School Shootings and Adolescents: An Examination of Social Media Type and Student Emotion

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ABSTRACT

In the past decade, social media has gained substantial amounts of popularity and usage. Platforms are playing a large role as a source of news media in the United States, affecting major national events like school shootings. School shootings are at an all-time high, leading researchers to wonder if this is a consequence of the development of news media impacting factors such as the copycat effect. News media and its role in portraying different forms of school shooting content have yet to be studied on the emotional influence of teenagers, prompting this research to evaluate the following question: *What is the emotional influence of different types of social media content, regarding school shootings, on teenagers?* Using a mixed method approach this study comprised data indicating that negative content, such as that categorized as violent/comedic, had a significant relationship with teens' feelings of *emotionlessness*. Content categorized as educational had a significant relationship with teens' feelings of *empathy*. Content that was found on social media apps, such as TikTok, that had platform regulations indicated less of an emotional influence on teenagers, prompting the researcher to suggest that regulations should be further enforced on social media platforms to prevent the spread of media with harmful emotional effects on teens, and prevent portrayal of school shootings in a manner that may lead to an increase of copycat communities, or school shootings.

Introduction

Social media has gained massive traction in the past 20 years. Over 4.95 billion people utilize social media platforms on a daily basis, and its global usage is increasing annually at a rate of 7%, making the role of social media apparent in today's society (Pew Research). Teens have fallen victim to the multitude of effects stemming from social media, due to their heightened vulnerability (Abrams, 2022a). The human brain does not fully develop until the age of 25, leading teens and adolescents to be significantly more impressionable, especially to social media, due to an undeveloped prefrontal cortex. This vulnerability has been correlated to the massive mental health decline found in today's teens and is becoming more perceivable in other factors, including the influence of news on teenagers (Abrams, 2022a). As social media is more commonly used, it has become accepted as a news source, leading apps such as TikTok, Instagram, and Snapchat to dominate the culture of today's youth and influence many national events, such as school shootings.

In the year 2021, there were more school shootings in the United States than in any other year since 1999 (Katsiyannis et al., 2022). While there was a decrease in these numbers due to the period in which the COVID-19 pandemic was at large, these numbers are steadily increasing as gunfire incidents have hit record highs as of 2023, approaching almost 400 incidents this year (Modan, 2023). These incidents are based on the quantity of occurrences in which a gun has been fired or brandished with intent at a school setting, or when a bullet hits school property.

As the occurrence of school shootings continues to increase, the issue is becoming more commonplace in American society, considering there are 57 times as many school shootings in America than all other major industrialized nations combined (Katsiyannis et al., 2022). Prevention measures, such as zero-tolerance policies, have been implemented to deter the rise of school shootings; however, many of these policies have not only failed to decrease the number of school shootings but have harmed students in the process by increasing students interactions with law

enforcement (*School Shootings Are Sad…2018)*. The purpose of this study is to indicate whether other factors, such as the impact of news media and social media, may play a role in the rise of school shootings, and to suggest alternative preventative measures.

Literature Review

News media, especially portrayed through social media apps, has played an increasingly large role in the influence of teens, particularly those between the ages of 13-18. According to studies done by the Pew Research Center, 97% of teens expressed using the Internet on a daily basis, compared to 2000 when only 73% of teenagers were using the Internet daily (Vogels et al., 2022). As more teenagers are utilizing social media at a higher frequency and as an available news source, researchers have begun to discuss its influence on teens and national events.

Discussion on Emotional Influence of Media

One of the most significant forms of influence that researchers have begun to observe from news viewage is its emotional impact. Nikki Graf, an associate at The Pew Research Center, conducted a study of the emotional influence that media plays on teens. According to her research, a majority of teens expressed concern about the potential threat of a shooting occurring at their school, finding that these increased levels of anxiety were largely correlated to media consumption (Graf, 2018). Media consumption can often fuel a "cycle of distress" in adolescence. As individuals are increasingly exposed to violent media they often "over consume it" and begin to worry about future events relating to the content portrayed in this media. Social media has only contributed to this "cycle of distress" as it increases the accessibility of such media (Graf, 2018). Heavy consumption of violent media has been seen to influence consumers' beliefs about their likelihood of victimization and the true occurrence of an event such as school shootings, by giving teens a disproportional perception of news (Schildkraut et al., 2014).

However, in opposition to this belief, Paul Slovic, a professor of psychology at the University of Oregon, states that overconsumption of media can promote impassive responses from the young mind, instead of fueling it (Abrams, 2022). He believes that as society is constantly flooded with stories of violence and brutality, the mind can become "fatigued" by this information, even going as far as to state that the more people who die in an incident of violence, the less we care (Abrams, 2022). These contrasting studies represent the current division in today's research, regarding the emotional effect of news media on teens.

Discussion of Media Concerning School Shootings

As researchers continue to discuss the influence that media has on its viewers, especially teens, they have found that news media has played an intensifying role in national events, such as school shootings, while also massively impacting adolescents. According to Pew, Goldeck, and Halsted at the National Center for Health Research, the portrayal of news media may play a large role in the rise of school shootings, due to the contagion effect (Pew et al., 2018). The contagion effect, also known as the copycat effect, is the idea that media coverage of an event, in this case, school shootings, can influence others to copy the actions portrayed on the news or commit similar crimes. In the occurrence of a school shooting, the shooter often receives massive amounts of attention surrounding their personal information and motivation. After the first major school shooting at Columbine High School, it was seen that the potential for another shooting within the next 14 days increased and that the media had the potential to influence shootings for a period longer than 2 weeks (Lankford & Madfis, 2017). Spencer J. Kotinsky, an associate professor of clinical psychology at the University of Pennsylvania School of Medicine, found that following the aftermath of the tragedy at Columbine High School, large newsnetworks such as CNN, Fox News, and the Times Magazine, had Columbine on its front page for nearly two weeks, and broadcasted more than 40 segments depicting the shooting (Kostinsky et al.,

2001). Networks focused largely on the shooters and their motivations, and it quickly became the 3rd most broadcasted story in the 1990s, consequently promoting the violence that emerged following the event. A week after this event, reports noted the development of at least 1 copycat threat documented in 49 of the nation's 50 states. In the subsequent 4 weeks after the shooting, at least 350 grade schoolers had been arrested nationwide on charges related to school threats, and 20% of students between the ages of 13 and 17 reported that their school had been evacuated due to a bomb threat (Kostinsky et al., 2001). Kotinsky predicted that these outcomes occurred as the majority of news presented from broadcasting news networks focused on the shooters, their actions, and their lives. The American Psychological Association sought to negate this influence by recommending that media outlets shift the attention away from the shooter and focus on the victims. Campaigns such as "Don't Name Them" and "No Notoriety" have pushed the media to reduce their focus on the shooter and their motivations, and instead increase their focus on the lives of the victims (Lankford & Madfis, 2017). Pew, and his team at the National Health Center, found that while broadcasting networks could be regulated, social media could not and was influencing the copycat effect through the harmful portrayal of news. For instance, in the two weeks following the shooting at Parkland High School, Pew found that the US received 638 copycat threats targeting schools all over the nation (Pew et al., 2018). Many of these threats were produced and shared through social media apps.

However, some researchers at Penn State University argue that the accessibility of social media apps, previously condemned by Graf and Slovic, makes it a good news source. Social media that draws immediate attention to current events such as school shootings, can offer a wide range of viewpoints, and provide viewers with an array of diversified sources. These researchers believe social media can help teens stay up to date on national topics, such as school shootings, and form their own opinions on important issues, as well as increase their awareness and protection methods on such a dangerous occurrence (*Social Media: Friend or Foe to the News Cycle? - News Literacy Initiative* (n.d.))

Jaclyn Schildkraut, the Executive Director of the Regional Gun Violence Research Consortium at the Rockefeller Institute, further recognized the increasing role that social media was playing (through school shootings), as noted by the data collected through Pew and his team at the National Center for Health Research, Spencer J. Kotinsky, and American Psychological Association, with arguments against social media as a news source, as well as the opposing arguments from researchers at Penn State, supporting it. Schildkraut, therefore, utilized a study to test the effects that social media had on college students' beliefs of school shootings as a national issue (Schildkraut et al., 2014). She found that there was a proportional amount of media concerning violent events in the nation, such as school shootings, that would garner higher beliefs that these events were indicative of a larger social issue. Schildkraut organized her study through the comparison of the quantity of media consumed by college students and their agreement that school shootings were a major issue in the US. Through this study, it was concluded that the frequency of social media consumption was positively and significantly related to students' belief that school shootings are a major issue; however, the regression results showed that no other type of media has a similar relationship (Schildkraut et al., 2014).

Gap

Nikki Graf and Paul Slovic have established that the use of social media as a news source can significantly influence the emotional well-being of teenagers by contributing to either a "cycle of distress" or by "fatiguing" the young mind to violence (Graf, 2018)(Abrams, 2022). While they believe that necessary measures should be implemented to protect vulnerable adolescents from the influence of social media, they haven't shown how different types of content on a specific event may influence the impressionable mind of a teenager. There are researchers, such as those at Penn State, who established the belief that social media is a vital new method in the spread of news as it offers greater accessibility and a wider range of content; however, they also failed to establish the relationship between the type of content a social media app portrays and its influence over teenagers, in addition to whether it's good or bad (*Social Media: Friend or Foe to the News Cycle? - News Literacy Initiative* (n.d.)). While Pew and his team at the National Center for Health Research established that social media has played an increasing role in the events of school shootings, he

lacked data surrounding the specific content that was viewed and how this affected and influenced teenagers (Pew et al., 2018). Moreover, Schildkraut established that the relation between the frequency of social media consumption by college students was related to their belief that school shootings were a major issue in the nation; however, she focused solely on the amount of content that was viewed, and not the type (Schildkraut et al., 2014). Past studies have established that media does influence teens and school shootings, however; there is a gap in which these two factors are combined. Schildkraut began to integrate these variables but did not go as far as to evaluate specific content types in her study and focused on college students. This study will seek to evaluate the extent to which different types of content, regarding school shootings, will influence teenagers, as they are more impressionable to the media. The findings of this study will suggest the emotional impact different forms of content have on teens and indicate the extent to which social media should be regulated, in attempts to control the spread of harmful media that may have adverse effects on students and the increase of school shootings in America.
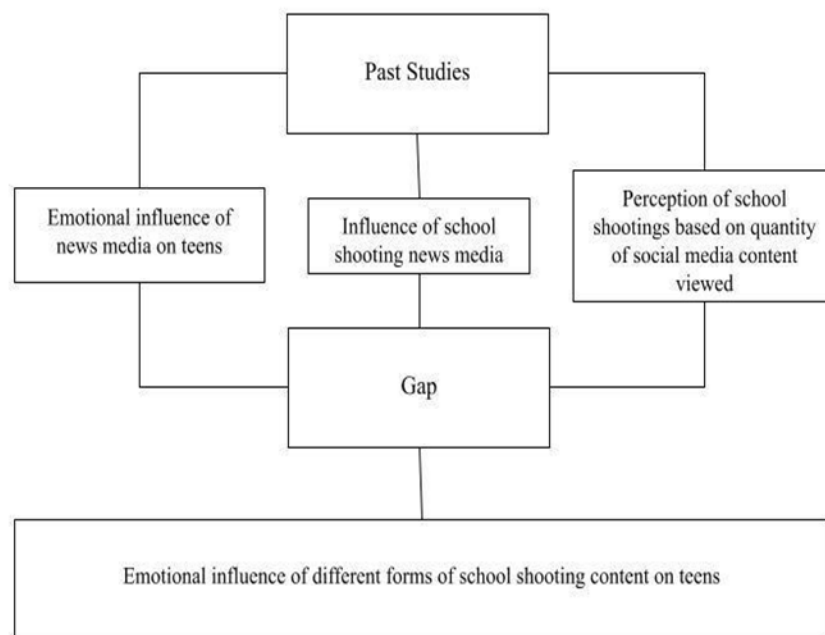

Figure 1. Visualization of Gap

Methodology

Hypothesis

The present study focused on the following research question: *What is the emotional influence of different types of social media content, in regards to school shootings, on teenagers?* Given that social media played an increasingly large role in teens' lives and school shootings, it was hypothesized that students' emotions towards school shootings were dependent on the type of content viewed by students (H_a). The null hypothesis stated that the type of content viewed by students was independent of a student's feelings towards school shootings (H_o).

Ethical Considerations

To address the ethics of this study, according to IRB approval based on code 46.106 Of the US Department Of Health and Human Services, official approval was not required; however, all questions were submitted to and approved by the researchers' Assistant Principal of Instruction. Any survey questions that did not coincide with the school district's regulations were modified or removed altogether (*Exemptions (2018 Requirements)*, 2021).

Method/Design

When determining the overall influence different types of content, regarding school shootings, had on teenagers, this researcher utilized a Mixed-Method design based on steps provided by the National Library of Medicine (Schoonenboom & Johnson, 2017). The Mixed Method research process combines qualitative and quantitative research components, to expand and strengthen a study's conclusions. The researcher followed this approach of the Mixed Method Design, specifically with an Exploratory Sequential Analysis, by utilizing guides from the National Library of Medicine and John Creswell, a professor of family medicine and senior research scientist in the Michigan Mixed Methods. An Exploratory Analysis is a two-phase approach and is referred to as the Exploratory Sequential Design. This design starts with qualitative data, to explore a phenomenon, and then builds to a second, quantitative phase (Creswell, 2006). Researchers using this design, build on the results of the qualitative phase by developing an instrument, identifying variables, or stating propositions for testing based on an emergent theory or framework. These developments connect the initial qualitative phase to the subsequent quantitative component of the study. The Exploratory Sequential Design is utilized when a researcher wants to generalize results to different groups, to test aspects of an emergent theory or classification, or to explore a phenomenon in depth and then measure its prevalence (Creswell, 2006). This research explores the phenomenon surrounding the influence of social media content concerning school shootings, as well as its prevalence, making the Exploratory Sequential Design ideal to adapt. Figure 2 illustrates the basic steps that are utilized in this research process.
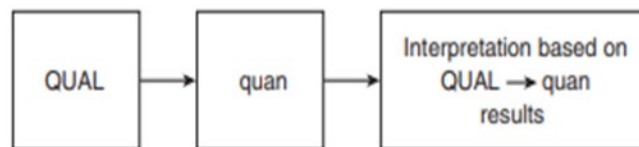

Figure 2. Visualization of Research Process

Qualitative Data Collection
The initial step, supported by Creswell, was to collect qualitative data necessary for the research process (Creswell, 2006). In this study, the qualitative data refers to teenage-based descriptions of content and their emotions about school shootings, as well as a content analysis conducted by the researcher. To acquire the teenage descriptions of content type and emotional descriptors a qualitative survey was conducted. This survey was first designed following guidelines from the Pew Research Center that recommended strategies to structure questions to increase the validity of results (*Writing Survey Questions*, 2021). A local school psychologist reviewed the survey to ensure there were no ethical concerns and contributed recommendations to the questions, as they had expert knowledge of the teenage mind and the type of questions that would best produce results appropriate for this study. They further recommended that the survey be conducted at High School X as it is home to a wide age range of teenagers, who are the subject of this study based on data from the American Psychological Association. Teenagers utilize social media the most as a news source, and are the most impressionable to its effects, and have yet to be studied under this research question. High

School X has a wide range of diversity, education levels, and socioeconomic backgrounds, resulting in a more diversified data set and resulting in data that would apply to other areas of the nation. The survey was then distributed with the use of Google Forms to teachers of all class levels and content types to ensure data was not biased towards any particular age group or class subject. Google Forms was utilized as the mode for data collection as the platform is supported by the school-issued Chromebooks of High School X, making it the most accessible platform for collecting student responses.

The survey consisted of the following questions after assessing the basic demographics of respondents (Appendix A):

1. *What source do you receive most of your news from?*
   - This question allowed the study to focus on the individuals who utilized social media as a news source and narrow the focus of the results (*Writing Survey Questions*, 2021).
2. *For the individuals who use social media as a news source: Have you seen content relating to school shootings through social media?*
   - This allowed the researcher to gauge the prevalence of school shooting content on the social media app of the individuals who used it as a news source (*Writing Survey Questions*, 2021).
3. *For the individuals who use social media as a news source: What app do you use the most as a news source?*
   - Responses to this question prompted the analysis to be organized by app and its most prevalent form of content, to gauge the influence on teens (*Writing Survey Questions*, 2021).
4. *For the students who saw content relating to school shootings: What app did you see this on?*
   - Because a content analysis was going to be conducted the students were asked what app they had seen school shooting content on, so that the analysis could be narrowed down to the top 3 apps that portrayed said content (*Writing Survey Questions*, 2021).
5. *For the students who saw content relating to school shootings: Describe the content you saw.*
   - Each individual was asked to describe the specific content they viewed to verify the data from students to the data collected in the content analysis. The data will allow the researcher to conclude the type of content viewed and its influence on teens (*Writing Survey Questions*, 2021).
   ** responses from this question were then categorized into 5 categories based on the most popular content descriptors and their underlying definition *(ex. stories, news, expressions of victims/families-> educational)*
6. *For the students who saw content relating to school shootings: Describe your top 3 emotions toward school shootings*
   - Students were asked to describe their emotions towards school shootings to help gauge the extent to which specific content influences teens by determining if emotions felt towards school shootings are independent/dependent on the content that is viewed (*Writing Survey Questions*, 2021).
   ** responses from this question were then categorized into 5 categories based on the most popular emotion descriptors and their underlying definition *(ex. sad, sorry, emotional, upset-> empathetic)*

** responses that were organized into categories were done so that the data could be qualified; an explanation is continued in Methods (*Writing Survey Questions*, 2021)(Creswell, 2006)

Qualitative Data Collection: Content Analysis

After the survey had been distributed and the responses collected, a content analysis was conducted on the top 3 social media apps where respondents stated seeing different portrayals of content regarding school shootings. The content analysis was formed with the help of guidelines published by Columbia University (Columbia University, 2019).

Based on these guidelines a conceptual analysis was utilized. In this analysis, a concept is chosen for examination while the analysis involves quantifying and counting its presence. The main goal of this analysis is to examine the occurrence of selected terms in the data (Columbia University, 2019). In this study, the selected terms measured were the relevance of each type of content portrayed on individual social media platforms (*Ex. The amount of content categorized as educational).* Before conducting the analysis, a John Doe email had to be formed to produce the social media accounts that would conduct the survey. Most social media platforms showcase content to the user based on content previously interacted with. By forming new social media accounts, bias was limited from personal accounts that had the potential to sway results. Each app was then analyzed individually, by the collection of the top 50 most viewed or liked posts and the type of content they portrayed when the term *school shootings* was presented in the search engine of the app (Columbia University, 2019).

Quantitative Data Collection

Continuing to follow the guidelines from Creswell and the National Health Center for Medicine on the construction of a mixed method design with an Exploratory Sequential Analysis, the next part of the process consisted of building on the results of the qualitative phase by developing an instrument, identifying variables, or stating propositions for testing based on an emergent theory or framework (Creswell, 2006). These developments connect the initial qualitative phase to the subsequent quantitative component of the study. This study utilized a Chi-Square Test for Association as its instrument of connection between qualitative and quantitative variables. The Chi-Square test for association is a statistical procedure for determining the difference between observed and expected data. These tests can determine the correlation of categorical variables represented in the data (Yeager, n.d.). Based on Kristin Yeager at Kent State University, a Chi-Square Test is an ideal choice for aiding the understanding and interpretation of the connection between our two categorical variables, which was the reasoning behind integrating these tests into the quantitative process of this study (Yeager, n.d.). In this study, the student responses for survey questions 5 and 6 were organized under the social media app they had stated they most used from question 3.
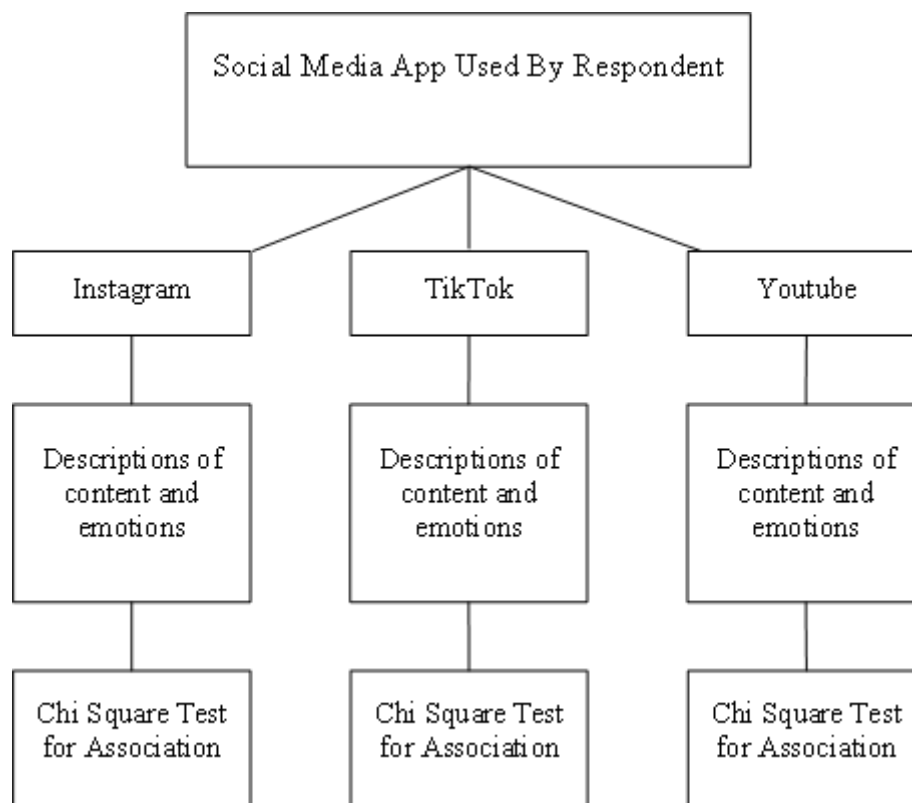
Figure 3. Representation of Quantitative Data Collection

A Chi-Square Test was utilized per app to measure the significance between the content viewed by the students and the emotional descriptors students used towards school shootings. Each test was organized by app allowing for a better integration process as the qualitative data from the students' descriptions and content analysis of each app could be directly compared to the quantitative results from the Chi-Square Tests. One test per app was utilized to measure the significance between the content viewed by the students and the emotional descriptors students used towards school shootings. A step-by-step guide produced by Kent State University was used to complete the steps required for the Chi-Square Tests of Association. After the significance of each test was determined, the observed and expected values of each test were compared, based on recommendations from Kent State University. Expected values are produced assuming that the variables tested for association are independent, and therefore have no association. By looking at the differences between the observed and the expected cell counts, it becomes apparent what variables have the largest differences, indicating where specific variables are dependent. This comparison is a vital step in this research process as it highlights the variables that have the greatest influence on teenagers regarding school shootings (Yeager, n.d.).

Results

Qualitative Results - Survey

The first portion of the survey was utilized to gather baseline data surrounding the usage of social media as a news source and the extent to which social media was portrayed through these sources. As seen in Figures 4 and 5, 82.8% of respondents utilized social media as their main news source, and 93.9% of students who utilized social media as their news source had previously seen content relating to school shootings. Of the students who utilized social media as a news source and saw content regarding school shootings, the top apps used were TikTok, Instagram, and YouTube, as seen in Figure 6.
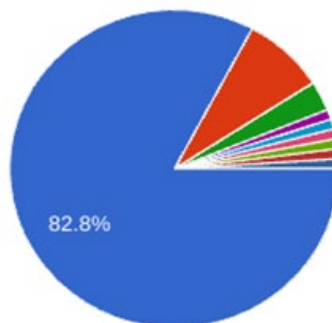

Figure 4. Respondents Who Utilized Social Media as Their Main News Source
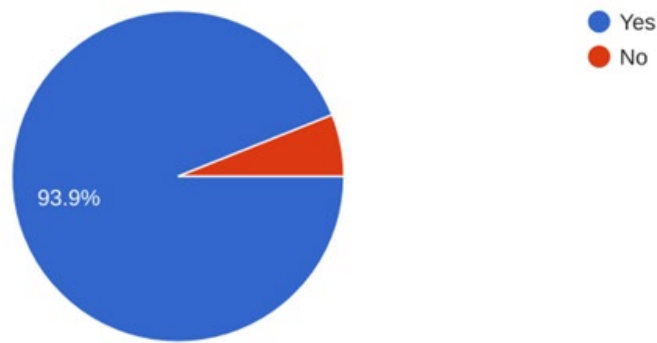
Figure 5. Respondents Who Had Seen Prior Content Relating to School Shootings
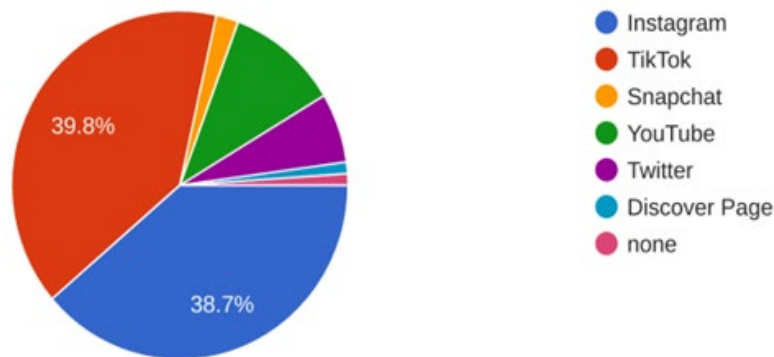

Figure 6. Social Media App Used as News Source With Content of School Shootings

Responses from survey questions 5 and 6, asking students to describe the type of content they saw regarding school shootings and their emotions towards school shootings, were organized into four and five subsequent categories based on the popularity of the description and its underlying definition. Table 1 shows the four main types of content viewed and the descriptions organized into each category. Table 2 showcases the five most popular emotional descriptors and the types of descriptions organized into each category (*Reminder: these categories allowed the data to be qualifiable in the later steps of the research process.*)

Table 1. Categorization of Student Descriptions of Content By Keyword

Content-Type	Keywords of Student Descriptions of Content			
Educational	News	Stories	Tellings Of Victims	Awareness/Prevention
Violent/Comedic	Memes	Live Footage	Funny	Gun Violence
All	All	Every		
Other	TV show	Games		

Note: Violent and Comedic content are categorized together because of the negative connotations that were found within the student descriptions of the survey.

Table 2. Categorization of Student Description of Emotion by Keyword

Categories of Emotion	Keywords of Student Descriptions of Emotion			
Empathetic	Sad	Heartbroken	Upset	Sorry
Scared	Fearful	Unsafe	Nervous	Worried
Emotionless	Nothing	Indifferent	Unbothered	Careless
Disappointed	Disappointed	Reform	Ashamed	
Other	Frustrated	Thoughtful		

Qualitative Results - Content Analysis

To reiterate the steps of the content analysis: each app was analyzed individually, by collecting data from the top 50 most viewed or liked posts presented on each platform when the term school shootings was entered into the search engine of the app, and the analyzing type of content it portrayed. Even though the students' descriptions of content were organized into the five, previously mentioned, distinct categories, the process of the content analysis allowed for the verification of student responses and a subcategorization of each content type. Table 3 shows the results from the content analysis and the subcategorization of each content type.

Table 3. Analysis of Content Relating to School Shootings on Different Social Media Platforms

Occurrence of Content Type (out of 50)

Category of Content	Subcategory	Social Media Platform			
		Instagram	TikTok	YouTube	
Educational					
	News	4	6	5	
	Awareness	3	4	1	
	Expressions of Parents/Victims	11	25	12	
	Prevention/Safety	0	4	1	
		18	39	19	Totals
Violent/Comedic					
	Live Footage	3	4	27	
	Comedy	24	4	1	
	Gun Violence	5	3	3	
		32	11	31	Totals

Note: This data set represents the categories of the 50 most liked posts for each app. For the platform Instagram, this study could not analyze the results of content under the sections: For You, Accounts, Audio, and Places, due to the fact much of this content was under private accounts or had the like count hidden. Instead, the content under the Tags was analyzed. Not noted in the table, is the quantity of posts under each hashtag. There was a greater amount of posts under the #schoolshootingmeme with 93.4k posts, while there were 46.9k posts under the #schoolshootings and another 1000+ posts under the #schoolshooting meme (Appendix B). Also not noted in Table 3 are the restrictions that were found on the social media platform TikTok. When the initial term school shootings was presented in the search engine of TikTok, results were blocked due to the search going against community guidelines. The search of school shootin did yield results, however, it is important to note that much of the content viewed showcased a trigger warning, alerting viewers to sensitive and alarming content (Appendix B).

Quantitative Results and Analysis

A Chi-Square Test was utilized per app to measure the significance between the content viewed by the students and the emotional descriptors students used towards school shootings. The formula for the Chi-Square test of association is represented in Figure 7 below.

$$X^2 = \Sigma \left((O - E)^2 \div E \right)$$

Figure 7. Formula of Chi-Square Test of Association

The observed data (O) was based on the respondents' descriptions of the content they viewed. This variable was used so that each description could be directly paired with the emotional descriptors from the student, to test the association of the two variables. Data from the content analysis was not utilized in this test, as it was used to enhance the qualitative responses from students, but was not paired with an emotion, so association could not be tested. Significance is determined based on the calculated p-value of the test. A p-value less than an x level of .05 supports significant evidence that H_a, the hypothesis that students' feelings and awareness towards school shootings, is dependent on the type of content viewed by students (Mindrila & Balentyne, 2013). A p-value greater than an x level of .05 supports significant evidence that H_o, the null hypothesis that students' feelings and awareness towards school shootings are independent of the type of content viewed by students. Observed data from each test was then compared to its expected data (E), which was calculated using Figure 8. Data between dependent variables of O and E that had a difference >1.25 was noted as significant (Mindrila & Balentyne, 2013). (Reminder: This comparison is a vital step in this research process as it highlights the variables that have the greatest influence on teenagers regarding school shootings.)

Figure 8. Formula for the Expected Count

Table 4. Chi-Square Test for Association- Instagram- Observed vs Expected Data

Content-Type	Emotional Descriptors					Values		
	Emotionless	Empathetic	Scared	Disappointed	Other	x^2	df	P
Observed Data								
Educational	3	8	6	1	1			
Violent/Comedic	6	2	3	0	0			
All	1	0	0	0	0			
Other	1	0	2	1	1			

Expected Data					
Educational	5.657	5.143	5.657	.514	1.028
Violent/Comedic	3.457	3.143	3.457	.314	.628
All	.629	.571	.628	.057	.114
Other	1.256	1.143	1.257	.114	.228
				28.10	12	.0053

Note: Results from Table 4 support the H_a as the p-value = .0053 and is below the x level of 0.05. Based on the difference between the observed and expected data, results further represent the greatest dependence between the variables of content described as educational and the emotional descriptors of emotionless (where E = 5.657 and O = 3) and empathetic (where E = 5.143 and O = 8), as well as content described as violent/comedic and the emotional descriptor of emotionless (where E = 3.457 and O = 6).

Table 5. Chi-Square Test for Association- TikTok- Observed vs Expected Data

	Emotional Descriptors					Values		
Content-Type	Emotionless	Empathetic	Scared	Disappointed	Other	x^2	df	P
Observed Data								
Educational	3	11	9	3	0			
Violent/Comedic	3	2	0	1	0			
All	0	1	0	1	1			
Other	0	0	2	1	0			
Expected Data								
Educational	4.105	9.579	7.756	4.105	.684			
Violent/Comedic	1.105	2.579	2.026	1.105	.184			

All	.316	.736	.5789	.315	.052		
Other	.474	1.105	.868	.473	.0789		
						17.05	12	.147

Note: results from Table 5 support the H_o as the p-value = 0.147 and is greater than the x level of 0.05. While the results don't represent significance, the difference between the observed and expected data represents the greatest dependence between the variables of content described as educational and the emotional descriptor of empathetic (where E = 9.579 and O=11), as well as content described as violent/comedic and the emotional descriptor of emotionless (where E =1.105 and O = 3)

Table 6. Chi-Square Test for Association- YouTube- Observed vs Expected Data

	Emotional Descriptors					Values		
Content-Type	Emotionless	Empathetic	Scared	Disappointed	Other	x^2	df	P
Observed Data								
Educational	0	3	2	0	0			
Violent/Comedic	2	0	0	0	1			
All	0	0	0	1	0			
Other	1	1	0	0	1			
Expected Data								
Educational	1.25	1.66	.873	.4166	.833			
Violent/Comedic	.75	1	.5	.26	.5			
All	.25	.33	.166	.0803	.166			
Other	.75	1	.5	.25	.6			
						21.86	12	.0390

Note: results from Table 6 support the H_a as the p-value = 0.0390 and is less than the x level of 0.05. Based on the difference between the observed and expected data, results further represent the greatest dependence between the variables of content described as educational and the emotional descriptors of empathetic (where E =1.25 and O = 0) and emotionless (where E = 1.66 and O =3), as well as content described as violent/comedic and the emotional descriptor of emotionless (where E = .75 and O = 2)

Discussion

Referring back to Figure 2, the final step of the mixed method design was integration, in which the qualitative and quantitative data were compared. Tables 4 and 6 represent data indicating that the emotional descriptors of individuals who viewed school shooting content on the social media platforms, Instagram and YouTube, were dependent on the type of content viewed within these platforms. This is based on the calculation within the Chi-Square Test for Association that produced a p-value less than the x level of 0.05. While the social media platform of TikTok, shown in Table 5, did not indicate an association between these two variables as a whole, as the Chi-Square Test for Association produced a p-value greater than the x level of 0.05, discrepancies between the observed and expected values can be extracted to indicate individual associations. Tables 4, 5, and 6 indicate that on all platforms, the use of the emotional descriptor of empathetic was dependent on the portrayal of educational content regarding school shootings. In all 3 of these data sets, the observed count of students who viewed educational content regarding school shootings, and felt empathetic exceeded the expected count, indicating that respondents were more likely to feel empathetic towards school shootings when educational content was viewed. The next set of variables that conveyed dependence are those who viewed emotional/comedic content regarding school shootings and those who used the emotional descriptor of emotionless. As seen in Tables 4, 5, and 6, Instagram, TikTok, and YouTube, all had an observed count of individuals who described feeling emotionless towards school shootings, after describing school shooting content they had viewed as comedic/violent, which exceeded the expected count, further indicating dependence between these variables. Other variables were not noted for any clear associations.

When the data acquired from the content analysis is compared to these results, there are apparent suggestions as to why some of these dependencies exist. Data from Tables 4 and 6 note that Instagram and YouTube had the largest proportion of content organized as *comedic* or *violent.* These apps also had a greater calculated significance, according to the Chi-Square Test for Association, suggesting that violent and comedic content, regarding school shootings, has a greater emotional effect on teenagers. It was further seen that the emotional description of *emotionless* was dependent on the viewership of violent/comedic content. It should also be noted from the content analysis that the platforms of YouTube and Instagram portrayed the most violent/comedic content while lacking any visible regulations within the apps. While data from TikTok was not noted as significant, this app had apparent regulations, as seen by the conducted content analysis, in which the initial search for *school shootings* was blocked and by the utilization of trigger warnings on the app. TikTok was the only platform not calculated to be significant by the Chi-Square Test suggesting that when social media regulations are enforced, content has less of an influence over teenagers' emotional well-being.

Conclusion

The purpose of this study was to answer the question, *what is the influence of different types of social media content, in regards to school shootings, on teenagers?* Throughout the past quarter century, the relevance of school shootings has steadily increased without a clear explanation as to why or how to prevent them. Past research evaluated the increase in school shootings and the correlation of news media to this increase, while others have looked at the portrayal of specific news content on the emotional well-being of students, yet there was a clear gap in research based on

the emotional effects of different types of school shooting content on teenagers. Using a mixed method approach this study acquired data that indicates that H_a is true: types of content found on social media, regarding school shootings, have an emotional influence on teenagers. It was also found that when regulations are implemented on such platforms, this content plays less of a role in influencing teenagers' emotional being. When platform regulations weren't present, social media platforms had a greater presence of harmful media regarding school shootings, consisting of violent and comedic content. With this data it can be suggested that regulations should be further enforced within social media platforms and educational facilities should properly address the topic surrounding school shootings, to prevent the spread of media that has harmful emotional effects on teens and that portrays school shootings in a manner that may lead to more copycat communities, or school shootings.

Implications

Data suggests that different types of content found on social media, regarding school shootings, do have an emotional influence on teenagers and that when a form of regulations are implemented on such platforms, this content plays less of a role in influencing teenagers' emotional being. When platform regulations weren't present, social media platforms had a greater presence of harmful media regarding school shootings, including violent and comedic content. This is the type of media that is indicated by past research to play a role in the formation of copycat communities that lead to an increase in threats and school shootings. Based on indications from the data in this study, it is suggested that social media platforms adopt stricter and stronger regulations that disrupt and prevent the spread of harmful/influential media. Disrupting the spread of this media, which has been indicated to have an emotional influence over teenagers and teenage communities, may alleviate some of the copycat influences and communities that exist today. However, the current focus in today's communities is on the banishment of TikTok. In May of 2024, the United States required that the ownership of TikTok be transferred to the US, or it would otherwise be banished from the nation, due to a common growing fear for national security and teens mental health (Maheshwari & Holpuch, 2024). However, this study suggests that the platform of TikTok is one of the only widely used social media platforms containing some form of regulations in place to protect the well-being of viewers. From this information, it is recommended that communities and government agencies expand their outlook to other social media platforms, not just TikTok, especially those that lack regulations, as they are indicated to portray content that plays a significant role in the emotional influence of teens. School systems locally may shift their attention away from zero-tolerance policies and school shooting prevention methods that have been proven unsuccessful, and focus on properly educating teens on the subject of school shootings, to make them less susceptible to social media influences. Educational facilities may implement educational seminars in which awareness is brought to school shootings, prevention measures are discussed, and an accurate representation of school shootings is portrayed. These seminars may further educate teens, students, and a community of adolescents on navigating social media platforms to avoid harmful or misleading media.

Limitations

While this study indicates clear evidence that regulations should be supported on social media, the study did not go without its limitations. Due to IRB regulations, this study was unable to ask students specific questions that would have deepened the studies' understanding of content type and its emotional influence on teens and their mental health. These questions would have asked students how they felt towards school shooters if they ever had any violent thoughts regarding school shootings, and would have further inquired about the state of their mental health. Responses to these questions may have deepened the understanding of this research and further evaluated the extent to which teens were affected by specific content. Furthermore, students who partook in this research process largely utilized social media as their news source, which was where the study was focused. Because only a minority of respondents utilized other news networks and sources and had varied responses on the sources used, it was impossible to narrow down the

responses to another specific news source, where specific content and emotional descriptors could be analyzed outside of social media. However, this opens up a possibility for future research. As this study was limited to the content analysis of specific content on social media, regarding school shootings, it would be progressive to expand this type of research to encompass other news sources, especially those that have established regulations regarding news portraying school shootings, to further evaluate the extent that different types of content emotionally influence teens.

Acknowledgments

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