing his or her attention then more attention should be placed on

simply taking in what is seen as the game continues without the viewer's direct input. Watching versus playing has been found to have some impact on brand awareness; Herrewijn and Poels concluded that "stating that actively playing a game leads to lower brand awareness compared to merely watching the gameplay of another person" (p. 549). Since this survey was meant to gather information from people who are only playing video games, this does exclude possibly participants who might gain brand awareness through watching video games rather than participating.

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## **Appendices**

### **Appendix A**

Informed Consent Form

Principal Investigator: Allison Wheeley

Department: Marketing

Faculty Supervisor: Dr. Tricia Farwell

Study Title: *Assessing the Effectiveness of Advertising in Video Games*

Dear Participant,

On behalf of the research team, Middle Tennessee State University (MTSU) would like to thank you for considering to take part in this research study. You have been contacted by the above identified researcher(s) to enroll as a participant in this study because you met its eligibility criteria.

This consent document describes the research study for the purpose of helping you to make an informed decision on whether to participate in this study or not. It provides important information related to this study, possible interventions by the researcher(s) and proposed activities by you. This research has been reviewed by MTSU's internal oversight entity - Institutional Review Board (IRB) - for ethical practices in research (visit [www.mtsu.edu/irb](http://www.mtsu.edu/irb) for more information).

As a participant, you have the following rights:

- You should read and understand the information in this document before agreeing to enroll.
- Your participation is absolutely voluntary and the researchers cannot force you to participate.
- If you refuse to participate or to withdraw midway during this study, no penalty or loss of benefits will happen.
- The investigator **MUST NOT** collect identifiable information from you, such as: your name, your social security number, and/or phone number.
- The researcher(s) can only ask you to complete an interview or a survey or similar activities and you must not be asked to perform physical activities or offer medical/psychological intervention.
- Any potential risk or discomforts from this study would be lower than what you would face in your daily life.



After you read the following disclosures, you can choose to participate in this study or not by selecting one of the options given at the bottom of this page. You do not have to do anything further if you decide not to participate.

1. What is the purpose of this study?

The purpose of this study is to see if advertisements in video games are effective regarding retention. This will be done by asking participants to answer survey questions regarding that subject based on only his or her memory.

2. What will I be asked to do in this study?

You will be asked to fill out a survey that is a maximum of 18 questions long. There will be both multiple choice and free answer options. The latter of the two will ask participants for information that they can recall about advertisements seen in video games. There are only two demographic questions: one for gender and the other for the participant's age. No other personal information will be collected.

3. How many times should I participate or for how long?

You should only participate in the survey one time and it should take you no longer than 15 minutes to complete.

4. What are the risks and benefits if I participate?

There should be no risks involved with taking this survey. Likewise, there are no benefits to the participant for finishing the survey.

5. What will happen to the information I provide in this study?

The primary investigator and Faculty Adviser will analyze the data gathered and use it to examine the recall of ads in video games.

6. What will happen if I refuse to participate and can I withdraw if I change my mind in the middle?

Nothing will happen if you choose to not participate and you can withdraw at any time for any reason.

7. Whom can I contact to report issues and share my concerns?

You can contact the researcher(s) by email or telephone ([apw3m@mtmail.mtsu.edu](mailto:apw3m@mtmail.mtsu.edu)/615-898-2987, [tricia.farwell@mtsu.edu](mailto:tricia.farwell@mtsu.edu)/615-898-2987). You can also contact the MTSU's Office of Research Compliance by email ([irb\\_information@mtsu.edu](mailto:irb_information@mtsu.edu)). Report

compliance breaches and adverse events by dialing 615-898-2400 or by emailing [compliance@mtsu.edu](mailto:compliance@mtsu.edu).

- I do consent to taking this survey.
- I do not consent to taking this survey.

Please confirm that you are 18 years old or older.

- Yes, I am at least 18 years old.
- No, I am not at least 18 years old.

Q3 What year were you born?

▼ 2001 ... 1900

Q4 What is your gender orientation?

- Male
- Female
- Other (please specify) \_\_\_\_\_
- Prefer not to answer

Q5 Do you play video games? (This includes mobile phone app and social media games.)

- Yes
- Occasionally
- No

Q6 How many hours a week do you play?

- Less than one hour per week
- One to Two hours per week
- Three to four hours per week
- Five to six hours per week
- Seven to eight hours per week
- Nine or more hours per week

Q7 Which genres of game do you play? Please check all that apply.

- First Person Shooters
- Fighting/Beat 'em Ups
- Action-Adventure
- Roleplay Games
- Racing/Sports
- Horror
- Simulations (The Sims, Euro Truck sim)
- Casual Games (Bejeweled, Candy Crush)
- Other (please specify)

Q8 What platform do you prefer to play video games on?

- Console (PlayStation, Xbox, 3DS, etc.)
- PC (Computer)
- Mobile (Cell phones)

Q9 Do you usually notice brands in entertainment media?

- Yes
  - Sometimes
  - No
- 

Q10 When you do notice brands, are they ones that you feel loyalty towards?

- Always
- Most of the time
- About half the time
- Sometimes
- Never

Q11 Do you tend to notice product placements in video games you play?

- Yes
- Sometimes
- No

Q12 When you do notice product placements, are they for products that you feel loyalty towards?

- Always
- Most of the time
- About half the time
- Sometimes
- Never

Q13 Please respond to the following statement: I like seeing product placements in video games.

- Always true
- Mostly true
- Sometimes true
- Rarely true
- Never true

Q14 Do you tend to notice advertisements in video games?

- Yes
- Sometimes
- No

Q15 When you notice advertisements in video games, are they for products/brands that you feel loyalty towards?

- Always
- Most of the time
- About half of the time
- Sometime
- Never

Q16 Can you list any advertisements that you have seen in a video game, and the game it was in? Please list at least three pairs or skip this question. \_\_\_\_\_

Q17 When was the last time you played the most recent of the games you listed? (Leave blank if previous question is unanswered.)

\_\_\_\_\_

Q18 What setting do you prefer to play games in?

- At home alone.
- At home with friends/family.
- In public alone.
- In public with friends/family.
- Other (please explain). \_\_\_\_\_

Q19 Do you only play the main plotline of a game or do you explore the world/look for secrets?

- Only play the main game
- Prefer to explore/look for secrets
- Both

Q20 Do you prefer to play online or offline?

- Online
- Offline

## Appendix B

**IRB**  
**INSTITUTIONAL REVIEW BOARD**  
 Office of Research Compliance,  
 010A Sam Ingram Building,  
 2269 Middle Tennessee Blvd  
 Murfreesboro, TN 37129



### IRBN007 – EXEMPTION DETERMINATION NOTICE

Tuesday, April 09, 2019

Principal Investigator **Allison Wheeley** (Student)  
 Faculty Advisor Tricia Farwell  
 Co-Investigators NONE  
 Investigator Email(s) *apw3m@mtmail.mtsu.edu; tricia.farwell@mtsu.edu*  
 Department Journalism  
 Protocol Title **Assessing the effectiveness of advertising in video games**  
 Protocol ID **19-1179**

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXEMPT** review mechanism under 45 CFR 46.101(b)(2) within the research category (2) *Educational Tests*. A summary of the IRB action and other particulars in regard to this protocol application is tabulated as shown below:

IRB Action	<b>EXEMPT from further IRB review***</b>	Date	<b>4/9/19</b>
Date of Expiration	<b>NOT APPLICABLE</b>		
Sample Size	<b>150 (ONE HUNDRED AND FIFTY)</b>		
Participant Pool	<b>Healthy Adults (18 or older) - College students</b>		
Exceptions	Online consent and online data collection permitted		
Mandatory Restrictions	<ol style="list-style-type: none"> <li>1. Participants must be 18 years or older</li> <li>2. Informed consent must be obtained from the participants</li> <li>3. Identifying information must not be collected</li> </ol>		
Restrictions	<ol style="list-style-type: none"> <li>1. All restrictions for exemption apply.</li> <li>2. Mandatory disclosure of the exclusion criteria.</li> <li>3. Mandatory disclosure on compensation requirements.</li> </ol>		
Comments	NONE		

\*\*\*This exemption determination only allows above defined protocol from further IRB review such as continuing review. However, the following post-approval requirements still apply:

- Addition/removal of subject population should not be implemented without IRB approval
- Change in investigators must be notified and approved
- Modifications to procedures must be clearly articulated in an addendum request and the proposed changes must not be incorporated without an approval
- Be advised that the proposed change must comply within the requirements for exemption
- Changes to the research location must be approved – appropriate permission letter(s) from external institutions must accompany the addendum request form
- Changes to funding source must be notified via email ([irb\\_submissions@mtsu.edu](mailto:irb_submissions@mtsu.edu))
- The exemption does not expire as long as the protocol is in good standing
- Project completion must be reported via email ([irb\\_submissions@mtsu.edu](mailto:irb_submissions@mtsu.edu))

IRBN007

Version 1.3

Revision Date 05.22.2018



- Research-related injuries to the participants and other events must be reported within 48 hours of such events to [compliance@mtsu.edu](mailto:compliance@mtsu.edu)

**Post-approval Protocol Amendments:**

The current MTSU IRB policies allow the investigators to make the following types of changes to this protocol without the need to report to the Office of Compliance, as long as the proposed changes do not result in the cancellation of the protocols eligibility for exemption:

- Editorial and minor administrative revisions to the consent form or other study documents
- Increasing/decreasing the participant size

**Only THREE procedural amendment requests will be entertained per year. This amendment restriction does not apply to minor changes such as language usage and addition/removal of research personnel.**

Date	Amendment(s)	IRB Comments
NONE	NONE.	NONE

The investigator(s) indicated in this notification should read and abide by all applicable post-approval conditions imposed with this approval. [Refer to the post-approval guidelines posted in the MTSU IRB's website.](#) Any unanticipated harms to participants or adverse events must be reported to the Office of Compliance at (615) 494-8918 within 48 hours of the incident.

All of the research-related records, which include signed consent forms, current & past investigator information, training certificates, survey instruments and other documents related to the study, must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data storage must be maintained for at least three (3) years after study completion. Subsequently, the researcher may destroy the data in a manner that maintains confidentiality and anonymity. IRB reserves the right to modify, change or cancel the terms of this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board  
Middle Tennessee State University

Quick Links:

[Click here](#) for a detailed list of the post-approval responsibilities.  
More information on exempt procedures can be found [here](#).