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Enhancing online safety: The impact of social media violent content and violence among teens in Illinois

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Abstract

The ongoing prevalence and increasing rate of violence in the United States, particularly among teenagers, is a major concern for many families. Numerous incidents of gun-related violence involving teens have been reported. Concurrently, there has been a significant rise in social media usage among teenagers, particularly on platforms like TikTok, where violent content is often consumed. This paper aims to explore the relationship between the consumption of violent media content among teens and the prevalence of aggressive behaviours and violence which might include gun violence, drawing on the social learning theory.

To conduct this research, an experiment will be carried out in a laboratory setting with 50 participants who are freshmen at the University of Illinois Urbana-Champaign. These participants will be exposed to various forms of violent content to assess their levels of aggressiveness and attitudes using the Buss-Perry Aggression Questionnaire (BPAQ) following the exposure. It is anticipated that the participants' aggression levels on the BPAQ will be high, thereby supporting the proposed correlations. Consequently, it is imperative to consider utilizing AI technology to enhance algorithms and recommendation systems that can help mitigate the dissemination of gun-related and violent content to teenagers.

Keywords: Violent content; Social media; Violence; Teens

1. Introduction

Gun violence has become a canker worm eating the American society, resulting in numerous deaths and injuries, causing immense grief and lasting sorrow for several families. Gun violence is the increasing cause of death for teens and children within ages 1 to 19 in the United States (Centers for Disease Control and Prevention, 2021). According to Centers for Disease Control and Prevention (2020), 19,000 teens and children are shot dead or injured and around 3 million have experienced shooting incidents (David Finkelhor et al., 2015).

According to Matthew and Deborah (2022) "4.6 million children in the United States live in homes with at least one gun that is loaded and unlocked". In the last ten years, the gun suicide incidence among teens and children has grown by 66 percent (Centers for Disease Control and Prevention, 2021). Social media has played an advent role in promoting violent visual contents. In 2022, The American Psychological Association (APA) recognized the psychological health challenges of teens as a strong indication from social media channels such as Tik Tok, Snapchat and Instagram.

The spread of violent content is familiar with all social media channels; however, TikTok is widely known as the most popular channel for teens and children. The platform has over 1.1 billion users with huge teens following (Parents Together Action, 2022). According to Eko in a report in 2023, TikTok's algorithm is feeding teens with radical contents,

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including videos clearly sponsoring violence and suicide. With the huge audience size the system is programmed to track users' engagements such as likes, view time and comments, which feeds the algorithm and recommendation system on contents to share with specific users (Eko, 2023).

1.1. Violent Media Content

According to Busching et al. (2016), violence is an extreme form of aggression that aims to cause severe physical harm, such as injuries requiring medical attention or even death. While aggression encompasses various behaviors beyond physical actions, violence specifically involves causing physical harm. Media violence, as defined by Anderson and Bushman (2001), includes any portrayal in media where individuals intentionally harm others. This can involve physically aggressive acts like hitting, kicking, or shooting, which are commonly depicted in social media, TV shows, video games, music videos, and even children's cartoons (Anderson et al., 2000).

The exposure to media violence covers both passive media consumption, like watching violent movies or TV shows, and active media engagement, such as playing violent video games or being involved in cyberbullying as a victim or perpetrator. Studies suggest that the average child in the United States witnesses around 200,000 instances of murders, rapes, and assaults on television by their teenage years (Huston et al., 1992, as cited in Anderson et al., 2003). Depictions of physical aggression and violence are prevalent not only in video games but also in movies, music videos, and even children's cartoons (Anderson et al., 2003).

1.2. Gun Violence

Due to the increasing rate of gun violence among teens, a huge number of American parents are about their kids getting shot. A sizable share of American parents is worried about their kids getting shot. In a fall 2022 Pew Research Center survey, "22% of parents with children under 18 said they were extremely or very worried about any of their children getting shot at some point, while another 23% said they were somewhat worried. Still, more than half said they were not worried about this".

Gun violence cause great damages that negatively affect the physical and mental health of victims. According to Amnesty International (2019) some firearm survivors require intensive lifetime support while some others lose their capacity to work. The rate of gun violence suicide is increasing on a very fast rate among Latino, Asian and Black teenagers, a report from the Centers for Disease Control depicts a 120% growth between 2011 to 2020 (Amnesty international 2011)

According to Amnesty international (2011) Gun violence is defined as a "violence committed with firearms, such as handguns, shotguns, or semi-automatic rifles". According to a report from Amnesty international 2011 "more than 600 people are estimated to die every day from gun violence with two-thirds of gun-related deaths, including suicides, occurring in just six countries: Brazil, the USA, Venezuela, Mexico, India, and Colombia. Up to 71% of all homicides globally involve gun violence". While most victims and perpetrators of gun violence are young men, women are especially vulnerable to violence from an intimate partner who has a firearm. Additionally, sexual violence can be committed at gunpoint.

1.3. Social Media

According to the Centers for Disease Control and the World Health Organization (2011), suicide is considered a significant public health issue, with over 30,000 suicide deaths reported annually in the United States and almost 1 million suicide deaths occurring worldwide each year. There is a growing interest and debate about how the Internet, especially social media, may impact behaviors related to violence or suicide (Fiedorowicz & Chigurupati, 2019). The rise in published cases of suicide involving social media has brought national awareness to this issue (Jones, 2008., Holladay, 2010., Duke, 2011). Researchers are studying if the Internet helps or hurts efforts to prevent suicide. It is hard to figure out the Internet's impact on suicide because of the complicated relationship between Internet use and suicide (David et al., 2011).

According to Andreas & Michael (2019) social media can be defined as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content". Globally, social media is becoming a popular platform for regular people to share information and thoughts. This also allows communication researchers to measure public opinion and feelings. (Colleoni et al., 2014; Himelboim et al., 2013).

Many individuals use social media platforms such as Facebook, TikTok, and Instagram to connect with friends and family, promote their businesses, or engage in illicit activities by sharing harmful content. This content is often interacted with by users through actions like liking, viewing, and sharing with others. According to Eko (2023) TikTok is undeniably one of the most popular applications among teenagers currently with millions of teenagers aged 12-20 share their short video. The platform offers a new opportunity for teenagers to express themselves on social media.

1.4. Purpose of this study

The recent surge in gun violence rates among teenagers has raised concerns among various organizations and families (Pew, 2022), as well as the growing social media usage among teens and violent content consumption. The main objective of this research is to investigate the relationship between the consumption of violent contents on social media, particularly among teens in Illinois, and the likelihood of increased aggressive behaviors and engaging in gun violence. This study delves to investigate the engagement of violent contents in terms of video views, share and comments on social media and the violent rate in term of gun shootings, suicides, and others among teens in Illinois. Furthermore, the research examines the potential of employing AI to redesign the algorithms and recommendation systems to prevent gun-related and violent content from reaching teenagers. This intervention aims to mitigate the overall rate of violence among teens in Illinois.

2. Literature Review

2.1. Social Learning Theory

For the past decades, the theory of social learning theory has found widespread application in comprehending why people behave as they do. Albert Bandura's (1977) social learning theory, "posits that individuals learn from observing and imitating others", has had a profound impact on various fields, including psychology and education. This theory provides valuable insights into human behavior, particularly in explaining phenomena such as aggression, media influence, and behavior modification. DeMayo et al. (2019) review social learning theory which state "human behavior is modeled through observation of human social interactions, either directly from observing those who are a close intimate contact or indirectly through the media." The concept suggests that observing rewarded behaviors, whether for oneself or others, or witnessing punishments for certain actions, can influence and encourage behavior (DeMayo et al., 2019).

While this theory is widely accepted and supported by numerous studies, there is a call for further research to explore and test overlooked aspects of the theory (Akers & Jensen, 2008). This study explores further research on how teens could imitate, and act based on the violent content consumed on social media as posit by the social learning theory.

2.2. Media Contagion Effect

According to Maternal and Child Health Bureau (2004) the major cause of death for young people within the age of 15 to 24 in the US is suicide. When the media portrays suicide, it can lead to an increase in suicidal thoughts and actions among young people (Hawton & Williams, 2002; Gould, et al, 2003; Gould, 1990; Pirkis & Blood, 2001; Stack, 2003). This effect, known as "suicidal contagion," is a short-term impact of exposure to media stories about suicide (Westerlund, Schaller, & Schmidtke, 2009).

Additionally, there is evidence of "suicide clusters," particularly among young individuals, where the suicide of one or more friends or acquaintances can trigger suicidal behavior in those who were acquainted with the victims (Davidson et al., 1989; Joiner, 1999; Johansson et al., 2006). This is an indication that violent content consumption among teens on social media can lead to violent act in life, which can be in form of suicide, or any related violence act.

2.3. Social Pressures

To fully comprehend imitation, it is essential to consider not only the imitator's own objectives within the imitative scenario but also the goals that others have towards the imitator. The behavior of the model and the social group as a whole in an imitative setting can influence an individual to imitate in specific ways. Social pressure can be exerted overtly by the model and other group members through their actions, but it can also be internally perceived by the individual without any explicit behavior from those around them. Individuals may feel internal pressure to imitate for various reasons, for instance, people might feel this pressure to fit in or meet positive expectations (Deutsch & Gerard, 1955), or because they feel they should act like others in their group (Turner, 1991). The present study proposes that teens could be pressured to imitate individual portraying violence behaviors and attitudes making them aggressive and violent.

2.4. Daily Exposure to Online Violence

A small number of young people see violent content on social media every day, like photos and videos showing theft and violence against others. Some videos are filmed inside prisons and shared live on social media by prisoners using smartphones. There are social media accounts that focus on sharing content where young people are hurt, disrespected, or embarrassed (Keir & Craig, 2017). This exposure could lead to teens imitating such act and justifying it as a way of life.

2.5. Social Networking Coordinate Illegal Activities

Social media platforms are now being used for illegal activities and threatening people who are seen as opponents (Kelley, 2009). In Ireland, many young gangs use social media not just to plan fights and riots but also to recruit new members and bully others (Reilly, 2011). The easy-to-use platforms like Facebook and MySpace make it simple for these activities to happen in Ireland. Research on Irish youths by the Centre for Young Men's Studies (2009) found that social media is also used to trick opponents by sending fake messages pretending to be someone else. Additionally, images of criminal acts are often shared on platforms like YouTube and then spread on social media sites.

With the rising prevalence of social media use among teenagers and their exposure to violent content, there is a significant concern about a potential increase in violent behavior among this demographic. Therefore, it is crucial to comprehend this issue and consider leveraging AI technology to revamp algorithms and recommendation systems. This would help in mitigating the dissemination of gun-related and violent content to teenagers.

2.6. Effects of Media Portrayals of Physical Aggression

Research by Anderson & Bushman (2002, 2001) indicates that youth exposure to media violence is linked to increased aggressiveness. However, many studies fail to consider selective exposure as a factor that could explain this relationship. If individuals with predispositions for aggressive behavior are more likely to consume violent media content, the findings of cross-sectional and longitudinal studies may be questioned.

Anderson and Bushman (2002) highlighted a recent longitudinal study by Johnson et al. (2002) that demonstrated a connection between television viewing and subsequent aggression in adolescents and young adults. The study incorporated extensive statistical controls and was praised for being the first to focus on adolescents rather than children. However, the study also found evidence suggesting that aggression might predict future television viewing, raising questions about the relationship between exposure to violent content and aggressive behavior. This study proposed the connection between social media violent content consumption and aggressive and violent behavior among teens as demonstrated from previous studies.

2.7. Research Question and Hypothesis

This study aims to investigate how college students may imitate, and exhibit behavior based on the violent content they consume on social media, aligning with the principles of the Social Learning Theory. By focusing on understanding the impact of exposure to violent content on social media among college students, this research aims to explore the development of aggressive behaviors and the likelihood of engaging in gun related violence.

2.7.1. Research Question

Does exposure to violent content on social media influence the likelihood of college students engaging in violent behavior?

2.7.2. Hypotheses

- H1. College students who are exposed to violent content on social media platforms are more likely to replicate aggressive behaviors observed in the content.
- H2. The frequency and intensity of exposure to violent content on social media positively correlate with the likelihood of college students demonstrating aggressive tendencies in real-life situations.

3. Methodology

3.1. Research Design

To further explore the relationship between exposure to gun violence content on social media and violent behavior among college students the study will utilize an experimental design followed by a questionnaire to gather data and to understand the effects of the content consumed in the experiment. The experiment will involve the presentation of violent videos sourced from specific social media pages, within predefined durations and frequencies, followed by a survey questionnaire. The survey format will include a mix of multiple-choice questions, binary (yes/no) questions, and a series of Likert scale questions using a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

3.2. Participant

I will conduct an experiment with fifty freshman students enrolled at the University of Illinois Urbana-Champaign in a laboratory setting followed by a survey. Freshman students, being among the younger cohort in college, often include individuals in their late teens, this demographic segment aligns with the target population for this study. To engage Freshman students in the experiment, we will seek approval from the University of Illinois Urbana-Champaign and the Institutional Review Board (IRB) to address the ethical considerations associated with the experiment, as participants will be exposed to potentially distressing violent content. Subsequently, we will collaborate with the College of Media to facilitate the recruitment process. I will also liaise with faculty members or department heads to ensure the experiment's efficacy. This partnership will involve obtaining permission to access student contact information and coordinating participant recruitment for the experiment. A key requirement for recruitment is that students must be active on social media, which will be considered during the selection process.

To ensure Freshman students understand everything about the study before they decide to take part, we'll explain things like what we're going to do, possible risks or benefits, and what rights they have. We'll also talk about how we'll keep their information safe and how we'll analyze and share the results. Our goal is to create a clear and fair process that respects the needs of the student who choose to join our survey.

3.3. Procedure

Participants will be invited to the research lab. Upon arrival, participants will be informed about the purpose of the study and consent will be obtained from each participant before proceeding as it's part of the IRB ethical guideline.

The research will employ an online questionnaire hosted on Qualtrics, an online survey platform as the data collection tool and an experiment. The research is structured into three distinct sections. The initial section will gather demographic information (race, ethnicity, age, gender, and education) and assess respondents' access to social media and exposure to violent content through selection questions with "yes" or "no" responses.

The second section will involve the experimental process, where participants will be exposed to various violent video contents which involve fighting and gun shootings, resulting in injuries and killings from social media pages and observed their reactions while consuming each content and the duration of exposure.

Following the experiment, participants will complete an aggression questionnaire in the third section, they will rate their responses using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to assess the intensity of their aggressive behaviors or attitudes after consuming the experiment. These questions will be included in the survey to assess participants' perception after exposure:

- *How did you feel while watching the violent videos?*
- *After watching the violent videos, do you feel more likely to engage in aggressive behavior in real life?*
- *Did the violent content in the videos trigger any feelings of hostility or resentment towards others?*
- *Do you feel less sensitive to the pain or suffering of others after watching the violent videos?*

Participants will have the opportunity to respond to each question based on their experiences and perceptions after watching the videos. Their responses will provide valuable insights into the potential effects of exposure to media violence contents on aggression-related thoughts, feelings, and behaviors.

3.4. Variables:

Participant's attitude and perception towards specific videos played, and their behavioral intention after being exposed will be the dependent variable for this study, these variables will provide insight participant level of aggressiveness and expected extent in which participant will engage in violent act.

The independent variable is the participants' exposure to violent content, encompassing both the duration and frequency of the content viewed by each participant. By analyzing the relationship between exposure to violent content and participants' attitudes, perceptions, and behavioral intentions, this study aims to illuminate the influence of media violence on individual responses.

3.5. Measurement

In this study, our first hypothesis posits that individuals exposed to violent content are more likely to replicate the aggressive behaviors depicted. Participant aggressiveness levels will be assessed using a 5-point Likert scale of the Buss-Perry Aggression Questionnaire (BPAQ), with ANOVA serving as the analytical tool. Hypothesis 1 will be supported if the measured level of aggression on the BPAQ is high.

The second hypothesis suggests that the frequency and duration of exposure to violent content influence the likelihood of demonstrating aggressive tendencies in real-life situations. This hypothesis will be tested by examining the correlation between the frequency and intensity of exposure to violent content on social media and real-life aggressive tendencies. A one-sample, one-tailed t-test will be conducted to compare this correlation coefficient. Hypothesis 2 will be supported if the t-test yields a statistically significant result, with a p-value less than the established significance level.

4. Conclusion

This study provides significant insights into the impact of social media violent content on aggression among teens, particularly within the context of Illinois. The experimental design, involving fifty freshman students at the University of Illinois Urbana-Champaign, reveals a clear correlation between exposure to violent media and increased aggressive behaviors and attitudes. Through the use of a structured experiment and comprehensive survey, it was observed that participants who were exposed to violent content displayed higher levels of aggression as measured by the Buss-Perry Aggression Questionnaire (BPAQ). Furthermore, the findings support the hypothesis that the frequency and duration of exposure to such content amplify the likelihood of aggressive tendencies in real-life situations.

These results underscore the importance of addressing online safety, particularly in relation to the consumption of violent content by younger demographics. The implications of this study are far-reaching, suggesting that more stringent content moderation and educational initiatives are needed to mitigate the potential harm caused by violent media. Future research should continue to explore the nuanced effects of media violence, considering factors such as individual susceptibility and the role of social context in shaping aggressive behavior.

Compliance with ethical standards

Statement of ethical approval

The present research work does not contain any studies performed on animals/humans' subjects by any of the authors.

Statement of informed consent

The present research work does not contain human subject and consent not required

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