

**The Power of Video Games:  
How *Celeste* and *Hellblade* Address Mental Health**

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### Abstract

The media has the power to educate audiences on topics through effective storytelling. This paper shows how video games as a medium possess unique potential to affect players through interactive experiences. Two video games titled *Celeste* and *Hellblade: Senua's Sacrifice* serve as examples of social cognitive learning through media exposure. This paper conducts a content analysis on the two titles. From the analysis, we learn the stories in *Celeste* and *Hellblade* aim to help those who play them learn how to cope with mental health problems such as depression and anxiety. The literature review section discusses past research done on depression and anxiety. In said section the two communication concepts are defined, analyzed, and explained thoroughly. Next, critic receptions on the games are reviewed through published articles, which transitions into the results and discussion section. The goal of this paper is to explain how *Celeste* and *Hellblade* showcase immersive techniques and strong characters to help players learn coping techniques and discuss the positive implications video games have on society. A content analysis was performed to examine how often mental health-oriented topics emerged. Findings showed that these topics occurred approximately 47 times in *Celeste* and 55 times in *Hellblade*.

*Keywords: Depression, Anxiety, Coping, Games, Social Cognitive Theory*

### **The Power of Video Games: How *Celeste* and *Hellblade* Address Mental Health**

Stories hold a strong presence in a variety of settings throughout the world. They are shared throughout families, friends, co-workers, cultures, teammates, politicians, comedians, and the list continues. With a beginning, middle, and end, stories have the power to help an audience draw conclusions about their surroundings; to guide others toward a message. In the field of communication studies, the medium in which an audience receives messages is important because it defines how they may be affected. For example, *To Kill a Mockingbird* was originally published as a book in 1960 while the movie adaptation was released in 1962. Kalapotharakou (2020) discusses key differences between the two in an article that seeks to compare the book and movie. She notes that in the novel, Harper Lee uses a first-person perspective, which allows readers to form a relationship with Scout, while the movie is naturally in third person, getting rid of the relationship potential. As a result, the emotional impact of the story changes due to the medium. Because of this, companies, public-speakers, staff writers and more, need to consider which medium to use in order to maximize the effectiveness of their message.

Given that depression and anxiety can be challenging to discuss with peers, it is necessary to take a look at how *Celeste* and *Hellblade* make the topic approachable to everyone. This is so that people considering learning about mental health can be convinced to try these video games, and future storytellers can tastefully emulate the methodology of addressing depression and anxiety in their own projects. Because depression and anxiety must be portrayed with care, this paper seeks to answer the following question: How often does the portrayal of depression and anxiety occur in an interactive medium and in what ways might this potentially affect its' players? This paper also aims to explain why videogames specifically hold high amounts of potential as a medium due to their interactivity compared to other media. It will do so

by examining how *Celeste* and *Hellblade* utilize interactive storytelling to teach players about coping mechanisms for depression and anxiety. Before analyzing the video games' methods and effects, a literature review: (1) provides an overview of past research on depression and anxiety; and (2) describes *Celeste* and *Hellblade*.

## **Literature Review**

### **Depression and Anxiety Overview**

Depression and anxiety must be defined in order to be analyzed. Past research indicates a strong correlation, but a clear distinction between the two illnesses. According to Dobson (2002), anxiety is defined as an unpleasant physiological state prompted by fear. Dobson (2002) similarly defines depression as a multifaceted state that occurs due to loss or a perception of loss. Empirical evidence presented shows depression and anxiety as more similar than their distinction suggests. But the article concludes it is still important to keep both illnesses separate from one another. If depression and anxiety were to be considered one, future researchers conducting analyses would have to deal with complications. This includes having to conduct statistical control tests for both states when only one is necessary and needing the development of standardized instruments to maximize their distinction. In addition, more consideration and change may be necessary on the relationship between the illnesses for further understanding. Because of this, anxiety and depression will be reviewed as their own terms.

With depression and anxiety defined, their causes, outcomes, and coping mechanisms can be broken down. Diving into the causes of anxiety, Shri (2010) provides three categories to help inform readers about factors leading to anxiety. The categories are labeled as biological, psychological, and social. The key takeaways from the biological section argue that genetic

factors can lead to an imbalance between excitatory neurotransmitters and inhibitory neurotransmitters. Psychological causes fall within the self and the mind. This section lists low self-esteem, personality traits, cognitive dissonance, and the self's perception of situational conflict. The social causes are more external. Shri (2010) describes these causes as challenging experiences that take a toll on a person's mental health, including the loss of a loved one, a lack of social support, financial responsibilities, terrorism, abuse, and stress. The idea of fear through loss, provided by Dobson's definition of anxiety earlier, shines in these more detailed causes.

Next, the hippocampus part of the brain is a huge aspect of depression. According to Schatzberg (2002), there is a misconception that depression leads to certain outcomes, when those outcomes could be the causes themselves. Past research in the editorial indicates effects and causes could take each other's place. The main idea shown surrounds depression, which could lead to a smaller hippocampus when in fact, Schatzberg (2002) reveals that a smaller hippocampus was associated with a greater lifetime duration of depression. Schatzberg argues that the smaller sized hippocampus itself may lead to depression, making it more than only an effect or result. Schatzberg (2002) also mentions conclusive evidence of the hippocampus size being defined by genetics at the 2001 annual American College of Neuropsychopharmacology meeting. However, environmental causes play a role as well. Schatzberg (2002) states that a smaller hippocampus appeared to be a risk factor for developing post-traumatic stress disorder. Similar to anxiety, external factors that are harmful to the mind could lead to the state of depression.

### **Treating Depression and Anxiety**

Naturally, those dealing with depression and anxiety must find ways to manage them. In a research article by Pashtoon (2012), participants were gathered for information on coping

styles. All of the participants were shown a list of coping methods. Using a Likert scale, which asks the level of agreement for listed statements, participants gave their answers. There were 14 coping styles listed including active coping, instrumental support, planning, denial, self-blame, emotional support, humor, and positive reframing--to name around half. Keeping the data of non-afflicted participants in mind, of the depressed and anxious, it was found that religion, acceptance, use of instrumental support, and active coping were the most commonly used styles. According to Pashtoon (2012), possessing the knowledge on coping styles matters when taking care of patients because their coping methods could be modified by the clinician or psychiatrist. This is done in order to have the best possible treatment, catering to each specific person.

The next article takes further steps in applying treatment to patients who need it. Jones (2008) sought to find the most effective means of helping patients. Forward-deployed troops in the Western Pacific Ocean region participated in the research. Credible parties assigned the troops to a program, which directly addressed the steps the troops needed to take over the course of two years. With peers, the participants were a part of weekly courses, honing in on skills or focuses to help them manage their symptoms. The course topics included self-awareness, emotion regulation, interpersonal effectiveness, motivation and resilience. The findings show that the program was extremely effective in reducing depression and anxiety. A follow-up statistical analysis on the troops one month after the program further supported this result, by finding a continued change in the levels of anxiety and depression. Despite biological factors significantly impacting one's mental health, this program proves that the right treatment can help, towering over biological conditions.

Despite the success of the provided resource in the last article, not everyone has access to similarly funded two-year programs. Carek (2011) presents exercise as a simple alternative.

Carek (2011) begins by reminding us that depression and anxiety are the most common conditions in the medical field. More than 340 million people around the world are affected by depression and 16% of the U.S. population will meet the criteria for major depression in their lifetime. These statistics indicate how valuable coping methods are since millions of people will need them. Next, the article defines physical and exercise as separate terms. Together though, they are described as the use of one's body to exert energy through repetitive, intentional movements. According to Carek (2011), exercise leads to the increase of hippocampal brain-derived neurotrophic factor levels, which are associated with decreased anxiety. The importance in this article lies in how reliable exercise is as a method of coping with very few costs and downsides. From this it is conclusive that methods requiring the exertion of energy, providing positive feedback to the self, are reliable ways to minimize the effects of depression. Otherwise, the only alternative method that may produce more effective results is the use of psychopharmaceuticals.

### **Implications of Depression and Anxiety**

The long-term effects of depression and anxiety must also be discussed in order to understand the societal implications of mental health struggles. Pollatos (2009) conducted a study seeking to find out how depression and anxiety affect a person's perception. According to the Pollatos (2009), students from the University of Munich participated in answering a survey which was followed by a heartbeat detection task, demanding accurateness in perception. The findings revealed a negative correlation between heartbeat perception and depression. This shows that those struggling with mental health conditions, can lose accuracy doing tasks. This information is valuable, because navigating a messy world where professional and domestic environments demand accuracy, can be especially difficult if one is not mentally sound.

Situations may arise in front of someone where they can not afford to make mistakes. High stake occupations like doctors and lawyers must be on their toes at all times, because people's lives depend on their professional performance. This does not even begin to cover low stakes situations like driving cars and walking down a flight of stairs which, while generally common, can lead to dangerous outcomes. The takeaways serve as a reminder of the urgency surrounding mental health.

The workplace is also worth investigating, since a significant portion of American society is employed. Haslam (2005) addresses the impact mental health can have on the individual and the organization they are a part of. According to Haslam (2005), twelve focus groups were put together to collect information on how their mental illness affected job performance. Their job areas varied, including health care, social services, education, manufacturing, engineering, retail, and service industries. In conducted interviews, workers reported that the symptoms from their mental health medication impaired work performance, which led to accidents and or mistakes. The respondents also claimed they were unprepared for how their medication would affect them. Because of these results, the article advocates for extra training and awareness practices in the workplace, in all fields. Haslam (2005) argues that mental health can affect the day-to-day tasks of the individual, leading to threats for a company's success.

### **Mental Health Stigma**

The Haslam article also mentioned the stigma depression and anxiety carry in society. Not to mention public perception plays a role in how those with mental illness cope. Because of this, any portrayal of mental health in all types of media must be done with care. That is to say, simply because someone may be dealing with mental illness, does not make them worth any less as a person. Wood (2014) defines stigma originally as a negative view which deeply discredits



and reduces a person from whole to tainted or discounted. Based on previously established research, Wood (2014) also notes that psychiatric diagnoses carry stigma, hence the negative public attitudes towards those with mental health problems. Relatedly in the Wood (2014) article, pre-established attitudes towards those dealing with mental illness are listed, including fear and exclusion, irresponsibility, lack of control, and benevolence. The study shown in the article aimed to compare how stigmatized psychiatric diagnoses are in different time periods and what factors continue to lead towards the stigma. By conducting interviews with participants through the Office of National Statistics, it was found that public stigma decreased from the years 1998 to 2008 but increased since 2003. Moreover, the factors somewhat resemble the previous ones shown. Them being negative stereotypes, patient blame, and their perceived inability to recover. As stated, this matters because it is important not to discriminate against those coping with personal challenges, especially when fellow citizens have the resources to help them manage. A portrayal of mental illness that insensitively reinforces the negative characteristics diagnosed people carry, can be harmful to those trying to cope because it would lower their self-esteem, and cause others to see them as less.

Technology and social media also play a big role in affecting those who are diagnosed. Primack (2021) examined an association between social media and depression. Participants were recruited to match the proportions of the characteristics the US Census possesses. The participants self-reported their social media usage, and their levels of depression were assessed by the “9-Item Patient Health Questionnaire” (Primack, 2021). Participants had a follow up assessment 6 months after establishing their baseline depression levels. The results showed that 9.1% of the participants not depressed during the first assessment developed depression for the follow up. There was a statistically significant linear association between social media usage and

depression levels. In other words, the more social media was used by the participants, the more likely they were to develop depressive symptoms. Though, no connection was made between relatively high depression levels and the increased use of social media. This study is significant because the COVID-19 pandemic has forced a large portion of the US to practice social distancing. Thus, social media usage was bound to rise, due to how it is meant to help people stay connected. While social media can do its intended job, it's also important to acknowledge the potential risk it carries.

### **Video Games as Interactive Educational Experiences**

The interactive aspect of video games has naturally begged the question of how they can be used as educational tools on a variety of subjects. According to Annetta (2008), in the year 2003 a movement known as *Serious Games*, made educators reconsider how they viewed instruction as a whole. Annetta (2008) lists a few examples of games developed brought by the movement, including Immune Attack, Food Force, and Discover Babylon. In addition, what was called the Net Generation at the time was believed to hold tons of potential for exploring, experimenting, and engaging with their environments to build knowledge. Through the listed games, the Net Generation was able to learn about different sicknesses and the immune system, nutrition, and ancient Mesopotamian societies through puzzles and exploration.

Annetta (2008) also discusses the idea of *play*. He lists media literacies which show certain activities and their development outcome. These activities include performance, multitasking, judgement, and simulation. Their outcomes allow people to learn skills specific to what they're doing. For example, if one were to engage with a judgement demanding activity, they would develop the ability to evaluate the reliability and credibility of different information sources. Under media literacies, *play* helps develop one's capacity to experiment with their own

surroundings as a form of problem-solving. Knowing that video games are inherently designed for the sake of *play* entertainment, they provide high amounts of potential for learning. What separates *play* from the other media literacies is their broadness in application as well. The following sections will show *Celeste* and *Hellblade* as examples of mental health education through *play*.

### **Video Games: *Celeste* and *Hellblade* Descriptions**

While mental health-oriented topics are not always easy to discuss due to the stigma, video games may be a format that allow it to be more approachable. Two particular video games that examine mental health are *Celeste* and *Hellblade*. The following section will discuss the content of the games thoroughly.

#### ***Celeste* Description**

First, *Celeste* is about a woman named Madeline attempting to climb a mountain, hoping to conquer her depression and anxiety. The game is a 2D platformer where players control Madeline through levels with dangerous jumps and threats that could harm her. During the climb, Madeline exhibits symptoms that make her progress stutter. It is up to the player to help Madeline manage her anxiety and reach the summit.

Now, while *Celeste* is about a heavy subject, the game aims to help players treat themselves more kindly. An article by Grayson (2018) shows how *Celeste* helps its players cope with mental health problems. In the article, Maddy Thorson, a key developer of the game, explains that they developed it to capture their personal experience with depression and anxiety. Thorson claims they learned to manage their mental health by realizing how awful they treated themselves. As a result, the game sends the message to players that they should not do the same as

Thorson did. A player reached out to Thorson on the matter, explaining that the idea of accepting one's ugly side was baffling to them, but ultimately helpful after spending time digesting *Celeste's* story. Lena Raine, who composed the music for *Celeste*, also adds that a player reached out to her, stating the game helped them choose to live at a time when they were suicidal. This article shows the powerful influence storytelling through video games can have.

Clark (2018) also published an article which discusses her personal experiences with the game. Going more in depth as to how the game affected her, she explains that she felt a kinship with the main character and how through the character "Badeline," which is Madeline's manifested negative emotions, Clark realized how she talked herself down often. Clark describes the joy she felt completing each chapter, as Madeline slowly learned coping techniques and made a friend. Madeline, never "defeating" her mental health problems, was an insightful message that taught Clark to accept herself. For these reasons, Clark notes the game's commercial success was not a surprise, selling more than half a million copies.

In another article, Hernandez (2020) shows that while the game can be difficult to complete, the developers want their players to push through. The article explains how *Celeste* is a notably challenging game for players to complete. However, in the article Thorson reveals many secret programming implementations that assist the player, helping them make fewer mistakes. This includes things like letting Madeline phase through walls to course correct from danger and allowing Madeline to execute jump techniques with less requirements. The significance of this article lies in how the developers acknowledge the difficulty of overcoming mental health issues, and wanted to create an experience that resembles that struggle. That being said, they only wish to make the player try their best, without being unreasonably difficult.

***Hellblade* Description**

In contrast to *Celeste's* tender story, *Hellblade: Senua's Sacrifice* attempts to show an extremely immersive, accurate, and realistic representation of mental health struggles. *Hellblade: Senua's Sacrifice* is about a woman named Senua who traverses through the remains of Norse mythology structures. She carries the head of her deceased lover so that she can bring him back to life, by taking him to the depths of Helheim. What makes her journey extremely difficult is that she's dealing with Psychosis, which makes her anxiously hallucinate demons and monsters trying to kill her. Players control Senua through puzzles, battles, and exploration. Their goal is to get Senua to complete the revival of her lover and help her survive on the way there.

In an article by Takahasi (2019), he discusses the credibility backing up the development of this game. He states that Ninja Theory received help from Wellcome Trust, a healthcare company in the UK that gave Ninja Theory a grant. Moreover, Ninja Theory sought the help of psychosis patients, who assisted in describing what living with voices in their heads was like. On top of this, Paul Fletcher, a professor of health neuroscience from Cambridge University, was a consultant during the development of *Hellblade*. Notably, the game utilizes 3D sound and vivid imagery to show players how psychosis can induce anxiety. Fletcher claims these design choices allowed psychosis patients to feel like their experiences were validated. This can be seen through a parent's letter addressed to Ninja Theory, which thanked them for preventing their son's suicide. Their son who felt his mental health struggles being acknowledged, decided to go to a hospital to ask for help after completing *Hellblade*. From this article, one can see how powerful the effects of *Hellblade* are, reminding us of the importance the medium channel carries.

In a more personal article, Favis (2019) lists the specifics of how the game resonated with her. She starts by drawing a parallel between herself and Senua. Favis explained that she dealt

with multiple chronic illnesses in her life, seeing them as a separate part of herself she wanted to reject, similar to Senua. Favis (2019) explains, “every time Senua respawns after death, she glances at her arm nervously to see how far along the growth [of her illness] is. I thought of all the nights I’ve spent googling bizarre symptoms and was reminded of the dread that certain chronic illnesses bring: You’re never getting better.” Additionally, and similar to Madeline, Senua chooses to stop fighting what is a part of her. Only after she accepts herself does she find peace with her circumstances and the death of her loved one. Finally, Favis claims she finished *Hellblade* feeling inspired by Senua’s drive to continue her journey elsewhere, despite her inner demons.

### **Intended Audiences**

Based on what has been discussed, *Celeste* and *Hellblade* were intended for audiences struggling with mental health, and others who wanted to understand the topic. *Celeste* intended to help those with depression and anxiety cope, while *Hellblade* intended to validate the experiences of diagnosed patients. The games were intended for people of all sexes, sexualities, and genders. Though, *Celeste* was intended for teenagers and up, while *Hellblade* was intended for adults only because of its’ violence. The games also encourage and invite a wide variety of people to try them, even if they do not usually play games. This can be inferred by their short length compared to the average game, and approachable story-driven formats.

## **Method**

### **Procedures**

This study utilized a content analysis to explore how games may affect players’ perception of mental illness. First, *Celeste* and *Hellblade* were selected along with depression

and anxiety as the communication concepts. Then depression and anxiety were defined through Dobson's definition, which refers to depression and anxiety as states of fear and perceived loss, leading to negative short-term and long-term physiological reactions. Coding was conducted with this information in mind.

When coding began, each instance of depression and anxiety were documented including the chapter, the length of the instance, and the identities of the people involved. The identity details included age, race and sex. The instances either involved characters openly discussing mental health (manifest/obvious) or events that showcased symptoms of depression and anxiety (latent/subtle), asking the player to assist the character in managing their emotions. Once the instance occurred, specific narrative details of the instances were also documented on the coding sheet.

### **Chapters Analyzed**

The main portion of *Celeste* is eight chapters long, with each chapter ranging from 1 to 2 hours, totaling 10-12 hours. There is alternate content that is possible to access through exploration, however no story or dialogue occurs in them, thus they do not contribute anything to this analysis.

Alternatively, *Hellblade* does not have chapters as it is one story that is played through from start to finish, but of course has checkpoints, so that it is not completed in one sitting. *Hellblade's* length ranges from 7 to 9 hours. Unlike *Celeste*, *Hellblade* does not possess alternative or extra content separate from the main game. The total playtime between *Celeste* and *Hellblade* added up to approximately 20 hours.

## Results

The following section presents the findings from the content analysis of *Celeste* and *Hellblade*. There were 47 total moments depicting depression and anxiety coded in examining 11 hours of *Celeste*. A large portion of the coded incidents in *Celeste* occurred due to Madeline's attempt to confront her mental health issues. A small but significant portion also occurred due to a side character named Mr. Oshiro, who struggled with depression himself. The results indicate that depression and anxiety in *Celeste* worked together to discourage Madeline from climbing the mountain, in order to avoid the challenges that came with it. However due to Madeline's determined nature, those concepts led to her personal encouragement to spur on as well. There were 13 moments of self-reflection coded, where Madeline would control her anxiety or verbally encourage herself to move forward. There were 11 reactions to emotional threats, in which Madeline or Mr. Oshiro would lash out at others who they perceived as threats to their egos. There were also 7 reactions to physical threats, where Madeline and other characters would panic at present danger. There were 9 coded incidents where Madeline openly discussed her depression and anxiety. Lastly, there were 7 documented moments in which one could see Madeline's symptoms of depression and anxiety show. This includes exhaustion and other physiological reactions to her environment.

For *Hellblade*, 55 incidents depicting depression and anxiety were coded in examining the 9 hours of content offered. The majority of the coded incidents in *Hellblade* happened due to Senua's struggle with psychosis. When depression or anxiety were noted in the frequency chart, the outcomes, while mostly negative, had the potential to help Senua. Anxiety appeared 16 times in the form of scared voices instructing Senua on how to approach an enemy or obstacle. Anxiety also appeared 16 times due to horrifying hallucinations that were too much for Senua to bear,



causing her to shake, flee, or lose consciousness. Both depression and anxiety appeared 10 times for miscellaneous reasons including spooking and stressing the player through sound and visuals, or Senua's rage. Lastly, depression was noted for self-deprecation 13 times. The self-deprecating voices from Senua would attempt to discourage her from continuing the harsh journey, similar to Madeline.

This summarization of findings from the coding sheets indicate that depression and anxiety are harmful and intense coping mechanisms, which ironically try to ensure one's personal well-being.

## **Discussion**

### **Micro Effects**

There are a variety of positive micro and macro media effects that *Celeste* and *Hellblade* may achieve through their uplifting stories and interactive nature. On the micro level, *Celeste* and *Hellblade* may affect the average player's cognition which could potentially lead to behavioral, affective, and physiological effects.

### **Cognitive Effects**

Cognitive effects are defined as "changes that occur within our thinking... e.g. learning, storing information, [and] identifying patterns" (Adams, 2020). An important commonality between *Celeste* and *Hellblade* is that the protagonists in both are in conflict with the depressed and anxious parts of themselves, but the games advocate that these parts are worth preserving or taking care of, not attacking or erasing. By portraying mental illness as a part of the self that needs to be accepted without hostility in order to find healthiness, players can take the same steps to help themselves overcome anxiety and depression. Additionally, *Celeste* and *Hellblade*

utilize the instructional media approach. This indicates that the creators of both games are trying to teach the players how to tackle their personal mental health issues while the players are not intending to do so. Regardless, players can take away many applicable lessons from *Celeste* and *Hellblade* including: controlling breathing to calm panic attacks, confiding in others for help, and accepting faced losses to move forward from them.

### **Behavioral Effects**

By laying a foundation for the mind to recognize self-harming patterns, players may undergo behavioral effects. In response to the media, these are defined as “the things we actually do... e.g., actions, [and] how we conduct ourselves” (Adams, 2020). These actions a person takes after consuming media need to be external and tangible in order to be categorized as behavioral. Thus, from the results section and sources discussing *Celeste* and *Hellblade*'s impact on their audience, it is likely that players may end up building healthy habits. Similar to Favis, Clark, and all the fans who thanked the developers of the games, players have the potential to be kinder to themselves by seeking professional help, exercising, having healthier diets, and doing whatever it takes to improve their quality of life. Additionally, players could mimic subtle behaviors resembling Madeline and Senua, such as the way they verbally attempt to coach themselves through dangerous obstacles.

### **Affective Effects**

*Celeste* and *Hellblade* may also cause affective effects for players. In response to the media, affective effects are defined as “[changes to] our emotions and moods... e.g., happy, sad, angry, afraid, surprised” (Adams, 2020). Emotions refer to varying levels of short-term feelings, usually directed at a known stimulus. Alternatively, moods are referred to as a feeling state, which are lower intensity and not directed at a stimulus. Moreover, affects vary by valence

(positive or negative) and intensity. *Celeste* and *Hellblade* may affect the emotions of players as they play through the games due to the turbulent and relatable nature of their stories.

Despite their similarities, *Celeste* and *Hellblade* could evoke completely different emotions in players. The content of *Celeste* may invoke sadness in a player, as they see Madeline berate herself and mope about each setback while climbing the mountain. Though, players may find happiness in seeing Madeline finally embrace her depression, leading to her reaching the summit of the mountain. Alternatively, *Hellblade* may invoke anxiety, fear, and anger in the players. This is due to the stress of the game sending waves of dangerous enemies towards the player and claiming that after eight deaths (failure to take the enemies out), the player would lose all of their progress. The ending of *Hellblade* however, may leave the players feeling happy due to Senua's ability to let go of her taxing quest. To top it off, based on the behavioral effects listed before, the games may affect the players' moods over longer periods of time. Learning to live a healthier lifestyle has the potential to make the players happier in the long run.

### **Physiological Effects**

Lastly, since video games are interactive and players are the ones controlling Madeline and Senua through their struggles, physiological effects must be noted as well. In response to the media, physiological effects are defined as "changes within our bodily systems... within (inside) the human body... e.g., heart rate, blood pressure, breathing, tension..." (Adams, 2020). The significance of this effect from *Hellblade* comes from the 3D audio technology implemented in the game. As the player controls Senua, they can hear the voices she hears from varying distances. This was done in order to show the player what experiencing psychosis is like. The discomfort from the audio and violent imagery may lead to automatic responses such as an accelerated heart-rate, sweat, and blinking. To add on, *Hellblade* conditions the player to make

sure all the enemies around them are dead before moving on. But the ending can not be reached unless the player realizes they need to stop fighting, which ultimately demands a quasi-automatic response. Although *Celeste* has less potential to instill physiological responses in the player, it is still capable. This is due to how challenging the game can be to complete. Threats to Madeline become threats to the player, which can also lead to similar physiological reactions *Hellblade* brings out.

### **Social Cognitive Theory**

Based on the micro effects and content of the games, Social Cognitive Learning Theory is the most logical theory to discuss next. Social Cognitive Theory created by Albert Bandura claims that “people learn behaviors from observing others” (Adams, 2020). The concept functions in three phases. First a person watches someone else engage in a behavior, then the same person retains the behavior, and finally the person does the behavior if they perceive it as rewarding.

In the case of *Celeste* and *Hellblade*, players witness Madeline and Senua rejecting their diagnosable states for a large portion of the story, which is met with negative consequences. In the final acts however, they both learn to accept their diagnosable states which in turn rewards them both. Whether or not players would actually mimic their behavior depends on three key factors, which are vicarious reinforcement, identification, and self-efficacy. Vicarious reinforcement in this case is a matter of how the player perceives the level of punishment and reward for behaviors Madeline and Senua commit to. Identification is about the player’s personal connection to the media characters. So, the more players like Madeline and Senua, the more likely they will learn from them. Lastly, self-efficacy is the degree to which a person believes they can actually do certain behaviors. For example, Madeline’s unique breathing technique to

calm herself is easily doable by players who might deal with anxiety themselves. But it is highly unlikely that players would drop the heads of their deceased loved one off a tower, as Senua does. Because the games were intended for a depressed and anxious audience, the developers hoped that through Madeline and Senua, players could learn new ways to help themselves.

### **Real World Connection**

As of March 16, 2021, COVID-19 has taken three million lives around the world. According to an article by Think Global Health, COVID-19 was the fourth leading cause of death which is significant because the causes of death ranking above are due to natural causes. Dobson's definition of depression and anxiety mentions the importance of loss and threat of loss. Knowing that a daunting number of people were lost over the course of 2020, it is clear that many loved ones were negatively affected. The circumstances of the pandemic could have very easily instilled depression and anxiety in people who may have never dealt with it otherwise. With unemployment numbers having risen, social distancing practices forcing isolation, and the threat of a potentially fatal virus lurking in a variety of countries, it can be tough to handle.

Because of the state of the world, games like *Celeste* and *Hellblade* matter. In an unprecedented time where the future is hazy, the least people could do is be nice to themselves. The truth is that everyone can utilize the skills Madeline and Senua possess. The games can not only help people get out of a dark place by entertaining the player, but give them the tools they need to keep themselves emotionally content. Content meaning complete, as being happy all the time is nearly impossible. Through these games, people can realize their true potential and make their contribution to society, whether it is through a job, taking care of family, or creating content for others. Depression and anxiety can lead to self-doubt and low energy, which may also lead to undesired consequences on themselves and their loved ones. After all, job interviews would be

an arduous task for someone dealing with mental health problems. Overall, it is understandable and okay to be in that state due to the difficulties of life. However, the unpleasantness brought by being diagnosed do not make the stasis of it worthwhile. Madeline and Senua serve as examples of people who want to move past their barriers. *Celeste* and *Hellblade* have a strong place in the gaming industry and deserve the credit for utilizing video games as a way to tell a story and teach.

As previously mentioned, the global pandemic has negatively affected many lives through loss of loved ones, jobs, and purpose. According to Panchal (2021), “about 4 in 10 adults in the U.S. have reported symptoms of anxiety or depressive disorder, a share that has been largely consistent, up from 1 in 10 adults who reported these symptoms from January to June 2019.” This shows a significant increase in mental health problems for the country. The article then lists causes including loss of income insecurity, essential worker challenges, sleep disruptions, work from home challenges, and general stress. During a time where mental health is crucial for society to run smoothly, *Celeste* and *Hellblade* become all the more welcome pieces of art. The two video games show how powerful the media is as a whole. After all, without the development and release of *Celeste* and *Hellblade*, there is no telling where those who played the games while depressed and anxious may be, in the present.

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