

# Trauma and Mental Health Impacts from Indirect Exposure to Stressful Media on Adolescents in the Houston Area

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## ABSTRACT

Past research on trauma has indicated that indirect exposure to violent crises causes post-traumatic stress (PTS) in adults, but no such studies have been conducted on children. Thus, the objective of this study was to explore the question: To what extent does media coverage of traumatic global issues influence the development of complex PTS in adolescents in Greater Houston? The conclusions of this study aim to explore PTS prevention and mitigate long-term physiological consequences of increased cortisol levels. The study utilized a mixed-method approach of a quantitative survey on 49 adolescents from ages twelve to eighteen in the Houston region and was measured through a Likert Scale system of participants' relatability to presented scenarios. The second part of the method conducted qualitative interviews with a parent and a psychologist to qualify the survey results and provide a scientific perspective respectively. Results were analyzed through thematic analysis of major internal and environmental factors that contribute to child PTS including amount of exposure, Covid-specific circumstances, gender, personality, and previous trauma. The study concludes that children have more media exposure in the Digital Age and are experiencing increased anxiety, causing growing concern of long-term effects on emotional health. Further research will need to be conducted to determine whether media exposure is the primary trigger of stress and how personality plays a role in an individual's perception of media.

## Introduction

Post-traumatic stress disorder, or PTSD, was first established as a mental disorder after the Vietnam War as American soldiers returned from war with symptoms of trauma such as hallucination, anxiety, depression, and night terrors (Howell, 2012). Since PTSD was first introduced to the Diagnostic and Statistical Manual of Mental Disorders (DSM), its definition and symptomatology have expanded to include stress caused by any factor that results in severe mental disturbance. This expansion of definition has caused indirect exposure, or complex trauma, to become a common source of concern for psychiatrists as it can be harder to diagnose in its early development than PTSD caused by direct trauma.

A novel area of research has indicated that indirect exposure, which may result in post-traumatic stress (PTS), can even be triggered by factors such as media exposure. Exposure to media has not been indicated to be as strong of a PTS trigger factor as direct exposure, but since children are still developing behavior from media, it may affect them positively or negatively. In addition, the increase in sensational news in the past few decades has caused new concern since it covers violent and traumatic media forms, potentially amplifying collective trauma in adults.

Researchers have various opinions on what factors influence indirect exposure-related PTS since it is vaguely defined. Some researchers have conducted studies to determine if past trauma experiences make a person more susceptible to PTS in a future traumatic event while others contend and propose that it is the

person's general personality that makes them susceptible to receiving trauma from watching violent media. Recent research has even indicated that factors with genetic components such as gender, personality, and empathy determine one's likelihood of developing PTS, making the disorder partially hereditary and introducing a nature vs nurture aspect to the discussion.

Specifically relating to adolescents, many researchers disagree on how much media coverage can impact them. Some experts claim that since adolescents develop emotions and beliefs from media, they are more inclined to experience PTS from watching violent events (Paediatr Child Health, 2003). But others claim that their overall probability of getting PTS from the media is low since adolescent media does not primarily consist of sensational news and violence (Gollub et al., 2019). Since previous studies have focused on the effects of media exposure to graphically violent news in the adult populations during specific times of national crisis, the effects on adolescents need to be explicitly examined since 31% of parents have reported worsening mental and emotional health in their children since the beginning of the current global crisis: the Covid 19 pandemic (Panchal et al., 2021).

Given how media sensationalism is increasingly depicting the violence and gravity of global issues such as Covid-19, its impact on adolescents, who are prone to derive emotions and perceptions from media coverage, must be addressed. Thus, this paper aims to answer the question: To what extent does media coverage of traumatic global issues influence the development of complex PTS in adolescents in Greater Houston?

## Literature Review

Post-Traumatic Stress Disorder (PTSD), first diagnosed solely in American soldiers during the post-Vietnam era, is now clinically applicable to any individual who is psychologically disturbed by a traumatic event and experiences physiological and/or depressive symptoms. As aforementioned, one of the most controversial perspectives introduced by this broader clinical context is PTSD from indirect exposure through factors such as media. While it seems improbable to derive such a debilitating disease from watching the news, factors in modern American media such as sensationalism and increasing volatility of globally relevant issues such as terrorism and disease may result in exposure to terror through graphic images at levels similar to those experienced by soldiers. Easy access to unregulated media may prove to be more consequential to children and adolescents as their exposure to media often plays a role in their emotional development, augmenting the probability of symptoms of trauma in future generations of Americans.

### Adult Studies on PTSD Development

Many previous studies of post-traumatic stress focused on adults and the effects they face. Howard and Crandall (2007) and Cohen et al. (2002) concluded that general PTSD occurs as the memory of a traumatic event enables repetitive "fear conditioning" where the amygdala, the part of the brain responsible for emotions, fixates on stress, depression, and anxiety as it is met with excessive cortisol and dopamine release. Fortunately, Howell (2012) found that the dysfunction of the amygdala is temporary in many adults, as the human capacity for "resilience" allows individuals to overcome fear triggers without receiving a clinical diagnosis. However, these studies failed to consider trauma from indirect exposure or complex trauma. Studies of complex trauma from media exposure to terror-inducing events such as 9/11 (Silver et al., 2013) indicated that people tend to view more disaster-based media coverage after watching one incident, exposing them to further experiences and inducing deeper psychological damage. And while Neria and Sullivan (2011) dictated that indirect exposure-related PTS symptoms are easier to recover from, the rise of sensationalism in Western mass media culture has augmented the probability of continuous exposure to traumatizing news and violently graphic media coverage (Wiltenburg, 2004), making repeated trauma exposure more prominent today.

## Chronic Consequences of Repeated Trauma

Given this concerning factor in complex PTSD development, it was necessary to explore the potential for media-derived PTSD to exhibit long-term consequences for the individual. In addition to the studies conducted by Silver et al. (2013), further studies with the Stroop Interference Test, utilized to signal PTS symptoms, indicated that individuals with previous trauma and currently diagnosed patients are likely to gravitate towards negative emotions and events again (Joyal et al., 2019). When applied specifically to media exposure, Thompson et al. (2019) considered the same ideology that a traumatic event can increase the susceptibility to falling into trauma again as individuals watch more negative news coverage, ultimately leading to a cycle of distress. This phenomenon was studied in those who watched violent news related to the Boston Marathon Bombing and Pulse Nightclub shooting as both terrorist events occurred within a short span of time, causing the negative mental health effects to be repeated and increasingly substantial with each exposure (Thompson et al., 2019). This is consequential as it implies that untreated individuals with mild PTSD may return with more severe cases in the future and become psychologically resistant to resilience and common therapy practices. Meanwhile, Moffitt and Klaus-Grawe Think Tank (2013) establish that severe cases of PTSD can not only emotionally scar an individual but also take on physical form in the body as cardiovascular disease due to the chronically high cortisol levels and disturbed mental state of trauma victims. Since media sensationalism is a daily factor in many people's lives, repeated exposure to trauma is more likely in future generations as the digital age expands, also making chronic consequences more threatening to the American population.

## Examining PTSD Development in Adolescents

Due to the severe, long-lasting effects of PTSD as well the exposure of new audiences to trauma-triggering violent news via sensationalism, it becomes necessary to examine the effects that such exposure can have on future generations by focusing on adolescents, whose developmental state is at risk when victimized by such trauma. As established by Gollub et al. (2019), children, although less exposed to violent situations by nature, are more likely to be traumatized for longer periods and with more severity than adults. Noonan et al. (2012) and Weems et al. (2012) furthered that since adolescence is a period of psychological, physical, and emotional growth, young adults are more likely to associate trauma with depression, illegal coping methods (i.e. drugs), and suicidal tendency. Given this disturbing correlation, even media exposure-related PTSD may trigger more consequential symptoms in children than were observed in previous studies on adults. Following this perception, Kaminer and Eagle (2010) theorized that electronic media could impact adolescents' cognitive and behavioral development as the current era prompts them to develop social perspectives from television. Thus, it is reasonable to assume that increased exposure to violence through media may have permanent consequences on future generations by stunting emotional growth from an early age.

## Research Gap

The literature studied thus far indicated a clear link between media violence and PTSD in adults while also implying a subtle connection between media exposure and emotional growth in children. However, it is important to understand the factors that drive increased media violence in today's globalized society and understand exactly how children and future generations will be chronically affected by media exposure. Only by exploring these links through direct interaction with potential subjects sensitive to media-related trauma can we discover how to take measures to ensure early diagnosis of adolescent trauma and propose preventative policy measures and societal/institutional education that can mitigate skewed emotional development.

## Method

As aforementioned, the only way to explore connections between factors leading to PTS in adolescents was through direct interaction, so the study conducted descriptive research that was mostly qualitative to get this perspective.

### Design

To perform humanitarian research on PTS while keeping population applicability in mind, the study utilized a mixed methods approach of surveys and interviews. As previous studies in this field of study have already conducted meta-analysis, controlled variable, and historical studies, repeating the same design would not yield new results or consider the perspective of the victim. Post-traumatic stress is related to mental health and is difficult to diagnose in patients due to the subtlety or uniqueness of symptoms, which makes their personal experiences with combating trauma and violence crucial in determining how much populations have been negatively affected and in what ways. As PTS falls under the category of mental instability, it would have been unethical to attempt experimental research, and correlational research would not have yielded the emotional responses needed to analyze the current social mores surrounding media-related trauma, so descriptive research was the most feasible approach. Within the descriptive research design, a mixed-methods approach was necessary because while surveys allowed insight into the general attitudes of individuals towards specific media content, the interviews were needed to provide better insight into how everyone was personally impacted emotionally and psychologically, which allowed for the development of more tailored solutions to address specific needs within the local community.

### Participants

The participants for the survey section of the study were adolescents of ages 12-18 since younger children are generally less exposed to violent media, making it less likely for them to develop PTS from media exposure. Participants were recruited through social media and school groups through snowball sampling, although participants' names were never disclosed due to sensitive health-related information. The number of students of each age and background was randomized, so the ethnicity and gender of the children served as uncontrolled variables. Ethnicity and gender were recorded through survey questions to determine any trends of adolescents from certain backgrounds being more susceptible to media-induced trauma. The sampling size was 50 participants within the greater Houston area. Although it was unclear as to how many children and adolescents as well as their legal guardians would be willing to participate in a study concerning a mentally sensitive issue, this sampling size was adequately met.

The interview portion was conducted with a mental health professional and a parent of a survey participant to get outside perspectives on the survey results. The first interview with a certified psychologist at a mental health clinic based in the greater Houston region addressed the psychological factors that surround trauma in general and what specific triggers in media may induce mental stress. The parent interview was aimed at determining potential factors of stress that the parent may have noticed, which the student may have failed to observe in themselves.

### Instruments

For the survey, a digital survey platform known as Survey Monkey was used since it was an established data collection and analysis tool that was able to organize the survey results more efficiently and was able to reach

more participants in more locations regardless of Covid restrictions. Furthermore, the website was able to conduct a basic analysis of trends in the data automatically, allowing more time for a deeper analysis of the meaning behind the trends that were received. The interview portion was conducted on the Zoom online video conferencing platform as preferred by the interviewees.

## Procedure

The survey was shared via a link on social media through various organizations inside and outside of school with participants of the right age group. Participants were also asked to share the survey with other individuals who fit the participant criteria to get diverse backgrounds. The participants were given a clear description of what they would be surveyed on and what it would be used for before they started the survey, and both participant and parental approval were required before asking any of the other survey questions. The survey started by asking questions that were broadly related to everyday media use and reliance to make the participant more relaxed before moving on to more emotional questions. Most of the questions utilized a Likert scale to allow participants to get a better range of responses based on their specific emotions (American Psychological Association, 2021), and some questions were followed up by optional free-response questions to allow the participant to explain their experiences. Questions included topics such as how much media they were exposed to regularly, how often they watched the news, how much they related the news to their daily lives, how often they dreamt about events that they saw/heard on the news, etc. (Pew Research Center, 2021). All questions (except for the agreement forms) were optional so participants would not be pressured to pick answers for question that caused them discomfort.

For the interview, the primary questions were prepared but still allowed the participant to lead the conversation to ensure they were comfortable with the direction of the conversation. Like the survey, the interview started with broader questions before moving on to more specific issues, personal experiences, and current effects of COVID. For the interviews with the parent, questions were focused on similar questions to those asked in the survey but instead asked for their perspective on the issue and how they might propose to resolve it. The interview with a specialist was conducted after survey results were received and analyzed, and questions were tailored to qualify the observed trends in survey data.

The final stage of the study compared data gathered from the student-focused survey with both the parental and scientific perspectives to determine how much children were impacted by stressful media, how aware they were of the developmental changes they faced, and how willing they were to admit such an impact. Since part of this study's purpose was to find the best method to aid adolescents in overcoming such mental instability, a thematic analysis of the three perspectives was conducted to determine common trends and how consequential they were.

## Findings

Before discussing the relationship between the survey and interview findings, it is important to first establish the trends observed in both sets of data.

### Quantitative Data: Survey on Adolescents

Among the 23 questions posed to the participants, 5 of the questions provided a direct indication that the individual's mental health was negatively impacted by media. The table below summarizes how strongly the survey respondents related to each of these questions by evaluating participant responses within certain ranges on the Likert Scale.

**Table 1.** Adolescent Survey Results for 5 Correlative Questions

Questions	Not Im- pacted (1-3 on the scale)	Partially Im- pacted (4-6 on the scale)	Deeply Im- pacted (7-10 on the scale)	Total Num- ber of Re- sponses
How often have you been disturbed by the violence seen in the media?	12	16	18	46
How often do you imagine yourself in violent situations similar to those you have seen in the news?	20	19	7	46
How much has the COVID pandemic changed your perspective on events depicted in the media?	6	16	17	39
Have you imagined yourself in violent/traumatizing situations following the start of the COVID pandemic?	16	15	8	39
How often have you felt emotionally disconnected from the world around you after watching COVID-related events on the news?	15	10	14	39

As seen in the table, media violence and Covid-related media garnered stronger responses from the participants, but answers to the free-response questions asking how such media exposure impacted participants' emotional state did not indicate many psychological struggles faced by the participants. Notably, there were some respondents that answered on the higher end of the Likert scale for all questions as they claimed to suffer from watching stressful media and often worried about being placed in situations like those on television.

The remaining 18 questions were aimed at finding correlations between outside factors of the individual's life that may increase susceptibility to trauma symptoms from the media. For example, participants who answered that they had been exposed to previous traumatic events were more likely to score higher on the questions related to emotional changes after media exposure. Questions between age, gender, and emotional state also indicated that older respondents and female respondents were more likely to talk about feeling emotionally disconnected after Covid.

### Qualitative Data: Interviews

The questions asked during the interviews with the psychologist and parent were divided into sections based on the themes they explored. The themes and how each theme was addressed during the interview are summarized in the tables below.

**Table 2.** Themes Observed in Psychologist Interview

Theme	Summary of Thematic Discussion
PTSD vs. PTS	● PTSD is only clinically diagnosed with direct or family-related exposure to a

	<ul style="list-style-type: none"> <li>traumatic event.</li> <li>● Post-Traumatic Stress (PTS) is more commonly seen in children in the form of anxiety and sudden behavioral changes.</li> </ul>
Direct Exposure vs. Media Exposure	<ul style="list-style-type: none"> <li>● Direct exposure causes more severe trauma symptoms: panic attacks, frequent nightmares, and physiological symptoms like fast heartbeat and sweating.</li> <li>● Media exposure-related trauma has less severe symptoms, making it harder to diagnose.</li> </ul>
Younger Children vs. Adolescents	<ul style="list-style-type: none"> <li>● Younger children show physical symptoms because they don't know how to express emotions; they may act out or regress developmentally.</li> <li>● Adolescents show behavioral changes and emotional struggles such as anxiety about being in situations like what they see on TV. They are more likely to show signs of depression.</li> </ul>
Covid-Related Trends in PTS	<ul style="list-style-type: none"> <li>● Anxiety rates have skyrocketed, and clinics get more referrals for kids who are anxious about Covid.</li> <li>● Constant media exposure to death rates triggered stress symptoms in adolescents.</li> </ul>
Demographic Trends in PTS	<ul style="list-style-type: none"> <li>● Children who have been exposed to stressful media repeatedly or have experienced previous trauma are more likely to develop PTS.</li> <li>● Children with more dependent personalities and less positivity may feel greater effects of media.</li> <li>● Girls showed more signs of anxiety after Covid.</li> </ul>
Physiological Impacts	<ul style="list-style-type: none"> <li>● Patients with PTSD have high cortisol levels, leading to development of diseases in adult lives.</li> <li>● Patients with PTS may develop anxiety carrying into adult life.</li> </ul>
Changing Role of Media	<ul style="list-style-type: none"> <li>● Media is prevalent in the Digital Age, and children are exposed to material without content restrictions, which raises the chance of exposure to traumatic media.</li> </ul>
Solutions	<ul style="list-style-type: none"> <li>● Both parents and adolescents need to be educated on the dangers of unrestricted media use.</li> </ul>

**Table 3.** Themes Observed in Parent Interview

Theme	Summary of Thematic Discussion
Child's Level of Media Exposure	<ul style="list-style-type: none"> <li>● Children get news about global events through social media but are not always aware of global events since they do not watch TV news.</li> <li>● Interviewee sits with children to make sure they understand various perspectives of media events they view.</li> <li>● Interviewee does not let children watch news that is too violent/graphic.</li> </ul>
Child's Emotional Response	<ul style="list-style-type: none"> <li>● Children have emotionally strong personalities, so they have not shown</li> </ul>

to Exposure	<p>any signs of being impacted.</p> <ul style="list-style-type: none"> <li>● Children had direct experiences with traumatic events but were not related to the media.</li> </ul>
Covid Related Exposure Trends	<ul style="list-style-type: none"> <li>● Interviewee did not notice children's exposure to media increase/decrease.</li> <li>● Older children expressed mild depression/moodiness due to social disconnect from friends and viewing death rates in the media.</li> <li>● Parents sat with children to talk about the crisis and encourage them to adapt.</li> </ul>
Parental Perception of Media Exposure to Child's Life	<ul style="list-style-type: none"> <li>● Violent media is dangerous to children's emotional state.</li> <li>● Parental controls help limit the amount of violent media exposure.</li> <li>● Schools should focus on providing an open discussion of violence seen in the media to ensure children are better educated.</li> </ul>

### Mixed Method: Common Themes

This final table combines all three perspectives discussed previously and gathers the common themes that may be most relevant in determining the extent of emotional disturbance seen in adolescents today. The most prevalent themes from this table will then be utilized to conduct a thematic analysis.

**Table 4.** Common Themes Observed Between Perspectives

Theme	Adolescents	Parents	Psychologist (clinical)
Disturbance from Media-Related Violence	✓	✓	✓
Personal Connections to Traumatic Media			✓
Nightmares from Traumatic Media			
Covid Increased Media Exposure	✓		✓
Covid Increased Stress from Media	✓	✓	✓
More Media Exposure Increases Stress Symptoms	✓	✓	✓
Personality Impacts Media Effect on Children		✓	✓
Gender Impacts Media Effect on Children	✓		✓

Note. This table demonstrates the prevalence of observed themes within the adolescent, parent, and psychologist perspectives respectively.

### Analysis



The data gathered from the survey provides insight into the perspectives of the students as they determine their own mental health on a numerical scale, but only after the data is compared with the family's observations of the children's behaviors can there be any implications of stress and trauma symptoms. A comparison of both data sets with the results from the psychologist's interview determines whether the media exposure-related trauma seen in society is consistent with the trends observed in the clinical setting. As post-traumatic stress is related to various social themes, the repetition of these themes within each data set will qualify the presence of trauma symptoms in adolescents. This section conducts a thematic analysis of the prevalent themes observed in Table 4 and reaches conclusions about their relevance in our society today.

## Theme 1

### *Disturbance from Media-Related Violence*

This was the most prominent theme in all the data sets as more than 50% of student participants in the survey and both the parent and psychologist interviews suggested that when children are exposed to violence in the media, they are prone to be disturbed to some extent. During the interview with the psychologist, she stated, "I have had clients in both therapy and testing who have had signs of post-traumatic stress after watching media; They don't qualify for a diagnosis of PTSD, but they certainly had trauma symptoms."

However, to what extent they are distressed is not as clear since it is different in each case based on contributing factors such as age, personality, gender, and environment, which will be explored further in the following themes. While some adolescents in the survey simply stated that they "felt bad" after watching violent or stressful news, others claimed far more concerning reactions. Notably, Participant 34 stated, "[Watching violent news] makes me scared and get paranoid whenever I'm outside or in public."

Regardless of the range of psychological impact, the general trend can be attributed to adolescents' evolving resilience towards global issues and lack of experience with traumatic events due to their young age. This is supported by the findings of Gollub et al. (2019), which indicate that children are less exposed to such violence in daily life and therefore may be more severely impacted emotionally.

## Theme 2

### *Covid Increased Stress from Media Exposure*

Another trend notably seen between all 3 perspectives was an emotional disturbance to media exposure about current stressful global crises, namely Covid-19. The media content related to Covid has been seen to cause stress in children, particularly when the nature of the content is related to death rates and worries about Covid. Many students responded in the free-response questions that they were worried about getting sick and being isolated, which in fact was a big concern also established by the interviewed psychologist.

Meanwhile, the parent interview presents a slightly different perspective as the caregiver of the child, stating that while depressing media content may have contributed to their child's emotional turbulence, the moodiness was mainly brought on by other societal factors at the time, indicating that the relationship established by the survey may be convoluted since it did not isolate media as the only trauma trigger.

As supported by Neria and Sullivan (2011), since media exposure related stress is considered an indirect source of trauma, its psychological impact is not as lasting, implying that when patients are seen with severe trauma symptoms, they are usually assumed to have been exposed to direct stress factors as well or are innately more susceptible to emotional disturbance. Regardless, the anxiety and depression seen in varying degrees at the height of the pandemic were still amplified by the media, which only further disturbed the adolescents.

## Theme 3

### *More Media Exposure Increases Stress Symptoms*

This theme explores how the environment may have impacted the amount of stress that children have received from media exposure. An interesting trend seen in the data was that approximately 20% of the participants (10 out of 49 participants) claimed that they had regular exposure to media at home and readily believed what was portrayed in media sources as indicated by them scoring each question higher than 5 on the Likert scale of 1-10. However, these same 10 individuals also scored higher on each of the 5 questions that directly indicated their degraded mental health state (Table 1 in Findings), implying a relationship between the amount of exposure to media, the individual's response to the media, and their reflected mental state. This is supported by Silver et al. (2013) and Joyal et al. (2019) who both establish that previous experience of traumatic events and repeated exposure to media make it more likely for participants to show symptoms of distress.

### Theme 4

#### *Personality/Gender Impacts Media Effect on Children*

This theme explores how innate qualities may make adolescents more susceptible to trauma. One factor was personality which was prominent in both interviews as they implied that those with weaker personality traits such as dependency, previous anxiety/depression symptoms, etc. would be more likely to develop PTS symptoms and on a more severe scale. This is affirmed by Dylan B. Jackson and his colleagues, researchers in public health and community sciences in various institutions across the US, who analyzed data from the 2018 National Survey of Children's Health and developed the psychosocial connection that "the relative risk of heavy digital media use was 3 times higher among youth experiencing  $\geq 4$  adverse childhood experiences than among those experiencing none" (Jackson, Testa, and Fox, 2020). Both recent research and interviews from this study imply that past experiences with traumatic consequences play a role in determining the level of threat teens face from prolonged media exposure of the same type or consequence.

Another implicit factor was gender as the student survey showed that female participants were more likely to talk about their emotional distress after watching media than males were, and the psychologist also stated that after Covid, the number of female patients getting referrals for trauma was much higher.

Both of these factors, personality and gender, bring out the centuries-old question of nature vs. nurture: while the strong correlation between increased exposure and increased chance of trauma shows how environment, or nurture, plays a role in the development of PTS in adolescents, the role of nature, or inherited qualities that increase the chance of PTS, have not been as clearly displayed within my gathered data, implying that further research may have to be done by isolating these factors to get a more accurate analysis of the specific triggers that pose a threat to children's emotional development.

## **Conclusion**

Upon observing the respective environmental and implicit factors surrounding media-related stress in teenagers, it can be stated that media exposure, particularly exposure to consequential events, is a substantial factor driving PTS symptoms in middle and high school students in the greater Houston area, although media is rarely the primary factor associated with the trauma. However, since there still seems to be a correlation between media and stress symptoms, it is necessary to explore the factors that have not been considered in the course of this study that may hinder its reliability as well as how the conclusions of this study can be utilized to help mitigate stress in adolescents within the community.

## **Limitations**

At first, it was hypothesized that the digital age was the main driver of the increase in media use and potential traumatic effects, but the results and analysis opened the pathway to Covid-19 as a contemporary driver of media exposure that has not previously been considered in older literary sources. Unfortunately, within the survey portion of gathering data, external factors surrounding Covid such as parental and/or friend influences and social isolation were not separately tested for in the study participants. In addition, most of the questions were only able to get a vague understanding of each of these external circumstances due to the Likert Scale approach. This poses a limitation to understanding the extent to which media alone serves as the driving factor behind trauma since these other factors that are listed above have already been shown to increase anxiety, depression, and general emotional instability during Covid for a substantial number of students, not just in Katy but throughout the United States (Panchal et al., 2021).

In addition to external factors, internal factors such as personality and gender were also not isolated as contributors to stress susceptibility during the initial survey data collection since the research conducted during the literature review did not allude to any correlation to these factors. However, these factors do seem to be attributed to trauma development as the interview with the psychologist ascertained, but since this study failed to account for them within the survey, it was difficult to isolate personality and gender within the survey responses and correlate them with individuals having stressful experiences.

For the interviews, the main limitation was the lack of access to many parents to conduct interviews with. Since these interview experiences are personalized to their child's personality and experience with trauma, it was difficult to generalize the data from the parent interview as the parental perspective common to all families in the Katy region. Thus, while there was some insight into how a parent views their child's levels of stress and social experiences, it could not be evaluated as representative of the community.

## Future Study

Given the limitations faced due to the constraint on the number of participants during the study, it would be beneficial to further study this area by conducting a meta-analysis to compare this study's results with current university research on the deterioration of mental health in children due to Covid since institutional level research may be more likely to encompass a larger variety of participants. By comparing multiple data sets, it would be easier to draw better conclusions regarding the common factors associated with trauma development, which would give a clearer indication of how concerned our society should be with current adolescent experiences.

Regardless of whether the results of this study may be applicable to the entire Houston population, the levels of students perceiving some level of stress from media exposure indicates the need for the community to take steps to mitigate the issue.

At the clinical level, post-traumatic stress is currently diagnosed accurately at the disorder stage, but since indirect exposure-related trauma is harder to detect in individuals due to their diverse symptoms and experiences, the criteria will need to be altered to fit the needs of the new demographic of adolescents entering clinics with second-hand experiences. This may not be an easy change given that the symptomology surrounding indirect exposure is more complex, but the results of this study may provide insight into the specific factors that increase susceptibility to trauma environmentally and intrinsically, which clinicians can utilize to measure the likelihood of the patient exhibiting PTS symptoms.

On the other hand, at the personal level, this research can be utilized in home and school environments to raise awareness in parents and faculty regarding the preparatory measures they should take to support their children's emotional development not only during Covid but also in today's technology-oriented society since the amount of information that teens are exposed to in a short period of time through social media is constantly increasing.

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