

The Effectiveness of Video Games to Reduce Depression Symptoms in Adolescents

Kevin DeAmicis

Keene State College

PH-494: Public Health Capstone

Dr. Amanda Hickey

4/28/22

Introduction

The purpose of this paper is to analyze the effectiveness of video games as an aid to intervention for depression symptoms in adolescents. This paper will include statistics from assorted studies that will demonstrate how video games could be used to help reduce the symptoms of depression. According to the National Institutes of Health “An estimated 4.1 million adolescents in the United States had at least one major depressive episode” (U.S. Department of Health and Human Services). The paper will have the following sections included within it, background knowledge, current research, multiple perspectives, conclusions, and a reference page.

Background

This section will focus on the background knowledge of depression divided into the following sections: definition, prevalence, risk factors, research prior to 2010, and how past research shaped current knowledge.

Definition

Definition

The Diagnostic and Statistical manual of Mental Disorders also known as the DSM-5 defines depression as having the following symptoms lasting at least two weeks and having it affect your level of function. The symptoms of depression are having a depressed mood, loss of interest in activities enjoyed, difficulty sleeping and in making decision, increased fatigue, increased purposeless physical activity, and thoughts of suicide. Purposeless physical activity is defined as inability to sit still, pacing, and handwringing.

Overview

Prevalence

The prevalence of depression was 4.1 million adolescents in the US in 2020 affecting about 17% of the US adolescent's population. There was a higher prevalence rate in females at 25.2% compared to males 9.2%; there is also a higher prevalence rate in those who identify as two or more races with 29.9% (U.S. Department of Health and Human Services).

Risk Factors

Depression has many risk factors, and it can impact anyone even those in great physical health. The risk factors can be categorized into two main categories environmental factors and genetics. The environment in which a person lives in can increase the risk of depression constant exposure to violence, neglect, abuse, or poverty these stresses along with major life changes are the some of the biggest risk factors. Genetics also plays a significant role in one likelihood of developing depression with family history, as a co-morbidity to other diseases, and biochemistry of the brain being factors that can increase the likelihood of developing depression. Depression often is also be found as a co-morbidity to many other serious diseases such as diabetes, cancer, heart disease, and Parkinson's disease just to name a few (Torres). Depression also has a strong relationship to family history with it running in the family so strongly up to a 70% chance of developing it at least once in your life (Torres).

Past Research

Key Findings

One study from Iowa State University in 2006 looked at how casual video games could be used to improve mood and/or decrease stress. The study had a population of 143 participants that were both male and female with an average age of 24 years old. The data was gathered by tracking Heart Rate Variability via a photoplethysmography (PPG) while the participants played a game (Russoniello, Carmen & O'Brien, Kevin & Parks, J.M., 2009). The results of the study were that depending on the game it fired various parts of the brain more frequently with improvements to mood and depression regardless of the game played, the paper goes on to mention the need to research whether these could assist those with Alzheimer's and various other dementia type disorders. This study highlights the connection between video games and people's mental health with how it can be used to improve people's mental well-being.

Research Themes

A major theme that appeared was the pervasiveness of video games throughout the overall population in the United States. This theme is a reason for the need to pursue further research into how it can be incorporated into treatment of various mental health disorders. Another major theme was how these studies often had small populations for its participants or they were focused on analyzing previous studies. This is a serious problem when it comes to the acceptance of these studies results as the larger the population of participants the less likely it is to skew results and have outliers however, with how pervasive the use of video games is within the general population more research in the future could be used with larger populations to verify the effectiveness of these smaller studies.

Critique of Past research

Past research on the use of video games has begun to finally shape how we can treat various mental health disorders with non-pharmacological treatments and making use of stuff within people's life.

Current Research

This section will investigate the current research of depression treatments using video games. The two major research themes that emerged from the studies which were the broad range of benefits and the need for more research into how video games could be an alternative to traditional treatments for depression in adolescents. These studies have built upon the past research with there being larger population pools and more genres of video games being explored to be used to treat other mental health issues such as ADHD/ADD.

Research Themes

The first theme to emerge was the wide range of benefits video games can provide for treating various mental health issues ranging from depression and anxiety to ADHD and ADD. The benefits provided changed based on the study, these all showed that video games whether commercial or one created specifically for a treatment provided some form of benefit for mental health. The genre of the video game played a crucial role regarding what benefits were gain with RPG games. For example, providing benefits for prosocial behaviors and decreased loneliness along with goal achievement (Kowal et al.).

The second theme was on how each paper concluded the need for research into the possibility of video games being an alternative treatment for mental health. One study went as far as to promote the viability of commercial video games as being just as effective as video games made for specific treatment.

Key Findings

The study's key finding was focused on the benefits different genres of commercial video games offered. Commercial video games were defined as video games sold to the public games such as Bookworms, Mario Kart, Portal 2, etc. while the paper also focused on some broader genre games as well such as action video games (AVG) and role-playing games (RPG) (Kowal et al.). The study found that video games apply so many benefits that help with many types of mental health issues ranging from cognition, prosocial behaviors to emotion regulation and anxiety prevention depending on which genre of game was played. Another key finding was through a systematic review of twenty studies found that eighteen of the twenty-two reported an acquisition of the knowledge from the games being applied in their daily lives (Zayeni et al.). These studies looked at children with other various mental health issues such as ADHD/ADD, Autism Spectrum and Dyslexia as well but did include those with anxiety a core symptom of depression (Zayeni et al.).

To summarize current research has found a multitude of ways video games could be incorporated into treatments not only for depression but also other mental health disorders with a plethora of positive outcomes that can be customized to treat specific symptoms.

Multiple Perspectives Sections

This section will feature a different perspective on the usage and outlooks of this treatment via a critique of a research theme through this different perspective along with an explanation of research that supports the viewpoint.

Critique of Video Games and Unintended Outcomes

This is an unintended outcome of video games being such a broad category of entertainment but has unfortunately been associated with many negative outcomes that hog the spotlight for the public. A very widespread viewpoint and stigma of video games is that they promote violence and lead to increased aggression in those that participate while some research has even found that high levels of video game playing has been linked to smoking and poor academic performance (Buckley, K. E., & Anderson, C. A., 2006). The effects of violent video games are also researched and is proven through meta-analytical reviews; while this is true those same effects are also found across all violent media (Buckley, K. E., & Anderson, C. A., 2006). Those effects are that people become more aggressive, meaner, and violent, tend to see the world as a scarier place, tend to be more desensitized to violence and are more callous, tend to have an appetite for more violent entertainment and finally are less likely to behave prosocially (Buckley, K. E., & Anderson, C. A., 2006). This stigma is only made worse by the two opinions on how video games affect people being caused by age and generational gaps with many older people holding onto the stigma while, many youths hold the belief that it has the potential to do good when used properly.

Conclusion

This section will present a testimony of a person who has already made use of the topic to treat their symptoms of depression however it is noted that this individual is an adult not an adolescent. There will also be recommendations for the treatment as well as policy and education on the benefits this treatment offers while also highlight the importance of future research within this topic.

An Account of the Effectiveness of the Treatment

George DeAmicis offered me a telling of how video games helped him treat symptoms of his depression. He sums up the whole experience with the phrase “It helped stabilize my life”. Through video games in particular World of Warcraft he was able to not only deal with his symptoms but also received the benefits of great friends and memories through the game itself. This connection to others through a connected and common media allowed him to form the necessary relationships to have no symptoms of depression and those he can rely on when the times get rough outside of his family.

Future Research

Future research into this treatment could be focused on whether it can be used for preventative care before a person is diagnosed with depression. This potential research would also lessen the stigma associated with video games in general which could lead to a widespread acceptance of this very versatile and accessible treatment. Another possible research path could investigate the skills video games develop as a side product of the game and research could investigate how these could be used to help those with other mental disorders that slowly affect said skills like critical thinking and problem solving. These studies should one day be able to find out how video games affect people of both genders and of all ages to one day have treatments that would allow for the doctor to provide a dose of how much gaming they should do to receive the benefits they’ll looking for.

Recommendations for Policy and Education

Some recommendations for policy would be to support this treatment and not stigmatize the treatment and being a problem or an addiction for those who use this treatment. A way of

reducing the stigma would be to have it be covered by insurance companies. So that it becomes more and more accessible to those who would need the benefits found.

Regarding education the biggest recommendation would be to promote the benefits to parents and adolescents with an information campaign via social media or pamphlets. This if needed explain how the common stigma and opposing view of it causing violence. If the benefits of what skills and emotional support the video games offer are wider known through a multimedia campaign via social media.

Closing Remarks

This research overall is of utmost importance as this treatment is a widely accessible to the public and has a wide range of benefits; these benefits range from mood regulation to critical thinking. With the implementation of this treatment, it could create a treatment that has the potential to cause great change as shown by the conversation with George DeAmicis can help someone's entire life become stabilized.

References

- U.S. Department of Health and Human Services. (n.d.). *Depression*. National Institute of Mental Health. Retrieved February 22, 2022, from <https://www.nimh.nih.gov/health/topics/depression>
- Torres, F. (n.d.). *What is depression?* Psychiatry.org - What Is Depression? Retrieved April 28, 2022, from <https://www.psychiatry.org/patients-families/depression/what-is-depression>
- U.S. Department of Health and Human Services. (n.d.). *Major depression*. National Institute of Mental Health. Retrieved February 22, 2022, from https://www.nimh.nih.gov/health/statistics/major-depression#part_2565
- Zayeni, D., Raynaud, J.-P., & Revet, A. (1AD, January 1). *Therapeutic and preventive use of video games in child and adolescent psychiatry: A systematic review*. Frontiers. Retrieved April 7, 2022, from <https://www.frontiersin.org/articles/10.3389/fpsy.2020.00036/full>
- Peracchia, S., Presaghi, F., & Curcio, G. (2019, March 20). *Pathologic use of video games and motivation: Can the gaming motivation scale (GAMS) predict depression and trait anxiety?* MDPI. Retrieved April 7, 2022, from https://www.mdpi.com/1660-4601/16/6/1008?type=check_update&version=1
- Kowal, M., Conroy, E., Ramsbottom, N., Smithies, T., Toth, A., Campbell, M., Lero, & Campbell, C. A. M. (n.d.). *Gaming your mental health: A narrative review on mitigating symptoms of depression and anxiety using commercial video games*. JMIR Serious Games. Retrieved April 7, 2022, from <https://games.jmir.org/2021/2/e26575>
- Primack, B. A., Swanier, B., Georgiopoulos, A. M., Land, S. R., & Fine, M. J. (2009). Association between media use in adolescence and depression in young adulthood: a longitudinal study. *Archives of general psychiatry*, 66(2), 181–188. <https://doi.org/10.1001/archgenpsychiatry.2008.532>
- Russoniello, Carmen & O'Brien, Kevin & Parks, J.M.. (2009). The effectiveness of casual video games in improving mood and decreasing stress. *Journal of Cyber Therapy and Rehabilitation*. 2. 53-66.
- Buckley, K. E., & Anderson, C. A. (2006). A theoretical model of the effects and consequences of playing video games. Chapter in P. Vorderer & J. Bryant (Eds.), *Playing Video Games - Motives, Responses, and Consequences* (pp. 363-378). Mahwah, NJ: LEA.