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The Effect of Violent Media on Children

As media becomes an integral aspect of human life, researchers are becoming increasingly concerned with the effect that constant exposure to media has on the development of children. Throughout the late 19th century, one of the largest concerns was the impact that media violence has on developing children. Many hypothesized that children would imitate the hyper-realistic behaviors they saw on television or experienced through videogames. Thus, exposure to violent media would lead to an increase in aggressive behaviors and thoughts. Researchers have utilized meta-analytic and narrative literature reviews to suggest that there is a strong correlation between increased aggressive thoughts, behaviors, and feelings and an increased use of violent videogames. However, these studies failed to test the effect that violence in video games has on the physiological indicators of the fight-or-flight response.

A comprehensive study on the effects of computers on human behavior, Gentile et al. (2017), questioned the extent to which violent media affects the fight-or-flight response and accessibility of violent thoughts in children, observed through salivary cortisol and cardiovascular changes. Previously, there had been few studies presenting these physiological indicators. Two studies on the relationship of cortisol in children and violent media presented contradictory results and only one study has been done on the cardiovascular arousal and increase in aggressive behavior due to violent media. Gentile et al. hypothesized that exposure to violence in the form of video games will lead to an increase in cortisol, aggressive thoughts, and

cardiovascular arousal. This hypothesis is based on research done by Kirshbaum and Hellhammer (1989; 1994) that suggested that in order to release cortisol, the individual needs to be emotionally involved in the stimulus, and the stimulus must be related to suspenseful anticipation. Violent video games are capable of incorporating both of these criteria and thus have a strong potential for releasing cortisol. The release of cortisol is associated with an increase in aggression. The video game, by increasing cortisol, would theoretically lead to an increase in aggression. This creates a reasonable premise for the hypothesis. However, studies done comparing violent and nonviolent videogames suggested that there was negligible difference in the cortisol release between the studied children (Ivarsson et al,. 2009a). This creates the argument that the video games do not affect the physiological fight-or-flight response in children. Nevertheless, the plethora of previous experiments suggesting a correlation between violent behavior and violent video games provides strong evidence that violent media does affect these physiological conditions.

To test the potential effect that video game violence has on children, a group of 136 children were recruited through their schools. These children were seated in front of computers where their initial heart rate, blood pressure, and saliva sample were recorded. They were then instructed to play one of two videogames with ratings from the ESRB. They were either exposed to Spiderman (a violent video game involving gun violence and fighting) or Finding Nemo (a nonviolent game involving moving fish through the ocean). Each child played the game for 25 minutes while their heart rate and blood pressure were recorded three times. After completing the prescribed time, the children produced a second saliva sample and had their heart rate and blood pressure measured. The children were also instructed to rate the video game and perform a word completion task. The blood pressure and heart rate were used to demonstrate potential

cardiovascular arousal throughout the game play. The saliva samples were used to test their cortisol levels before and after the game. The word completion task was used to gage the aggressive cognitions of the children. The experiment sought to control several variables known for impacting cortisol including gender, time of day, and age. They chose a sample of children, half male, and half female, all between 8 and 12 years old. The sample was from the same region and the majority were Caucasian. One potential limitation created by this process is the use of saliva to measure cortisol levels. After the experiment, the parents of the children were given a home saliva kit to get two more measurements of cortisol. This creates a potential error as the collection of data is unobserved. This could create an unreliable comparison. However, the alternative approach of using a blood sample would create stress on the children, making the sample unreliable. These methods, therefor, are appropriate for retrieving these physiological changes. Further, although the sample provides a controlled group for gender and age, the experiment fails to address other conditions including race, socioeconomic status, and culture. Children were selected from a very similar environment and thus failed to demonstrate all the potential changes that come from a diverse population, limiting the conclusion from being applied globally.

The experiment generated three main findings: the children in the violent game had higher levels of cortisol during game play, the cardiovascular arousal was increased by the violent video games for boys, but not for girls, and aggressive thoughts became more accessible after the children played the violent video games. This suggests that exposure to violent videogames can impact the fight-or-flight response and the sympathetic nervous system. Further, this demonstrates a strong association between violent video games and aggressive behavior. Because children have this physiological shift, activating their fight-or-flight response, they are

much more likely to turn to violent action when provoked. These findings support the initial hypothesis of the experiment. The videogames, despite not being actual events that emotionally involved the children and created suspense, were still able to simulate a situation that created a fundamental change in the children's cortisol and cardiovascular system. The only difference from the hypothesis was the lack of cardiovascular change in females who played the violent video games. This suggests the need for future studies to fully understand how the gender differences could impact the cardiovascular response to videogames and further effects of violence.

Based on the experimental results, the authors present a compelling argument for the correlation between videogame violence and aggression in young children. The test demonstrated clear and measurable physiological changes in the children exposed to violence. However, the author mentions that the experiment failed to measure aggressive behavior. They observed that the children had changes in their cortisol, cardiovascular system, and thoughts which is commonly associated with aggressive behavior, but it does not directly test this behavioral change. Further research is therefore needed to demonstrate the extent that these changes have on the behavior of the children. Although the experiment identified changes in the children, it failed to demonstrate how these changes could impact their long-term development. One important concern with violent video games is the possible correlation to mass shootings and school violence. Measuring the change in cortisol and cardiovascular system only demonstrate short-term effects. The children were soon able to return to their resting condition, demonstrating no sign of permanent psychological change. Therefore, this demonstrates the efficacy of videogames in creating realistic conditions for the players but fails to highlight how these effects could be dangerous for the children in the long term. This requires further study on

how repeated instances of increasing cortisol and cardiovascular arousal could impact the children's cognitive development. Further, this would require an adjustment in the study to focus on how long these changes in the body impact the behavior of the children. Finally, the last adjustment that could be made to the experiment it to use a more diverse sample. Children, especially from the ages of 8 to 12, are impacted by their environment. This includes socioeconomic status, race, and culture. Children who grew up in more violent households may also react differently to the games. Further, children who have had more exposure to violent video games may also react differently as they may be more desensitized to violence. The experimental sample group must, therefore, be diversified and expanded in order to understand the effects of videogame violence on a global scale.

With exposure to media coming from all aspects of children's lives, it is essential to fully understand the effects that different types of media have on child development. This study demonstrated how media is capable of creating physiological change in children. Violence in video games creates a direct and measurable response in children. As media continues to increase, children must be observed to ensure that media is used as a tool to aid child development rather than create future harm.

Works Cited

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