

**How Games Affect Our Behavior: An Examination Through Symbolic  
Interactionism**

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## **Introduction**

In 2005, the state of California passed a law restricting the sale of violent video games to children under the age of eighteen. The Entertainment Merchants Association fought the law, and five years later, the case made its way into the Supreme Court. Titled *Brown v. Entertainment Merchants Association*, it was a highly publicized and much-debated issue, raising numerous questions surrounding video games and their effects on player behavior (“*Brown v. Entertainment Merchants Association*,” 2012). Most of the attention was focused on whether or not games increase aggression, but the discussion has since grown to encompass a wealth of topics, including education, empathy, civic duty, sexuality, and more. In the end, the Supreme Court ruled against *Brown*, stating that video games are protected under the first amendment, and in doing so, they addressed the legality of video game censorship but did little to comment on the broader questions regarding the behavioral effects of games – questions which continue to occupy many discussions in the gaming world today.

As Squire, a professor of digital media at The Wisconsin Institute for Discovery, states, “Video games elicit powerful emotional reactions in their players, such as fear, power, aggression, wonder, or joy” (2003, p. 50). These emotions are meaningful, and through them, video games can have a great deal of influence. In a movement coined “Games for Good,” some researchers argue that games are an effective way to encourage prosocial behavior and tackle important societal issues. Greitemeyer, Osswald, and Bauer, for example, state that “Exposure to prosocial... video games enhanced interpersonal empathy and diminished reported schadenfreude toward a target befalling a misfortune” (2010, p. 800). Others, however, oppose this movement, and claim that games encourage violence and delinquency. Psychology researchers Bartholow and Anderson (2002) claim that “Participants who played [a] violent

video game later showed more aggression toward an opponent... than did participants who played [a] nonviolent game” (p. 287). There is still no consensus among scholars, and the debate continues to evolve.

However, despite this ongoing back-and-forth, researchers across the spectrum agree that games can, in some way, affect our behavior. The heart of the debate lies in whether this effect is beneficial or detrimental. As such, there is a wealth of research on the effects that games may have, but little on the way these effects come about. Yet, if we analyze the means by which games affect our behavior, it may prove useful as we discuss these resulting changes. In this paper, I intend to take a step in that direction by using an adapted version of symbolic interactionism, a sociological framework developed by Herbert Blumer, which provides a mechanism to examine the process through which games influence their players. I begin with an analysis on video games and violence, and then continue the method of interpretation through two specific case studies: *Kerbal Space Program* (Squad, 2015), an educational video game; and *Gone Home* (The Fullbright Company, 2013), a game centered around a lesbian high school student as she learns to accept herself, both of which engage with the “Games for Good” discussion. In each case, I use internet forums and articles as the primary medium for analyzing influence and engagement. By examining a player’s reaction to a game and looking at the various topics of discussion, it is possible to obtain a reasonable idea of the manner in which the game has affected its players, and how potent that effect really is.

Interpreting these findings through symbolic interactionism reveals a crucial distinction held by most players between what is real and what is virtual, and in each case, the malleable relationship between the two is what sets the foundation for a video game’s real-world behavioral effects. These distinctions and relationships are formed and sustained through an

interpretive process, which is biased through a person's preexisting beliefs and worldview. Any shifts are gradual – occurring through continual exposure – and they are typically bounded by the player's understanding of video games and the components therein. Thus, we see that video games can affect our behavior, but only to the extent afforded by the player's previous life experiences, both inside and outside of the gaming world.

## **Literature Review**

In the influential paper “Effects of Violent Video Games on Aggressive Behavior, Aggressive Cognition, Aggressive Affect, Physiological Arousal, and Prosocial Behavior: A Meta-Analytic Review of the Scientific Literature”, Anderson and Bushman (2001) claim that playing violent video games can lead to an increase in aggression and violent actions. Other scholars have reported similar findings through various avenues of investigation (Bajovic, 2012. See also Wei, 2007; Schutte, Malouff, Post-Gorden, & Rodasta, 1988; Griffiths 1998; Bartholow & Anderson, 2002), and some even claim that video games are “potentially more dangerous than the more heavily investigated TV and movie media,” (Anderson & Dill, 2000, p. 789). Meanwhile, some researchers come to the defense of video games, like Ferguson (2014), who claims that violent behavior in video games cannot significantly predict a person's level of aggression in real life. Researchers continue to conduct a variety of studies, and the issue of whether or not games promote violence is still debated today among scholars worldwide.

More recently, amongst the continued discussions of violence, researchers have started to investigate the possible positive effects of video games. Grizzard et al. (2014), in “Being Bad in a Video Game Can Make Us More Morally Sensitive,” explore the potential for violent actions in video games to encourage positive activities. Similarly, Passmore and Holder (2014) argue

that games can increase prosocial behavior, and some researchers claim that games promote empathy (Ruberg, 2015. See also Greitemeyer, Osswald, & Brauer, 2010). Some state that video games can enhance engagement in education (Virvou, Katsionis, & Manos, 2005. See also Squire, 2003; Ranalli & Ritzko, 2013), and additional, more neutral studies have examined the potential effects of video games in aspects apart from immediate behavioral tendencies. Boellstorff (2008), for example, examines the relationship between video game players and the concept of self-identity, and Ferguson and Garza (2011) attempt to link the playing of action games to engagement in civic behaviors. Unfortunately, these discussions are far less common than those of violence and censorship, and they are often pushed to the fringes of the conversation.

In each of these studies, researchers seek to answer whether or not games can affect behavioral tendencies in a certain way. Some claim that games can cause violence, some claim that they promote prosocial behavior, and many others stand somewhere in the middle, but the basic question is always the same: can games affect our behavior? And in every case, the answer has been yes; in some way, games affect how their players act. The primary concern of the ongoing conversation is the nature of that effect, yet most research continues to frame itself around the first issue. We need to retarget this discussion and move past the question of whether or not games can affect behavior. Instead, we must investigate the methods through which they do so, and the possible extent of their influence. Through this question, we can more effectively address the issues of both the anti-social and pro-social impacts of video games.

## **The Theory of Symbolic Interactionism**

To discuss behavioral influence in a more systematic manner, I make use of a behavioral framework grounded in Herbert Blumer's theory of Symbolic Interactionism. In his book, *Symbolic Interactionism: Perspective and Method*, Blumer (1969) describes the three core ideas of this theory: firstly, the way a person acts towards something is based on the meaning the person holds for that thing; secondly, meaning is "derived from or borne out of social interaction," (p. 2); and finally, the meanings are handled and modified through a continual interpretive process. That is, through our own interpretation of social interactions, we constantly shape and modify the meaning that things hold for us, and our actions toward these things are then shaped by the meaning we have developed. In essence, the theory can be remodeled as a behavioral chain of reasoning: there is a social interaction, which is followed by an interpretation of that interaction, and that shapes a person's mental models. These mental models are then used (directly and indirectly) to determine how the person interacts with the world.

I have made use of this theory to interpret my own findings, but in the process, I have found need of two notable modifications. Symbolic interactionism claims that our mental models are shaped exclusively through interactions with people. In and of itself, this statement flatly rejects any notion of games affecting our behavior, but evidence has shown otherwise. In reality, any interaction has the power to shape our mental models – societal, technological, or otherwise – and this includes interactions in video games. Additionally, I choose to direct considerable attention towards the interpretation process that occurs between an interaction and the shaping of mental models, and I argue that a person's current mental models heavily bias that interpretive process. That is, if two people have the same interaction, it does not guarantee that the resulting changes will be the same; each person must interpret the interaction based on their previous

understanding of the world, and rather than changing their worldview, they are more inclined to understand the interaction in some way that reinforces their preexisting notions of the universe.

It is worth taking some time to discuss how this theory can apply specifically to video games. Blumer states that people can create mental models for “everything that the human being may note in his world – physical objects... other human beings... categories of human beings... institutions... guiding ideals... activities... and situations.” (1969, p. 2). As such, most people will have a mental model for “video games,” and additional models for the virtual entities contained therein. Importantly, these “virtual mental models” are usually distinct from their real-world counterparts. For example, a person’s mental model of a real-life car is separate from their mental model of a virtual car. This distinction may take time to develop, and it may not exist for some non-gamers, but it is necessary to play video games with any level of success, as the entire method of interaction is different; if a player tried to control a virtual car as they would a real car, they would not get far. Thus, when playing video games, a person is more likely to act upon these virtual mental models, rather than the real-life mental models, and the overarching model of video games as a general entity will influence the interpretation of the in-game experience. Any real-world behavioral impacts stem from the relationships held between the virtual and real-world models. If a player’s virtual model is closely linked to the corresponding real-world object, then the game may yield more of a behavioral effect. Similarly, if the models are sufficiently separated, the real-world effect may be negligible.

## **Video Games and Violence**

There is a wealth of research investigating aggression and video games, and the debate is still relevant today. As such, I begin this paper in with an analysis of violent video games and aggressive behavior. I was interested in finding out how a player’s interaction with violent games

fits into the pipeline specified by our modified theory of symbolic interactionism, and what that means regarding a game's effect on player aggression.

The distinct mental models for real and virtual objects are of extreme importance in this situation. If a person understands that a virtual human being is different to a non-virtual one, the game is far less likely to cause violent behavior. By and large, this seems to be the case, but a troubled background or a significant lack of guidance could corrupt the necessary distinction. In the comments to an NPR article by Sami Yenigun, Joseph Christian (2013) touches on this matter with regards to the Sandyhook shooting: "In the case of Sandyhook, I don't think the parent(s) should have allowed gaming on the level that it was being played, and the military fetishism should have been discouraged, but instead she took him to the gun range and let the gaming go on... not good." The poor parenting created confusion in the proper development of their child's mental models, and while it is unlikely that the games are entirely to blame, the blurred line between virtual and real is certainly a cause for concern. Psychologist Vaughan Bell (2012), in an article for *The Guardian*, discusses the matter more generally, stating that "Most [killers have] a previous history of antisocial behavior and a disturbed background." Bad parenting and troubled childhoods are certainly real problems – and they lead to a plethora of issues that extend well beyond blurred lines between video games and reality – but fortunately, they are in the minority. In the general case, it has been made clear by the millions of non-violent gamers that our society is in a position to encourage the necessary distinction between real and virtual humans.

However, this distinction between what is virtual and what is real does not entirely free games from their effect on real world behavior, though it does limit their potential influence. Bell (2012) comments that games can lead to "a small increase in aggressive thoughts and behavior in

the lab,” but this is “not the same as actual violence.” Instead, Bell argues that violence is much more likely to stem from “delinquent peers, depression, and an abusive family environment.” Real world violent actions are far more likely to instigate long-term aggression than the actions taken within a video game, because the real world interactions directly affect our real-world mental models. Similarly, when Yenigun (2013) speaks with Douglas Gentile, a professor at Iowa State University, they discuss the notion that “Children who play more violent games by and large behave more aggressively. But... that doesn’t necessarily mean school shootings,” again reinforcing the notion that the violent games do have an effect, but that effect is limited. The constant exposure to violence does enough to increase aggression temporarily and in small amounts, but it primarily acts on the player’s mental models for virtual, rather than real, objects. Thus, a player’s actions towards the real-world are hardly affected.

The significance of the distinct mental models is made even clearer if we look to the comments section of the same NPR article by Yenigun, wherein users describe their own experiences playing violent video games. Bernard Gaieck (2013), for example, states that he prefers “to stick to the fantasy world games, which are less realistic. Killing demons, dragons, and werewolves does not seem as bothersome.” For Gaieck, the difference between the in-game content and the real-world is made more overt through the fantasy setting; the mental models of the victims are more easily distinguished from real people, and the interaction keeps a larger distance from the real-world. As a result, the game feels less disturbing.

This distinction comes up again in a reddit post titled “I will now talk about violence and video game narratives for just under 30 mins,” where a commenter states that his “reaction to violence in video games... is usually determined by how well the game... humanizes the target of violence and pushes [him] to relate to the consequences of killing.” (Anusman\_, 2015). If a

target is more human-like, the player feels more responsibility. The humanization of the target leads to an interpretation process influenced by the mental models of personhood and emotional connection, and suddenly, guilt emerges. These mental models act upon our internal analysis of the in-game experience, and over time, given strong enough exposure, it is possible that these mental models could change as a result of a desensitization to overly-humanized violence in gaming. In this instance, however, the commenter takes a different approach. He is turned off of the experience and chooses not to continue – his interactions with the overly-violent games do not last long enough to affect the mental models of personhood. This adverse reaction to humanized violence is reiterated by other commenters on the thread. Sca4ar (2015), says he “felt so so so guilty to steal and kick some guys to have some food,” and another user, Binarycoder (2015), discusses a similar experience playing the game Dishonored, where violence is technically optional. After experiencing an in-game reaction to his violence, he “felt absolutely **horrible**... it was like a sucker punch,” but rather than letting the interaction weaken the mental models that shape his sense of morality, the mental models influenced his interaction, and in his next play-through, he “went for absolutely no death.” This appears to be the more common reaction when exposed to humanized violence in video games. While long-term, constant exposure to this level of realistic-feeling violence could make you more aggressive, it is far more likely that a player’s pre-existing mental models of humanity will either reshape his/her experience or, if it truly is too jarring an experience and too contradictory to the player’s beliefs, drive him/her away altogether, before any mental models are significantly affected.

Interestingly, this concept of distinct mental models for virtual objects and video games can be used to analyze previous studies and may help us explain some of the more extreme findings in papers such as Anderson and Dill’s “Video games and aggressive thoughts, feelings,

and behavior in the laboratory and in life” (2000), where the researchers found that people who played a violent video game were more likely to recommend a harsher punishment to their opponent in a reaction time game. Notably, the subjects did not see or hear from their opponent (in reality, there was no opponent at all), and it is possible that, because the participant is so distanced from their imaginary opponent, they are less inclined to view it as real, so the virtual mental model for a person may begin to influence the experience as well. To add to this, the participant had just finished playing a video game only fifteen minutes earlier, and it is possible that the virtual mental models still linger in their mind, coloring the subject’s interactions and behaviors. Given some distance from the game and more assurance that the person on the other end is, in fact, a real human being, the subject may have behaved very differently.

In the end, a player’s distinct mental models for virtual versus real things, combined with his/her mental model for video games as a general entity, affect the interpretation of video game violence and limit any major, lasting effects on a player’s real world behavior.

## **Kerbal Space Program**

While violent video games have been the centerpiece of many gaming discussions, a large part of the “Games for Good” movement focuses elsewhere, on games that actively try to enact positive change in our society. Much of this discussion looks at video games as a tool for improving engagement in education both inside and outside of a classroom environment. Gresalfi and Barab effectively describe this mentality, stating that video games “create tasks that also influence classroom practices by creating virtual worlds that place disciplinary engagement in rich contexts. In so doing, the designed context of the video games can become another context to support whole-class discussion and deep engagement with disciplinary content” (2011, p. 301). Intuitively, this makes sense: if a game is fun, it should make education more enjoyable.

Unfortunately, it is not that simple. Not everyone enjoys video games, and people often restrict themselves to games that already reflect their own interests; players may not connect with games in subject matter initially perceived as less interesting, and so the game may fail to increase engagement. I intend to examine these issues through the game Kerbal Space Program, developed by Squad.

My choice to use Kerbal Space Program (KSP) may require some explanation. For a large part of its lifetime, KSP was not heavily marketed as an educational game; the learning was tangential. Meanwhile, other game series, like Math Blasters (Knowledge Adventure, n.d.), ClueFinders (The Learning Company, n.d.), or Reader Rabbit (The Learning Company, n.d.), are made with the explicit purpose of educating children. I have chosen to avoid these products because, in the eyes of many, they are hardly games at all, but rather worksheets masked in colorful graphics and flair. Kerbal Space Program, meanwhile, was designed as a game first, and the educational component emerged organically.

At its heart, Kerbal Space Program revolves around the process of experimentation. Players build space-crafts, fly them, and strive to reach the moon or other targets. While the game involves a considerable amount of physics and math, educators generally focus on iterative experimentation as the core learning element. They use KSP as a tool to demonstrate the engineering design process. Isolated from explicit classroom connections, players may still learn about iterative procedure, but it is simplified, and the players may not realize the significance of their experience. Inside of the classroom, meanwhile, the game has been shown to dramatically increase engagement, but the magnitude of the effect depends heavily on how the player links their virtual mental models of the in-game content to the real-world models of the subject matter.

Consequently, explicitly made connections or adaptations may be necessary to achieve the desired engagement.

To analyze a player's level of learning regarding the engineering design process, we must first understand the engineering design process itself. It is an iterative procedure with several cyclical steps: "identify the need & constraints," "research the problem," "develop possible solutions," "select a promising solution," "build a prototype," "test and evaluate prototype," and "redesign as needed." ("The Engineering Design Process", n.d.). We see a simplified version of this process take place in many of the Kerbal Space Program forums without any explicit mentions of education or engineering. For example, in a post titled "My First Eve Ascension Suggestions," Nich (2016) states a problem: he wants to land on the planet Eve. He proposes a possible solution, displays a prototype of his work, and then discusses alternatives: "I will probably also send down a rover," and "I may remove the science equipment." Then, he asks for feedback from others in the forum. One user, Plusck (2016), states that the current prototype "looks like it will be a pain to heatshield properly," and over the next few posts, they iterate accordingly. Similarly, in a Steam Forum post titled "Is this game worth 40 dollars?" RussEfarmer (2016), a commenter, inadvertently posts about the engineering design process, writing "This game is about trial and error. You make something, [it] explodes, fix it, and it explodes again. Repeat until it works." It is a simple rendition, but clearly echoes the process. In both threads, no one explicitly mentions the engineering design process, and it is possible that the users have not made that connection, but the game has engaged them enough to encourage the behavior nonetheless.

To analyze how this behavioral effect comes about through symbolic interactionism, we must consider the fact that most of these players probably already enjoy engineering. In the

referenced forum posts, users often utilize experience that KSP would not, in its own right, have provided. In fact, this appears to be the case in most of the design forum posts. In a post titled “Basic Aircraft Design – Explained Simply, With Pictures,” the user Keptin (2013) dives into a detailed discussion of how aircrafts work in-game. This post is heavy on physics terminology, like “Center of Mass,” “Center of Lift,” “Asymmetric Thrust,” “Airfoil Effectiveness,” “Air Density,” and so on. Some of these terms are explicitly taught in-game, but not all of them, and the members of the forum post are clearly un-deterred by the discussion, which points to a reasonably educated audience consisting of people who are comfortable in the subject matter. It is likely that the game attracts players who already hold positive mental models of engineering and physics, at which point it becomes difficult to say whether the game is responsible for their learning, or their pre-existing knowledge is responsible for their enjoyment of the game. In either case, however, when they do play the game, it reinforces their excitement, and that encourages further education in the relevant fields. A player’s interactions with KSP affect and strengthen the positive mental models that he/she already holds for the subject matter, and in that way, Kerbal Space Program has successfully increased engagement in the material.

While this increase in engagement is a good thing, it does not help us understand how players react when they may be disinclined to connect with the subject matter. To this end, we look at Ranalli and Ritzko (2013), two professors at Penn State University who conducted a study with Kerbal Space Program in their introduction to engineering design course, where students are more likely to disengage with the class, seeing it only as a broad, mundane requirement mandatory for graduation, but not relevant to their particular interests. For the study, students used KSP to design two projects, and then took a survey, which the researchers used to analyze the effectiveness of the game. They claim that “Students were found to have enjoyed the

project and were enthusiastic about the opportunity to play games in class,” but they “needed some guidance to understand the link between the video game and the academic content that it was meant to illustrate” (2013, p. 4). Once the connection was made, however, the students were able to learn from the experience. Initially, the mental model of video games was at the forefront of the students’ minds, and they interpreted the interaction as mere play, rather than learning. They may have picked up a few skills tangentially, but the most effective learning did not occur until the teachers had explicitly shown the students a different way to interpret the interaction. They intentionally shaped the students’ mental model of Kerbal Space Program into an *educational* game, rather than a game of pure entertainment, which in turn, shaped the interpretation of future interactions. Once the students were readily interpreting the experience as both a game and an educational tool, they learned more.

Similarly to violent video games, then, we see that it is not purely the games that are responsible for the behavioral outcome, but rather a combination of the player’s virtual and real-world mental models and the ties between them. For KSP, the educational interaction relies on video games, schoolwork, previous interest in the subject matter, and the connections made between all of these factors. Each mental model plays a role in reinforcing the educational experience, and while the game does help increase engagement, it is only effective to the extent allowed by these other mental models and the student’s understanding of the relationship between the in-game content and the real-world.

Once the educational value of KSP became apparent, Squad engaged in a number of initiatives to encourage the game’s use in learning environments. In one such initiative, they partnered with TeacherGaming to create KerbalEDU – a version of Kerbal Space Program with enhanced functionality to increase the game’s potential to teach various Science, Technology,

Engineering, Math, and History concepts (“KerbalEDU”, n.d.). And in another initiative, the European Space Agency put together a Moon Challenge, an “international student contest of lunar human-robotics” (“ESA Moon Challenge”, n.d.), and decided to accept project deliverables in the form of KSP constructions. In each of these cases, the educational value of playing the game stems from a targeted emphasis on certain education-based mental models, which shape the interpretation of the in-game interactions beyond what the stand-alone game could have accomplished. In KerbalEDU, some missions focus on historical events, and they use custom tools to better illustrate STEM concepts, while the ESA Moon Challenge highlights the astronomy and engineering design elements. These additions to the regular gaming experience alert the student that they’re playing more than just a game, and effectively tie the virtual content more closely to the real-world mental models, which causes a change in the models that the game affects, and will, in turn, affect the player’s behavior.

Initially, the experience of playing a game like Kerbal Space Program is interpreted and influenced almost exclusively by the mental model of video games. The connection between virtual and real is loose or nonexistent, so players are less inclined to learn and retain educational information. It is possible that their behavior may shift slightly, especially if they are pre-disposed to enjoy the subject matter, but the brain interprets the interaction as entertainment (more in line with traditional non-educational experiences), so it is less likely to affect the desired mental models – like science, engineering, or physics. However, once the connection between the game and educational subject matter is made explicit (either by a person or the educational nature of the product, like KerbalEDU), the mental models of education, schooling, and/or the subject matter are brought into the interpretation process. Then, even the less motivated students are likely to be affected. It does not diminish the engagement implicit in the

video game's mental model, but it shapes the experience in a way that encourages more learning. Thus, games can effectively increase engagement in learning, but some additional assistance may be required to connect the relevant virtual and real-world mental models in order to achieve the fullest effect.

## **Gone Home**

For my final case study, in order to better understand how games can promote empathy and understanding, I look to *Gone Home*, by The Fullbright Company. It is an exploration-based game where players uncover a story about a lesbian high school student learning to accept herself and trying to deal with the backlash often directed towards the LGBT community. While numerous other games could promote equal or higher levels of empathy (see: *Papers Please*, by 3909; *This War of Mine*, by 11 Bit Studios; and *Never Alone*, by Upper One Games), I chose *Gone Home* because of its relevance within the current social atmosphere at the time of writing this paper. Through my research, I found that the already pro-LGBT players usually held close, real-life connections to the virtual content, and were inclined to be affected and moved by the game. Meanwhile, anti-LGBT or anti-social-justice players were actively opposed to connecting the in-game content to aspects of their real lives, and were unlikely to experience an increase in empathy, instead dismissing the game as “social justice pandering” (Damascene\_2014, 2015).

In a domain that is historically almost exclusively heterosexual (Shaw, 2009), a story-based game focused on lesbian characters is clearly notable, especially for players who are pro-LGBT. Articles, blog posts, and forums confirm this, showing that many LGBT supporters found the game to be incredibly meaningful, lasting, and affecting. In the Steam Forum post “A Genuine Thank You,” a user by the name of Wilco (2014) claims that he found the game “genuinely moving and beautiful,” and in the comments, a user writes that he “couldn’t agree

more... tears were shed because [he has] two close friends who just celebrated their one year anniversary... but had to keep their marriage a secret because they are both female” (Ballstank, 2015). In a similar post titled “Reactions from Gay Gamers,” CurtainsUp relates the game to his own experience coming out as gay, and asks if others have had a similar experience (2015). A commenter, Theatretroll, responds, saying he identified with the main character, and the game “brought [him] back to a very important part of [his] life” (2015). He explicitly mentions a connection between the game’s story and his real-life experience. Meanwhile, a number of pro-LGBT bloggers have also praised the game, like Envi, who self-identifies as an “Asian American Trans Bi Feminist Gamer,” and gives *Gone Home* a 4/5 rating. She says it has a “really amazing story, world, and characters. [It] incorporates queer youth as human, flawed, and lovable people.” She claims that the game is “unique, beautiful, and resonant, especially for anyone who has not felt quite safe as themselves when at home” (2015). Across the board, the LGBT community has rallied behind this game, and almost all of the posts I examined by LGBT supporters were positive, and read similarly to those mentioned above.

Through our lens of symbolic interactionism, we can make sense of this phenomenon. Players enter the game with positive, pre-existing mental models surrounding the LGBT movement in real-life – including people, events, and stories – and as a result, when they interpret the interaction or build new mental models from it, it resonates and reaffirms their beliefs. In a sense, it is easier to accept, so they are more willing to allow their current mental models to be affected. Additionally, the LGBT movement is already a significant aspect of the player’s life (or at least, their social media presence), and this connection helps the player relate the virtual and real-world mental models, which creates a platform for the in-game content to

more directly affect real-world empathy. As such, those who are already empathetic towards the LGBT community are made even more conscious of the situation.

While it is good to see that games can increase empathy in someone who is already engaged in the LGBT community, it is also worth examining the game's influence when played by someone who would otherwise be opposed to the movement, for that is where the increase in empathy is most needed. Perhaps unsurprisingly, the game is less effective. In fact, while analyzing data from anti-LGBT and anti-social-justice players, it became clear that the game had very little impact, if any, on the player's level of empathy. Rather than allowing the interaction to reshape their view of the world, the players interpreted the game as propaganda. In a post titled "Why the Huge Difference in Score Rating?" a user comments that the only reason the game has received such high ratings is due to "spineless gaming journalists [who] try to play it safe or even worse, cater to the social justice fighting Sarkeesian-drones from tumblr" (Bobzenub, 2013). He goes on to say that it "barely even qualifies as a game." Similarly, in a comment on a reddit post titled "Let's talk about what social justice is doing to video games," we see the user Fedorable\_Lapras (2015) state that there is a "disturbing trend to highly rate video games for their 'progressiveness,' instead of... actual things that matter like gameplay or story." While he does not specifically mention *Gone Home*, the game is brought up later in conversation as an example of this issue (TheHat2, 2015). Rather than becoming more sympathetic to the cause, these anti-LGBT and anti-social-justice gamers are angered. They did not interpret the experience as a gripping narrative about a lovable teenage girl, but saw it as an overrated piece of pandering, not worthy of a person's time. Their pre-existing, negative LGBT and social justice mental models taint the gaming experience, and the players actively strive to separate the in-

game content from their views of the real-world. Thus, the game did not increase empathy because it was too quickly dismissed and ignored.

This dismissal can be seen even more clearly in threads about whether or not to purchase *Gone Home* in the first place. In a Steam forum post titled “Should you buy *Gone Home*?” Mendel says you should *not* buy it if you are “unsympathetic to LGBT issues” (2014). Similarly, in a Nintendo Life forum thread, the user Justlink states the game is “not for everyone. It prominently features a lesbian couple into the story, so just a warning to those who may not greet that warmly” (2014). In these two instances, we see it plainly stated: people believe that those who are anti-LGBT should simply avoid the game. As a result, the game’s potential influence is limited because it is not played by (nor even recommended to) the people for whom it could have the biggest influence – those who are not already familiar with its message.

Thus, because we are so inclined to interpret our interactions based on previous mental models, and these interpretations bias us towards reinforcing pre-existing beliefs rather than shifting our worldview, the game’s effect is fundamentally restricted. If the message is inherently different to the player’s beliefs, the player will not be open to it. If it is in agreement with the player’s principles, however, it may reinforce and strengthen that player’s stance on the issue, though it will not change their mind entirely.

## **Conclusion**

Throughout the research, it has been made evident that games alone are typically insufficient to cause any major shifts (for better or for worse) in a player’s behavior or personality. Generally, the behavioral effect of games relies heavily on the relationships between a player’s virtual and real-world mental models. In the case of violent video games, we saw that the games may, over time, affect behavior, but not in isolation, and not dramatically enough to

provoke events like school shootings. Most issues occurred only when the line between virtual and non-virtual humans was blurred. In Kerbal Space Program, the game was most successful when the player was already interested in engineering and physics, or when it was coupled with another academic element – be it school, a competition, or the KerbalEDU modification – to better connect the real-world concepts to the in-game material. Thus, the game required some additional preconditions to be met before it could most effectively engage its players in education. And finally, in *Gone Home*, players who were already sympathetic to the LGBT cause and were pre-disposed to connect the game’s story to their real-world mental models found that the game was meaningful and affecting, while those who oppose the movement felt too great a separation between the game’s content and the real-world, and rejected the game, preventing any major impact on their level of empathy.

While these findings do indicate that games often have a lesser effect than what is sometimes described by “Games for Good” or “Games and Violence” advocates, they should not undermine the significance of video games. In every case, the games were successful in reinforcing pre-existing worldviews, and while it is tempting to dismiss this as negligible effect, it can be a powerful force – especially when applied to an audience as far-reaching as the gaming industry. This paper focused on the immediate reactions to a few specific games, but the whole of the gaming industry is a complex world that stretches far into many different areas of society. As such, the general shape of the gaming landscape can still contribute towards the gradual behavioral shifts that occur throughout our society, and we should pay attention to the environment in which games are being played, though we need not become paranoid. Games are one of the many influences in a person’s life, and as has been shown through the interpretive process illustrated by the modified version of symbolic interactionism, a person can usually filter

a game's content to avoid most negative behavioral consequences while still gaining reinforcement for desired behaviors.

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