



Final mark awarded: _____

FACULTY OF CREATIVE INDUSTRIES

Assessment Cover Sheet 2015/16 for students on USW courses.

Module Code: AA3S04	Module Title: Critical Research: Animation	Module Lecturer: Brian Fagence
Assessment Title and Tasks: Dissertation		Assessment No. 1 of 1
No. of pages submitted in total including this page: 21		Word Count of submission (if applicable): 5124
Date Set: 30.09.15	Submission Date: 11.01.16 by 4pm	Return Date: 08.02.16

Part A: Record of Submission (to be completed by Student)

Extenuating Circumstances

If there are any exceptional circumstances that may have affected your ability to undertake or submit this assignment, make sure you contact the Advice Centre on your campus prior to your submission deadline.

Fit to sit policy:

The University operates a fit to sit policy whereby you, in submitting or presenting yourself for an assessment, are declaring that you are fit to sit the assessment. You cannot subsequently claim that your performance in this assessment was affected by extenuating factors.

Plagiarism and Unfair Practice Declaration:

By submitting this assessment, you declare that it is your own work and that the sources of information and material you have used (including the internet) have been fully identified and properly acknowledged as required¹. Additionally, the work presented has not been submitted for any other assessment. You also understand that the Faculty reserves the right to investigate allegations of plagiarism or unfair practice which, if proven, could result in a fail in this assessment and may affect your progress.

Details of Submission:

Note that all work handed in after the submission date and within 5 working days will be capped at 40%². No marks will be awarded if the assessment is submitted after the late submission date unless extenuating circumstances are applied for and accepted (Advice Centre to be consulted).

You are required to acknowledge that you have read the above statements by writing your student number (s) in the box:

Student Number(s):

13028596

**IT IS YOUR RESPONSIBILITY TO KEEP A RECORD OF ALL WORK
SUBMITTED**

¹ University Academic Integrity Regulations

² Information on exclusions to this rule is available from Campus Advice Centres

Part B: Marking and Assessment
(to be completed by Module Lecturer)

Assessment Task

To provide students with an opportunity to research animation, computer animation or game art, delivering the findings in a Dissertation.

The submitted dissertation should be 5500 words +/- 10% presented in the recognised University format, featuring the following structure:

- i. **Abstract** – concise explanation of what the study set out to achieve, how this was achieved, and the main findings and conclusions;
- ii. **Introduction** – clearly defining the area of research, setting out your objectives and how the main issues will be discussed within and across the study;
- iii. **Literature Review** – featuring a critical summary of the knowledge and understanding of your chosen subject of study, with clear evidence of appropriate research and a variety and depth of research sources;
- iv. **Methodology** – stating how the research was conducted and how the subject was investigated appropriately;
- v. **Discussion** – illustrating a clear and logical structure, central, logical argument and critical evaluation;
- vi. **Conclusion** – stating a summary of your dissertation, your firm conclusions, and what further work may be developed from this study;
- vii. **Reference & Bibliography** section – quotes and other sources you have used for the proposal.

Learning Outcomes (as specified in the validated module descriptor)

1	Make an informed choice of appropriate subject for extended study.
2	Undertake and successfully complete a variety of research tasks related to a sustained enquiry in an appropriate subject for extended study.
3	Present an extended document in an appropriate academic format, which successfully illustrates a coherent account of the research undertaken and the concluding results.

Grading Criteria

The dissertation is weighted at 100% of the module. The Assessment will evaluate your: Abstract, Introduction, Literature Review, Methodology, Discussion, Conclusion and References. Across the criteria the following Objectives will be taken into consideration: Quality of **Research**, Critical **Analysis** and synthesis of information, **Structure**, and **Presentation** format.

Computer Games Enterprise

AA3S04 Critical Research: Animation

Brian Fagence

Video Games: Can they be a positive or a negative tool for people suffering with PTSD and ADHD?

Christopher Legg

11th January 2016

Word count: 5124

ABSTRACT

This paper explains what PTSD and ADHD is, how it effects people and how video games could either be a help or be a burden to their lifestyle. Video game violence could result in bad behaviour but could it also work as a treatment? More in-depth exploration into how violent video games could help with stress relief and possibly post-traumatic stress disorder (PTSD). Could it act as a cure or a curse for people suffering with mental illness? Through surveys, interviews, video references and other written articles, this paper portrays peoples' in-sites and discussions relating to video games and how they affect people with mental health issues in either a positive or negative way. A look into mental illness within video games will also be researched to see if designers have created characters that players who suffer with mental illness can relate to.

INTRODUCTION

Mental illness affects so many people in so many ways that medical practitioners are still undergoing practical research to find different methods of treatment to help control or even cure these issues. There are many different types of mental illness, such as ADHD and PTSD, which have no cure, only ways to help bring some form of control which is still limited and every case is different. This paper will help look into ways that video games can help with mental health; specifically ADHD and PTSD, as a tool to stabilise or even cure the issue. These issues seem more common in modern day society yet a cure is to be found, so looking into ways of helping this is something that needs attention. The purpose of this paper is to research different experiment's that have been used with video games to see what results have been gathered and if any progress has been made with technology to help combat these issues.

By looking into these two illnesses, there is hope that some research may include theories in how to help battle these conflictions and stabilise the brain, helping the person to live a normal life without the need of medical tension. Using research from online sources, interviews, videos and questionnaires, the findings could help show awareness of these issues and what has been documented so far. One problem that may arise is the lack of information recorded from research as this topic seems to be current and fresh because even though mental health is something that has been researched and recorded for a very long time, the gaming world is still young and only recently becoming more popular with society, overtaking music and films in revenue and size. With new technology and style of games being developed, character profiling has become something more with detailed character designs that portray more human emotions and able to identify more human characteristics making it easier for players to relate to, which makes researching games that have characters with PTSD will help show that designers are focusing more on realism than fantasy.

LITERATURE SURVEY

This paper is written with research from organised surveys and individual interviews with people affected by ADHD and PTSD and literature found online and through the university library. This review will begin by explaining what PTSD (Post-traumatic stress disorder) and ADHD (Attention deficit hyperactivity disorder) is and how it effects people by using detailed articles written up on the National Health Service website, NHS (2014, 2015) which goes into detail about what the symptoms are for each condition, what can cause the condition to appear (normally first noticeable at the age of 6-10) ways to diagnose the conditions, what forms of meditational treatment is available and what generally happens to the person who has to live with it. This is also backed up by the Nebraska Department of veterans' affairs (2007) that explain through research about the symptoms, re-experiencing symptoms and how common it is. PTSD is caused by different experiences that cause the person to have anxiety issues but some studies show that games can help, like in the United States; Tanya Lewis (2014) explains methods of using Virtual Reality Tech to help soldiers returning with PTSD.

Video Game violence has been blamed by some over the years for affecting people's behaviours, argued that there are links between violent games and aggressive behaviour, the Independent published an article by Radowitz (2015) who supports this theory yet this may not be the case as others have a different theory, like the Telegraph online article by Bingham (2015) suggests that a recent study finds no evidence violent games make children aggressive. This is also backed up by Makuch (2014) who had also reported on popular gaming website that study finds that violent video games don't lead to increases in violent crimes.

Video games come in many genres; violent games seem to be the most popular with sales records, such as the recent release of Fallout 4 (2015) showing disturbing behaviour is a dystopian future after a nuclear holocaust leaves the world in ruins, causing survivors to turn barbaric or living with the sense of dread. This genre and world setting may be thought too

much for people with ADHD and PTSD, whereas Hamilton (2011) states that studies have shown that playing video games may actually be beneficial.

METHODOLOGY

For this study a primary research method a survey was undertaken as administering specific questions devised about the relationship between video game violence and mental health. The survey was tailored towards violence in video games and is the video game industry being a positive or negative impact on mental health issues, specifically PTSD and ADHD; designed to aim specifically at the right group of people to gather the best information. The survey was tailored towards individual people of all ages and sex asking simple questions about violence in video games and if they have any understanding of mental health issues. This research technique was undertaken and moderated by myself and all findings were critically analysed and categorised to show results that put across the argument from all people who have given positive or negative results. The survey was constructed using Survey Monkey and the link for greater accessibility and distribution was distributed via social media, such as *Twitter* and *Facebook*. Due to time restrictions, 33 respondents were required and the survey was then shut off. I have also interviewed two people, one who suffers with ADHD and the other with PTSD. During the interviews I asked simple questions relating to what their illness is, how it affects them and finished with how they react with games, do they help with anxiety issues or make things worse.

The survey consists of eight questions regarding people's thoughts on violent video games and mental health issues, specifically ADHD and PTSD. Listed below is the list of questions with a brief description for each one;

1. **Do you like to play violent action video games?** This question was to find out how many people actually play violent games or prefer a casual genre.
2. **Do you own any violent video games? If so, how many?** This question was to find out how many people actually own violent games to help get an estimate of what is more popular.
3. **Do you find playing casual games more relaxing / stress free than violent games?**
Violent games can be frustrating to some, but relaxing to others, this helps determine how many get more stressed or relaxed when playing a violent game.
4. **Do you feel that video game violence has a strong effect on people's personalities, causing them to be violent themselves?** To find out how many people genuinely feel about violent games affect peoples' behaviour.
5. **Do you think people with mental illness should play video games? (of any genre)**
This question was to get feedback on the participants' reaction to people with mental illness and playing games.
6. **Do you understand (without asking) what PTSD and ADHD is and how it effects people's lives on a daily basis?** People tend to think they know everything when in reality they don't. This question will help show how many people think they know the effects of the two illnesses stated and how many are unsure.
7. **Do you or any one you know, suffer with PTSD and / or ADHD?** This question follows up with the previous by asking how many people know or have one of the conditions.
8. **Do you think violent video games could be used for helping people with mental illness as part of their therapy?** To finish off, this question asks about peoples' opinions' on video games and if there is any reason why therapy could or could not include video games.

Secondary research has ranged from reading through articles published online from game studios, the BBC who have theorised with Horizon, a program based on finding out unbiased views from issues relating to the public. Horizon has also produced a video on the BBC website which contains much of their research on violence and video games, which helps explain some of their questions. Further documentation I have read through online is research papers documenting theories similar to this paper which have raised similar questions about mental health issues and video games. Some articles are related specifically for violent video games and the armed forces where soldiers who suffer with Post-traumatic stress disorder which is obtained through stress, horror and facing life and death situations in combat.

DISCUSSION FINDINGS ANALYSIS

Mental health has been a subject that covers many health issues within society which in modern times has become more publicly aware of how people are affected and how we can identify the symptoms at a much earlier stage. Two common mental health issues are PTSD (Post-traumatic stress disorder) and ADHD (Attention deficit hyperactivity disorder) which affect people differently in their everyday living. According to the website NHS (2014) “the symptoms of attention deficit hyperactivity disorder (ADHD) can be categorised into two sets of behavioural problems”, the first being Inattentiveness and the second hyperactivity and impulsiveness. Most people who suffer with ADHD can fall into both categories but people who suffer with only attention deficit disorder (ADD) may only fall with inattentiveness and not hyperactivity and impulsiveness which can be less obvious with symptoms. As shown on the NHS website, signs of Inattentiveness can be easily distracted, careless mistakes, losing possessions and appearing forgetful, any issue that is time consuming or seeming tedious would be hard to finish, attention to carrying out instructions can be a challenge, not being able to organise ones’ self and not being able to stick to one task. The symptoms also stated for hyperactivity and impulsiveness aims towards the more physical symptoms, such as being unable to be calm and staying still in quiet surroundings, fidgeting, losing concentration on

the task at hand, excessive movement and talking, acting without thinking, being rude towards people who are in a conversation but interrupting and having no sense of danger. Having any of these symptoms can be an issue to any one, especially children because either category can create issues relating to education, underachieving within their studies, poor social interaction can also lead to lifelong difficulties if not treated at an early stage. Having problems with disciplinary, they can struggle with behaving positively towards other people which can lead to issues later in life if untreated at an early stage.

To help gain a deeper understanding with the issues of ADHD and how people suffer day to day with the illness, I held an interview in person with an Animation Student from the University of South Wales, who suffers with ADHD. *Interviewee* (2015) is studying Animation for video games in his third year in Cardiff stated that video games have always been a positive part of coping with it. Being only 21, he has suffered with ADHD since he was young, being diagnosed at the age of 5, he still has issues with concentration, anxiety, overthinking and being hyperactive, even when he takes his medication. Stating the medication has been a much needed addition to controlling these issues, they do not always work as effectively when symptoms' can get severe. Being a gamer of many genres, he stated first person shooters have always been the one genre that helps him relax but this depends on his mood. With mental health effecting peoples current state of mind, some people find them self in complete serenity yet other times, feeling unbalanced and frustrated. He explained to me that first person shooters was always good for anger management, being able to take his stress out on fictional characters within the computer game rather than someone or something within proximity. Mojang (2009) popular and award winning game Minecraft was also a game of pleasure but one he felt helped take his mind away, taking his mind out of reality and immersion into a world of fantasy, helped escape real life issues, worries and problems involving bad temper. Minecraft helps focus the brain into construction, designing and building anything within a landscape that can take a long time to complete.

PTSD is classed as an anxiety disorder which is caused by very frightening, stressful or even distressing events that takes place in some one's life. Life events can change a person, different causes as stated on the website by the NHS (2015) "PTSD can develop immediately after someone experiences a disturbing event or it can occur weeks, months or even years later". Different events can cause PTSD, such as serious road accidents, violent sexual abuse, violence or severe neglect, personal assaults such as sexual, mugging or robbery, witnessing violent deaths including military combat, being held hostage, terrorist attacks and natural disasters. Although some of these happen often in current times, especially terrorism and military combat, the NHS also states "PTSD is estimated to affect about 1 in every 3 people who have traumatic experience, but is not clear exactly why some people develop the conditions and others don't".

Many action video games consist of violence, from recreating historic battles such as the Allied invasion of Normandy in northern France during World War 2 in the first person shooter Medal of Honor: Allied Assault (2002), to also creating more realistic but fictional setting in real world locations, such as Call of Duty: Modern Warfare 3 (2011) where the player is immersed within a combat scenario fighting a Russian invasion on the lawns of the White House in Washington DC, USA. Even though these two games are military based and set in different time periods and realities, both can have an effect on imaginations or even memories to servicemen or any person who has seen combat and other extreme forms of violence. Having violence heavily placed within these games, one could feel that disturbing scenes of violence would not be recommended for players who suffer with PTSD due to memory relapsing of a horrific event that caused their mental illness.

This however has been a study undertaken by leading psychologist Skip Rizzo at the University of Southern California's Institute for Creative Technologies which is backed by the United States Office of Naval Research, working with United States Military veterans

who suffer with PTSD. According to the United States Air Force (2014) approximately 28 percent of United States soldiers returning from Iraq are diagnosed with clinical distress. The research aims to use virtual reality to place the soldier within a world that consists of similar attributes that imitate traumatic situations. Rizzo stated in Lewis (2014) article that the virtual reality format may appeal to the generation of service members who have grown up with the digital world, and feel comfortable with it. By having a wireless virtual reality program, it's more convenient for veterans to use. The virtual reality tests first stage was called "Virtual Iraq" and "Virtual Afghanistan", two programs created within the Xbox game Full Spectrum Warrior (2004). This helped during the creation phase as the game features a variety of combat situations, ability to change the weather conditions, set the time of day and change the players realistic wounding from combat. Lewis (2014) also states that medical experts could insert "trigger stimuli" to mimic the original traumatic experience. The research went on to develop a new virtual reality program called "Bravemind". This was built on the research feedback accumulated from the first set of tests and this time they had expanded with extra features. Rizzo had also stated the tests of the early version have been positive and the standard exposure-therapy approach involved 20 military members. The results showed 16 participant's had showed improvement in their PTSD symptoms, yet 4 sadly had made no progress. The virtual reality game had created positive results, furthering their research to trying the experiment on soldiers before they leave for combat. By placing them in a provocative environment, it could help prepare the individual to stressful scenarios that they will face during combat.

In modern day society, mental health issues are more open to the public where people have a clearer understanding about the different types of mental health. After launching a survey online using *SurveyMonkey* (2015) I had a reply of only 33 people participating which asks the question, do people find it difficult to talk about mental health issues? The survey began with simple questions relating to video game violence, where 63.64% said yes and 36.36% said no. Out of 33 participants', only nine out of thirty-three said they do not like violent

games and own zero amount. After asking how many people find casual games more relaxing than violent games, again only nine people said yes to casual rather than violent genres.

Twenty one people stated that casual games are only a choice depending on mood. Only one person found casual games boring and two people will only play casual games. As the survey progressed further, the questions began to aim towards personalities and what relationship mental health has with video games. Out of thirty-three people, twenty-one feel that video game violence does not have a strong effect with peoples' personalities. The last remaining twelve was split, half feel violent games have a bad influence and the other are unsure.

With mental health being made more aware of, the survey shows with some questions how society is split on thought with games and mental health issues. When asked if people with mental health issues should play video games of any genre, 48.48% stated 'yes what harm is there'. The results also showed that 15.15% said, 'no it can't be good for them' yet 36.36% stated 'they're unsure'. The last two questions did help show that people are more aware of mental health issues, such as ADHD and PTSD and that half stated they know someone who has either one yet sixteen out of thirty-three stated they know no one who suffers with it. This could then point out that people may think they know much about mental health issues, but with 48.48% of them stating they know no one with mental health issues, is their responses valid? When asked about video games being used as a source of therapy, 42.42% stated they're unsure where as 33.33% are saying no, it shouldn't be used. Now this is interesting because the response from the general public shows that they think video games would not benefit people with mental health issues, yet a scientific study based in California, USA shows that by using video games as a source or therapy is actually having a positive effect on helping people with mental health issues.

As mental health is more commonly accepted in society game developers have taking a step into creating characters that people can relate to or at least have an understanding when it comes to suffering with PTSD. As Chiodini (2015) explains in his online Youtube video with Eurogamer, many characters can be suffering from mental health issues especially PTSD due

to the nature of modern games being more violent or at least suffering from loss of another character within that world. Even though the designers aimed to have the character show signs of mental change, games are superficial with PTSD because most games have a villain that causes the dramatic events but nothing more. As stated by Timothy J (2015) “Sadly, games use PTSD as short-hand to fill in character backstory or motivations and sometimes are pretty lazy about it”. Now there are some exceptions to this comment, for instance Visceral Games (2008) had created a new horror franchise called Dead Space which focuses on the character Isaac Clark who, in search of his girlfriend comes across a space craft infested with Necromorphs, human corpses that reanimate into monstrous creatures. After going through hell to find out his girlfriend has died and the horror of seeing so much death had created the illusion she was still alive. In the sequel, created by Visceral Games (2011) you return as Isaac Clark yet the designers have created the character to show more depth of PTSD. The opening cinematic and gameplay takes place on board a station where Isaac is placed in a room, in a strait jacket and talking to a doctor about the horrors he faced on the sequels predecessor. As the interview takes place, he begins to hallucinate by seeing his dead girlfriend talk to him and turn into one of the monsters. This communicates to the player that Isaac has indeed suffered a mental breakdown suffers with PTSD. But again, this was created by using science fiction as the main cause was seeing the horrors of a crew turned alien Necromorphs, brutally murdering any one they come across. Knowing that the Necromorphs were created by the Red Marker, an object created by a government to test its effects on people, makes Isaac a target and once again he finds himself being overrun by the creatures. Designers have taken other stories and played with its character and world settings to show mental effects from being effected by traumatic events, Spicy Horse (2011) had taken Lewis Carroll’s novel of Alice in Wonderland, a story of a young girl who chases after a rabbit and ends up in a Wonderland, a fantasy world where things are abnormal and creating a game based as a sequel, where in reality the effects of what happened placed Alice with PTSD which shows throughout the game as strange things begin to happen and this time, it’s more violent, sending Alice down a hole into deep madness. Her character starts off in in an

Asylum after feeling guilty for being the sole survivor of a fire that killed off her parents and sister. As the game basically takes place one year after her release, she resides at an orphanage in 1875 London, still having hallucinations of wonderland even though she is under the care of Doctor Angus Bumby. The player is shown how her PTSD state places her in and out of reality, moving back and forth from London and Wonderland, working out what's causing the corruption in Wonderland whilst finding the truth behind her families' death. By mixing the two together, it's showing how Alice is fighting her inner demons and trying to bring all the issues from the past to rest.

Developers have also gone down the road towards games that people can relate to, for example Yager and Darkside Games (2012) created a game based on modern warfare that takes place in an alternate reality where Dubai in the United Arab Emirates (UAE) had the worst of any recorded sandstorm that covered the city, issuing a full evacuation of the city. With many of its citizens stuck in the city with its wealthiest and government being evacuated before, leaving them to their fates has made security controls hard to handle. The game sets up a fictional character called Colonel John Konard, a decorated commander of a fictional unit called Damned 33rd infantry, suffers with post-traumatic stress disorder who was on his way back from Afghanistan with his infantry got caught in the sandstorm and began helping with relief efforts but eventually deserted with the entire unit when they were ordered to abandon the city of refugees. The player then starts as Captain Martin Walker who is ordered along with two other characters to confirm the status of the refugees and Konrad. As the game progresses, there is a turning point or more of a breaking point with the characters state of mind when they launch a white phosphorus attack on what you believe is to be a large group of terrorists rounding up the refugees. It turns out to be US Marines helping the civilians and preparing evacuation. The game propels the player into a world of chaos that makes the player feel guilty for what happened. The way dialogue changes through progressions shows how Captain Walker's state of mind is changing from all the traumatic experiences witnessed within the game and also past missions that is explained throughout

convocation's with other characters. With the games finale conclusion, it shows that Konrad was dead all along, the player who witnessed communications with him through radio and through action sequences come to realise that Walker had a strong case of PTSD along with other mental health issues and that all the actions he had taken were down to his mind playing tricks, resulting in the deaths of many innocent people.

Even though the ending to the game went a little too farfetched, a world of fantasy than realism, it still shows how military characters who witness death and destruction can cause the mind to lose itself, even strong cases where they cannot tell the difference between reality and hallucinations.

CONCLUSION

As mental health issues are somewhat a common thing with modern day society, the battle to overcome its seriousness is still raging on. With people suffering mental problems such as ADHD and PTSD, medical practice is still a high priority in solving these issues within the medical world. As ADHD and PTSD are easier to recognise with today's methods of examinations, it's still a process that some people do not get enough help from. ADHD is more commonly recognised when younger and with medical help, it can keep the problem checked, yet medicine is not a cure. Video games seem to be a new form of therapy as they can help the individual relax, focus and be distracted from current issues by immersing themselves into a fictional world, such as Minecraft where they're able to focus on mining landscapes and constructing different structures of their choosing which can take time and concentration whilst having a lot of fun. By asking someone who has ADHD, they acknowledged that video games do have a benefit when they're feeling low, anxiety kicks in or much stress builds up that they need something to focus that energy on.

PTSD however is a different mental illness that can be diagnosed at any age, mainly through witnessing something traumatic, for example a soldier in war. With the help of virtual reality and video games, scenarios have been recreated within an engine and with a substantial

amount of work making the event be as realistic to what happened in reality, soldiers have been tested on to see if it VR can be a tool to help suppress the illness and help them overcome its conflict on them. By reliving events that gave them the illness, VR has proving to be a positive effect and a high percentage of soldiers feel better off after the trials. As this is a new idea for treatment, studies are still taken place and are still looking for a 100% cure but scientists realise now that they're on the right track.

Even though the general public are more aware about issues with mental health, research through using a questionnaire still promotes the theory that mental health issues are still not fully comprehended by the public and people generalise on this subject rather than researching the facts from professionals such as the NHS. With this also brought a divide in how people think and feel when it comes to relationship between mental health and video games. The questionnaire was completed by random people of all ages and both sexes to help give a more random feedback than a one sided response. A large majority did say they felt video games are not good for mental health, yet the professional researches studying mental health and using video games have proven that games in either virtual reality or just general game play prove to be a valuable asset and will continue to further their research with these techniques.

With video games advancing into more articulate and strong story settings, designers have been looking into more character depth, creating characters who suffer with some form of mental illness, mainly post-traumatic stress disorder because this illness helps relate more to games with villains that cause chaos and misery. Through using this theory, some games like Spec Ops: The Line and Dead Space have been created through the loss of people and causing stressful trauma that people can relate to, yet sadly still have yet to come up with something that is less fictional due to only touching the characters mental state on the surface and making the cause of it to be too unrealistic. So even though they aim it at people who either suffer with mental illness or try to give the illness a meaning to the game, it doesn't always work. This however seems to be a growing trend with horror and action games where the effects of the game have been diagnosed further with sequels, like Dead Space 2.

This was a tough paper to write due to the lack of written theories and research behind video games and mental illness, even though it's a hot topic online there is yet a small amount of evidence that quality, professional research has been documented, rather than speculated by news articles and professional gamers.

Further studies can be to research deeper into the medical examinations of the brain when dealing with PTSD and ADHD, to see what areas of the brain are related to the issues and if any medical procedures have been used physically during surgery to help with mental illness. To also look into studios and see how they research the mental health of people when creating characters that have deep emotional problems and what methods they use to help create characters with illnesses that people can relate to. Do studios help create software for researching different mental illnesses for medical research staff and if so, what is it they create, how do they go about it and why?

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