Media Exposure to Terrorism and Post-Traumatic Stress in Adolescents: Role of Gender and Geographic Location

Sanam Younis[*] and Dr. Humaira Jami[**]

Abstract

The terrorist attack on the Army Public School (APS) Peshawar on December 16, 2014, received extensive coverage on both electronic and social media, raising concerns about its psychological impact on adolescents. Based on the sample of 716 adolescents (aged 12 to 17 years), this study aims to investigate the relationship between Media Exposure to Terrorism (METT) and adolescents' mental health keeping in view the role of gender and geographic location. METT has been assessed using an indigenously developed METT scale, while adolescents' mental health has been evaluated with the Child Revised Impact Event Scale, which measures intrusion and avoidance symptoms. Results indicate that METT is positively related to intrusion symptoms but has shown a non-significant relationship with avoidance symptoms. Gender significantly moderates the relationship between METT and intrusion symptoms, where female adolescents exhibit a stronger association between media exposure and intrusion symptoms as compared to male counterparts. Furthermore, in the case of regional proximity to the attack site, adolescents from Punjab have exhibited the highest intrusion symptoms as a result of METT whereas Khyber Pakhtunkhwa (KP), the region closest to the attack, exhibited low intrusion symptoms. These findings suggest that increased distance from the epicentre of the attack has a significant relationship with intrusion symptoms, emphasizing the role of situational factors in adolescents' psychological responses to METT. This study highlights the need for region and gender-specific interventions to mitigate the mental health impact of terrorism-related media exposure on adolescents.

Keywords: Adolescents' mental health, Terrorism, Media, Gender, Geographical location

[*] Sanam Younis is a PhD scholar at National Institute of Psychology, Quaid-i-Azam University, Islamabad. She is currently serving as a Senior Lecturer at Bahria University, Islamabad.

[**] Dr. Humaira Jami is serving as an Assistant Professor at National Institute of Psychology, Quaid-i-Azam University, Islamabad.

1. Introduction

Modern terrorism can largely be seen as media-driven. Media outlets are drawn to extreme acts of terrorism not only because it is their responsibility to cover significant events but also due to the public's captivation by the dramatic and spectacular nature of these acts.[1] Terrorist acts are intended to instil fear, terror, or chaos among the people. Consequently, the extent of public terror, anxiety, and feelings of turmoil is significantly influenced by the images and messages conveyed through media reports regarding terrorist actions and threats.[2] The constant presence of mass media on a global scale often amplifies these effects disproportionately.[3] While terrorism is not a new phenomenon, the continual portrayal of terrorist acts in media on a daily basis and their worldwide impact have heightened the necessity to reassess media's role concerning terrorism.[4]

Media organisations tend to focus on reporting incidents, particularly those that are shocking or sensational.[5] Thus, as the instances of death and destruction increase, so does the media coverage.[6] This trend is especially pertinent regarding

[1] Michael Jetter, "The effect of media attention on terrorism," *Journal of Public Economics* 153 (2017): 32-48, doi.10.1016/j.jpubeco.2017.07.008; Kearns, Erin M., Allison E. Betus, and Anthony F. Lemieux, "Why Do Some Terrorist Attacks Receive More Media Attention than Others?," *Justice Quarterly* 36, no. 6 (2019): 985-1022, https://doi.org/10.1080/07418825.2018.1524507.
[2] Michael Jetter, Jay K. Walker, *The Effect of Media Coverage on Mass Shootings* (Germany: Institute of Labor Economics, 2018), https://docs.iza.org/dp11900.pdf.
[3] Ahmet Yiğitalp Tulga, "The Role of Mass Media in Terrorism and its Effect on Individuals," *İnsan ve İnsan* 7, no. 25 (2020): 47-64, https://doi.org/10.29224/insanveinsan.695346.
[4] *Heather Davis Epkins*, "Covering Acts of Terrorism." *Handbook of Media, Conflict and Security*, pp. 275-289. Routledge, 2016.
[5] Richard Sharpley and Daniel Wright, "Disasters and Disaster Tourism: The Role of the Media." in *The Palgrave Handbook of Dark Tourism Studies* (London: Palgrave Macmillan London, 2018), 335-354.
[6] Ross A. Miller and Karen Albert, "If It Leads, It Bleeds (And If It Bleeds, It Leads): Media Coverage and Fatalities in Militarized Interstate Disputes." *Political Communication* 32, no. 1 (2015): 61-82, https://doi.org/10.1080/10584609.2014.880976.

terrorism. Studies involving adults and children have found a significant positive relationship between media exposure to traumatic events and various psychological responses, particularly Post-traumatic Stress—whether it be Post-traumatic Stress Disorder (PTSD) or Symptoms (PTSS).[7] A notable longitudinal study on media coverage following the September 11 attacks and the Iraq War highlighted that children and adolescents are particularly susceptible to these effects.[8] Adults may manage their emotions and feelings after being indirectly faced with such events, but younger people often struggle to do so.[9] As a result, extensive media exposure to terrorism can have a significant impact on adolescents' mental health and psychosocial well-being.[10] Additionally, the proximity to the epicentre of the terrorist attack and the extent of television viewing are critical factors in predicting indirect trauma. Moreover, gender has been identified as a crucial demographic factor influencing how individuals process/internalize trauma from media exposure.[11]

[7] Brian Houston, "Media coverage of terrorism: A meta-analytic assessment of media use and post-traumatic stress," *Journalism and Mass Communication Quarterly* 86, no. 4 (2009): 844-861, https://doi.org/10.1177/107769900908600408; Betty Pfefferbaum, Jayme Palka, and Carol S. North, "Media Contact and Post-traumatic Stress in Employees of New York City Area Businesses after the September 11 Attacks," *Disaster Medicine and Public Health Preparedness* 16, no. 1 (2022): 163-169, doi: 10.1017/dmp.2020.227.

[8] Roxane C. Silver *et al*., "Mental and Physical Health Effects of Acute Exposure to Media Images of the September 11, 2001, Attacks and the Iraq War," *Psychological Science* 24, no. 9 (2013): 1623-1634, https://doi.org/10.1177/0956797612460406.

[9] Wan-Yi Chen *et al.*, "Longitudinal Trajectory of Adolescent Exposure to Community Violence and Depressive Symptoms among Adolescents and Young Adults: Understanding the Effect of Mental Health Service Usage," *Community Mental Health Journal* 53 (2017): 39-52, doi.org/10.1007/s10597-016-0031-5; Marie-Lotte V. Beveren *et al*., "How Do I Feel Right Now? Emotional Awareness, Emotion Regulation, and Depressive Symptoms in Youth," *European Child & Adolescent Psychiatry* 28 (2019): 389-398, doi.org/10.1007/s00787-018-1203-3.

[10] Daniel S. Busso, Katie A. McLaughlin, and Margaret A. Sheridan, "Media Exposure and Sympathetic Nervous System Reactivity Predict PTSD Symptoms after the Boston Marathon Bombing," *Depression and Anxiety* 31, no. 7 (2014): 551-558, doi.org/10.1002/da.22282.

[11] Emmanuel Monfort and Mohammad Hassan Afzali, "Traumatic stress symptoms after the November 13th 2015 Terrorist Attacks among Young Adults: The Relation to Media and Emotion Regulation," *Comprehensive Psychiatry* 75 (2017): 68-74,

In 2014, Pakistan experienced a horrific terrorist attack on the Army Public School in Peshawar, which instilled fear, shock, and terror not just in those who directly witnessed the event but also in those who encountered it indirectly through media.[12] While direct victims received prompt attention and support, those who were indirectly exposed to continuous media coverage remained overlooked, even though they were significantly affected.[13] The Peshawar massacre received extensive media attention, leading to adolescents frequently encountering disturbing images and videos of the tragedy. Therefore, this study emphasizes the mental health of those adolescents who have been indirectly exposed to the Peshawar massacre through media, considering the influence of gender and geographical location.[14]

2. Media Exposure to Terrorism (METT)

Terrorism's depiction in media plays a crucial role in influencing people's perceptions and their social reality, particularly when they have no personal experience with the subject. Therefore, the influence of media reporting on people's understanding and interpretation of terrorism is significant and cannot be ignored.[15] Media's portrayal of terrorism often generates pervasive perceptions in the society.

doi.org/10.1016/j.comppsych.2017.02.015; Pfefferbaum, Palka, and North, "Media Contact and Post-traumatic Stress," 165.

[12] Rameesha Qureshi, Aimen Gulraiz, and Zurna Shahzad, "An Analysis of Media's Role: Case Study of Army Public School (APS) Peshawar Attack," *Social Communication* 2, no. 2 (2016): 20-30, doi.org/10.1515/sc-2016-0009.

[13] David L. Altheide, *Creating Fear: News and the Construction of Crisis*, (UK: Routledge,2018).

[14] In the current study, "media" refers to content covered both on television channels and on Facebook. The qualitative findings revealed that adolescents were exposed to the terrorist attack on Army Public School Peshawar through either television or Facebook. Thus, in this study, media refers to both electronic media (television) and social media (Facebook).

[15] Harley Williamson, Suzanna Fay, and Toby Miles-Johnson, "Fear of Terrorism: Media Exposure and Subjective Fear of Attack," *Global Crime* 20, no. 1 (2019): 1-25, https://doi.org/10.1080/17440572.2019.1569519; Tulga, "The Role of Mass Media in Terrorism," 50.

The coverage of terrorism typically instils fear and anxiety in the viewers, which then spreads throughout the general public.[16] This issue is particularly important because how media presents terrorist incidents can greatly affect the audience's view of terrorism as a threat.[17] Graphic coverage of disturbing events like terrorist attacks and mass shootings can result in traumatic feelings among viewers akin to actually witnessing the events firsthand.[18]

Terrorist incidents intrinsically offer exactly what modern media yearns for—drama, shock, awe and tragedy that can be packaged as human-interest stories.[19] Audiences tend to be more drawn to news broadcasts that captivate their attention rather than simply conveying the information. This suggests that media outlets and terrorist organisations have formed an unintended 'mutually beneficial' relationship, where terrorism provides gripping and violent narratives that drive News consumption. In return, media offers terrorist groups a platform to disseminate their messages and instil fear in the public at large.[20] Extensive media coverage transmits the detrimental effect of such incidents to all those who have not been directly exposed to them, thereby transforming the incident into a collective trauma which impacts people's mental health.[21] For instance, media

[16] Altheide, "*Creating Fear: News and the Construction of Crisis".*
[17] Jetter, "The Effect of Media Attention on Terrorism," 32-48.
[18] Vsevolod Anatolievitch Rozanov and Wolfgang Rutz, "Psychological Trauma through Mass Media: Implications for a Current "Pandemic-Infodemic" Situation (A Narrative Review)," *World Social Psychiatry* 3, no. 2 (2021): 77-86, https://journals.lww.com/wpsy/fulltext/2021/03020/psychological_trauma_through_mass_media_.6.aspx.
[19] Brigitte L. Nacos, *Terrorism and Counterterrorism*, 6th ed. (New York: Routledge, 2019), eBook, https://doi.org/10.4324/9780429455100.
[20] Merve Bilgen, "The Arab Spring: on Mass Protests and Political Openings," (Master's thesis, Sosyal Bilimler Enstitüsü, 2019), https://acikbilim.yok.gov.tr/handle/20.500.12812/93955.
[21] Peter Vasterman, C. Joris Yzermans and Anja JE Dirkzwager, "The Role of the Media and Media Hypes in the Aftermath of Disasters," *Epidemiologic Reviews* 27, no. 1 (2005): 107-114, https://doi.org/10.1093/epirev/mxi002.

exposure to events such as the Oklahoma City bombing,[22]the 1990 Gulf War,[23] and the 9/11 attacks have been found to contribute to the transmission of trauma-related symptoms.[24] A similar effect has also been observed in the context of the terrorist attack on APS Peshawar, Pakistan.

According to the Global Terrorism Index, Pakistan stands among the countries with the highest number of terrorist attacks and causalities, providing media with ample information.[25] As per the findings of a recent study, Pakistan has been ranked 3rd in providing media coverage to terrorist incidents.[26] This trend was particularly evident in the aftermath of the terrorist attack on APS Peshawar where media provided extensive coverage of the victims and the site of the incident.[27] The content was graphic, filled with blood and gore. Such content potentially spreads terror and fear among the audience, especially in children and adolescents who have been exposed to the incident through media.[28] These feelings

[22] Betty Pfefferbaum *et al*., "Reactions of Oklahoma City Bombing Survivors to Media Coverage of the September 11, 2001, Attacks," *Comprehensive Psychiatry* 65 (2016): 70-78, https://doi.org/10.1016/j.comppsych.2015.09.010.

[23] Scott Parrott, David L. Albright, and Nicholas Eckhart, "Veterans and Media: The Effects of News Exposure on Thoughts, Attitudes, and Support of Military Veterans," *Armed Forces & Society* 48, no. 3 (2022): 503-521, doi.org/10.1177/0095327X20986145.

[24] Silver *et al*., "Mental and Physical Health Effects of Acute Exposure to Media Images,"1623-1634.

[25] Viviana Andreescu, "Global Terrorism Index," In *Encyclopedia of Religious Psychology and Behavior*, (Cham: Springer Nature Switzerland, 2024),1-3, ebook, doi.org/10.1007/978-3-031-38971-9_1527-1.

[26] Clara Sánchez Portela, "Terrorism and Media: Exploring the Causes for Unbalanced Media Coverage of Terrorist Attacks," (Bachelors thesis, Comillas Pontifical University: 2023), http://hdl.handle.net/11531/68429.

[27] Qureshi, Gulraiz, and Shahzad, "An Analysis of Media's Role: Case Study of Army Public School (APS) Peshawar Attack," 20-30.

[28] Bakht Rawan, Shabir Hussain, and Asmat Ullah, "Psychological Effects of Terrorism on Pakistani Society: A Study of PTSD of APS Peshawar Incident among School-going Children in Lahore," *Pakistan Journal of Criminology* 10, no. 2 (2018), http://www.pjcriminology.com/wp-content/uploads/2019/01/3.pdf.

become more pronounced when terrorist attacks involve educational institutes or children.[29]

The following section will discuss the impact on adolescents' mental health in the aftermath of media exposure to terrorism, keeping in view the geographical distance from the epicentre of the attack and the gender.

3. Impact on Mental Health

Over the past two decades, there has been a significant rise in systematic studies examining the functioning of children and adolescents following terrorist incidents. These studies highlight negative mental health effects in a considerable portion of the targeted population, whether they encountered the events directly or indirectly.[30] Among the most consistently observed outcomes for adolescents affected by terrorism are increased rates of PTSS such as re-experiencing, avoidance and emotional numbing, and hyperarousal.[31] In children, PTSS can lead to various adverse outcomes including the subsequent development of depression, social or cognitive dysfunction, sleep disturbances, substance abuse problems, and suicidal thoughts, impacting their overall quality of life.[32]

The indirect exposure to terrorism is of increasing concern as the

[29] Bill Durodie, "Securitising Education to Prevent Terrorism or Losing Direction?," *British Journal of Educational Studies* 64 (1) 2015: 21–35, doi:10.1080/00071005.2015.1107023.
[30] Rafia Rafique, Afifa Anjum, and Shazza Shazdey Raheem, "Psychological Effects and Coping Strategies in Direct and Indirect Exposure to Ongoing Terrorism," *Pakistan Journal of Psychology* 47, no. 1 (2016), http://pjpku.com/index.php/pjp/article/view/53.
[31] Rivka Yahav, "Exposure of Children to War and Terrorism: A Review," *Journal of Child & Adolescent Trauma* 4 (2011): 90-108, doi.org/10.1080/19361521.2011.577395.
[32] Jonathan S. Comer, Laura J. Bry, Bridget Poznanski, and Alejandra M. Golik, "Children's Mental Health in the Context of Terrorist Attacks, Ongoing Threats, and Possibilities of Future Terrorism," *Current Psychiatry Reports* 18 (2016): 1-8, doi.org/10.1007/s11920-016-0722-1.

researchers have identified the increase in PTSS through media in adolescents.[33] Frequently engaging with trauma-related stories through media broadcasting may prolong the acute experience of trauma, as repeated exposure to such content serves as a persistent reminder of such terrific incidents.[34] Continuously being exposed to distressing or traumatic images influences the threat appraisals, which results in stress-related symptoms.[35] When children experience such incidents, both their immediate well-being and ongoing developmental transformations are disrupted.[36] This trend is more evident in those children and adolescents who have high media exposure, leading them to internalize the world as a riskier place.[37]

Furthermore, media exposure to frightening events has been shown to activate PTSS in adolescents with heightened physical reactivity to stress.[38] For instance, the literature indicates that media exposure is the most potent factor in developing PTSS in children of Kuwait after the Gulf War.[39] In a survey after a terrorist attack, 44% of the adult participants reported five significant stress

[33] Pfefferbaum, Palka, and North, "Media Contact and Post-traumatic Stress," 165.
[34] Marshall Randall D. *et al*.,"The Psychology of Ongoing Threat: Relative Risk Appraisal, The September 11 Attacks, and Terrorism-Related Fears," *American Psychologist* 62, no. 4 (2007): 304, doi:10.1037/0003-066X.62.4.304.
[35] E. Alison Holman, Dana Rose Garfin, Pauline Lubens, and Roxane Cohen Silver, "Media Exposure to Collective Trauma, Mental Health, and Functioning: Does It Matter What You See?," *Clinical Psychological Science* 8, no. 1 (2020): 111-124, https://doi.org/10.1177/21677026198583000.
[36] Bridget A. Franks, "From Soldiers to Children: Developmental Sciences Transform The Construct Of Post-traumatic Stress Disorder," *Early Child Development and Care* 184, no. 3 (2014): 340-353, https://doi.org/10.1080/03004430.2013.794796.
[37] Arthur G. Neal, *National Trauma and Collective Memory: Extraordinary Events in the American Experience*. 2nd ed. (New York: Routledge, 2005), eBook, https://doi.org/10.4324/9781315702179.
[38] Busso, McLaughlin, and Sheridan, "Media Exposure and Sympathetic Nervous System Reactivity," 551.
[39] Khullar Neha *et al*.,"Resistance and Resilience During the 1990 Iraqi Occupation of Kuwait: A Qualitative Study." *Peace and Conflict: Journal of Peace Psychology* 25, no. 1 (2019): 24, https://doi.org/10.1037/pac0000343.

symptoms and 90% have come up with low levels of stress symptomology.[40] Children also reported stress symptoms. Among them, at least 35% had one of five stress symptoms after the attack.[41] Likewise, in the aftermath of the 1995 Oklahoma City bombing, children who were extensively exposed to media coverage of terrorist attacks had greater PTSS in long and short-term assessments.[42] Media content covering terrorist incidents often has a crude nature, including unedited images that portray intense acts of violence, which can disrupt adolescents' normal functioning.[43] Exposure to such media content can evoke feelings of unsafety, hopelessness, and helplessness, which are often externalized as conduct problems in adolescents.[44]

4. Role of Gender

Studies have revealed that the impact of media exposure to terrorism on adolescents' mental health is affected by gender as well. Gender serves as a demographic factor that is consistently associated with how children and adolescents function after experiencing terrorism, with girls demonstrating higher levels of internalized symptoms than boys.[45] After the Oklahoma City bombing, girls displayed notably more PTSD symptoms compared to boys.[46] Similarly, six

[40] Yuval Neria, Laura DiGrande, and Ben G. Adams, "Post-traumatic Stress Disorder Following the September 11, 2001, Terrorist Attacks: A Review of the Literature Among Highly Exposed Populations," *American Psychologist* 66, no. 6 (2011): 429, https://doi.org/10.1037/a0024791.
[41] Mark A. Schuster *et al*., "A National Survey of Stress Reactions After the September 11, 2001, Terrorist Attacks." *New England Journal of Medicine* 345, no. 20 (2001): 1507-1512, doi: 10.1056/NEJM200111153452024.
[42] Pfefferbaum, Palka, and North, "Media Contact and Post-traumatic Stress," 165.
[43] Pfefferbaum et al."Reactions of Oklahoma City Bombing Survivors to Media Coverage of the September 11, 2001, Attacks," 70-78.
[44] Yuval, DiGrande, and Adams, "Post-traumatic Stress Disorder Following the September 11, 2001, Terrorist Attacks," 429.
[45] Silver *et al*. "Mental and Physical Health Effects of Acute Exposure to Media Images,"1623-1634.
[46] Pfefferbaum, Palka, and North, "Media Contact and Post-traumatic Stress," 165.

months post-September 11, girls in New York City had significantly higher rates of PTSD (13.3% for girls versus 7.4% for boys).[47] Other studies have also shown that females are more likely to develop PTSS after being exposed to a traumatic event through media as compared to their male counterparts.[48] In this context, studies indicate that females are at greater risk for developing PTSD than males, even when both of them are exposed to similar types of trauma.[49]

In addition, the probability of being diagnosed with any anxiety or depressive disorder was 1.9 times higher for females than for males, whereas the conduct disorder was more prevalent among males. Gender differences have also been observed in how individuals experience traumatic events, with females reporting greater peritraumatic distress than males following both the Oklahoma City bombing[50] and the Nairobi bombing.[51]

Females tend to express more intense acute reactions, potentially leading to a higher susceptibility to PTSD symptoms.[52] Moreover, females are more likely to engage in rumination,[53] a coping style which may contribute to the development of

[47] Christina H. Wohen *et al*., "Psychopathology among New York City Public School Children 6 Months after September 11." *Archives of General Psychiatry* 62, no. 5 (2005): 545-551, doi: 10.1001/archpsyc.62.5.545.
[48] Betty Pfefferbaum *et al*., "Media Effects in Youth Exposed to Terrorist Incidents: A Historical Perspective." *Current Psychiatry Reports* 20 (2018): 1-8, doi.org/10.1007/s11920-018-0875-1.
[49] David F. Tolin and Edna B. Foa, "Sex Differences in Trauma and Post-traumatic Stress Disorder: A Quantitative Review of 25 Years of Research." (2008): 37, doi.org/10.1037/1942-9681.S.1.37.
[50] Pfefferbaum, Palka, and North, "Media Contact and Post-traumatic Stress," 165.
[51] J. Brian Houston, "Media Coverage of Terrorism: A Meta-Analytic Assessment of Media Use and Post-traumatic Stress," *Journalism & Mass Communication Quarterly* 86, no. 4 (2009): 844-861, doi.org/10.1177/1077699009086004.
[52] Busso, McLaughlin, and Sheridan, "Media Exposure and Sympathetic Nervous System Reactivity"555.
[53] Kübra Gökhan, "Post-traumatic Stress and Post-traumatic Growth in the Aftermath of Terrorism: The Roles of Exposure, Media, World Assumptions, Coping, and Rumination," (Master's thesis: Middle East Technical University, 2019), http://etd.lib.metu.edu.tr/upload/12623306/index.pdf.

PTSS.[54] Similarly, a national household survey[55] of 4,023 people in the US shows that the six-month PTSD prevalence was 3.7% for males and 6.3% for females, while the prevalence of Major Depressive Episodes among males was 7.4% and 13.9% for females. These findings indicate that females are more prone to develop PTSS as compared to males. When faced with disaster, females display more internalizing symptoms such as anxiety and mood disturbances.[56] To conclude, it can be safely stated that females have been found to exhibit PTSS higher than males in response to METT.

5. Role of Geographic Location

Apart from gender, geographical location also has a significant bearing on mental health, insofar as media exposure to terrorism is concerned. Geographical proximity to the epicentre of the terrorist attack and the extent of television viewing are significant factors in predicting indirect trauma.[57] Children exhibit more pronounced effects from terrorism-related media than adults, particularly in studies involving participants from different locations compared to those from the city where the incident occurred.[58] A study indicates widespread mass trauma as an effect of media exposure to terrorism for both adults and children, whether in

[54] Ashley Marie Nellis and Joanne Savage, "Does Watching the News Affect Fear of Terrorism? The Importance of Media Exposure on Terrorism Fear," *Crime & Delinquency* 58, no. 5 (2012): 748-768, doi.org/10.1177/0011128712452961.
[55] Dean G Kilpatrick *et al*., "Violence and Risk of PTSD, Major Depression, Substance Abuse/Dependence, and Comorbidity: Results from the National Survey of Adolescents," *Journal of Consulting and Clinical Psychology* 71, no. 4 (2003): 692, doi: 10.1037/0022-006x.71.4.692.
[56] Martha E. Wadsworth *et al*., "Coping with Terrorism: Age and Gender Differences in Effortful and Involuntary Responses to September 11th," in *Assessing the Impact of September 11th, 2001, on Children, Youth, and Parents in the United States*, Part I, 1st ed. (Psychology Press, 2004), 15, eBook, https://doi.org/10.4324/9780203764336.
[57] Laugharne Jonathan, Aleksandar Janca, and Thomas Widiger, "Post-traumatic Stress Disorder and Terrorism: 5 years after 9/11," *Current Opinion in Psychiatry* 20, no. 1 (2007): 36-41, doi: 10.1097/YCO.0b013e328010dc2c; Rozanov and Rutz, "Psychological Trauma through Mass Media," 77-86.
[58] Houston, J. Brian, "Media Coverage of Terrorism: A Meta-Analytic Assessment," 844-861.

nearby areas (direct and/or indirect exposure or from the community where the event took place) or in distant areas (not from the community where the incident occurred), and across both television and mixed media outlets.[59] Another study shows that the psychological impacts of 9/11 reached as far as Denmark due to media exposure to the terrorist event. Consequently, the effects of terrorist attacks on mental well-being are likely not confined to those living in the affected country; they extend to individuals residing in far-flung areas and without any direct connection to the incident.[60] To further substantiate this statement, a research study was conducted on individuals who were not directly exposed to the Oklahoma bombing and were geographically distant from the site of the attack.[61] The results illustrated that despite the geographical distance from the epicentre of the terrorist attack, participants reported experiencing PTSS. Similarly, another study indicates PTSS in children who were geographically distant from the location of the Challenger incident.[62] Thus, the impact of terrorist attacks on mental health is likely not only limited to the inhabitants of the country under attack but it also extends to people living in faraway places.

Nevertheless, studies have also shown that children who are at a proximal distance are more vulnerable to developing distress symptoms than children who

[59] Betty Pfefferbaum, Pascal Nitiéma, and Elana Newman, "Is Viewing Mass Trauma Television Coverage Associated with Trauma Reactions in Adults and Youth? A Meta-Analytic Review," *Journal of Traumatic Stress* 32, no. 2 (2019): 175-185, https://doi.org/10.1002/jts.22391.
[60] Bertel T. Hansen *et al*., "Increased Incidence Rate of Trauma and Stressor-Related Disorders in Denmark after the September 11, 2001, Terrorist Attacks in the United States." *American Journal of Epidemiology* 184, no. 7 (2016): 494-500, https://doi.org/10.1093/aje/kww089.
[61] Pfefferbaum et al."Reactions of Oklahoma City Bombing Survivors to Media Coverage of the September 11, 2001 Attacks," 70-78.
[62] Lenore C. Terr *et al*., "Children's Symptoms in the Wake of Challenger: A Field Study of Distant-Traumatic Effects and an Outline of Related Conditions," *American Journal of Psychiatry* 156, no. 10 (1999): 1536-1544, https://doi.org/10.1176/ajp.156.10.1536.

live in distant settings.[63] Familiarity with the affected locations may easily make children imagine themselves as potential victims. In addition, living closer to affected areas also increases the likelihood of knowing someone who was hurt or killed in the event, which is related to heightened distress.[64] Moreover, proximity interacts with exposure in significant ways. Being geographically close to a traumatic event may enhance exposure due to higher levels of local media coverage or demand for information (for example, about road and school closures).[65] Proximity can also amplify the effects of media exposure by heightening or diminishing the relevance of the event for people living in different areas.[66]

On the whole, there are mixed findings pertaining to the impact of geographical location on adolescents' mental health in the aftermath of extensive media exposure to terrorism. The current study will investigate the role of geographical location in determining the mental health of adolescents as an effect of media exposure to terrorist attack on APS Peshawar.

6. Rationale of the Study

Indirect exposure to terrorism through media reporting has significant effects on the mental health of children and adolescents, with diverse outcomes

[63] Maëlle Robert *et al*., "Media Exposure and Post-Traumatic Stress Symptoms in the Wake of the November 2015 Paris Terrorist Attacks: A Population-Based Study in Franc," *Frontiers in Psychiatry* 12 (2021): 509457, doi.org/10.3389/fpsyt.2021.509457.
[64] Susanna Crowell McQuarrie, "Maternal Responses to Children;s Exposure to Violent/Tragic News Media in a Sample of Multiply-Traumatized, African-American, Low-Income Youth," (PhD thesis: Georgia State University, 2018), doi: https://doi.org/10.57709/12694718.
[65] Charles DiMaggio, Sandro Galea, and Michael Emch, "Spatial Proximity and the Risk of Psychopathology after a Terrorist Attack," *Psychiatry Research* 176, no. 1 (2010): 55-61, https://doi.org/10.1016/j.psychres.2008.10.035.
[66] Claude M. Chemtob *et al*., "Adolescent Exposure to the World Trade Center attacks, PTSD Symptomatology, and Suicidal Ideation." *Journal of Traumatic Stress* 24, no. 5 (2011): 526-529, doi.org/10.1002/jts.20670.

influenced by both gender and geographic location. Such exposure can trigger feelings of fear and anxiety, resulting in skewed perceptions of the world and an overwhelming sense of insecurity. Over time, these negative views may lead to enduring psychological problems, impacting social relationships and the overall well-being of the affected individuals. If these issues are not addressed, trauma induced by media can convert into collective trauma, where the shared suffering within communities intensifies the psychological effects.[67] Additionally, trauma—whether experienced directly or indirectly—can span generations, influencing not just those who were directly impacted but also their descendants, resulting in long-term mental health challenges.

Variables like gender and geographical location play a significant role in how trauma is expressed. For instance, boys and girls may show different emotional reactions to acts of violence and terrorism. Similarly, adolescents from various regions, particularly those in conflict zones or areas severely impacted by terrorism, are often more susceptible to the psychological effects of media exposure.[68] The current study examines these two variables to investigate the impact of METT on adolescents' mental health.

Furthermore, the trauma arising from media exposure may appear as Post-Traumatic Stress Symptoms (PTSS), disrupting the physical and mental development of children and adolescents. The Bioecological Model of Human Development reinforces the notion that such trauma obstructs cognitive, emotional,

[67] Jessica Stone, Robert J. Grant, and Clair Mellenthin, *Trauma Impacts: The Repercussions of Individual and Collective Trauma* (United States: John Wiley & Sons, 2024).
[68] Betty Pfefferbaum et al., "Media Effects in Youth Exposed to Terrorist Incidents: A Historical Perspective," *Current Psychiatry Reports* 20 (2018): 1-8, doi:10.1007/s11920-018-0875-1.; Richard Williams, "The Psychosocial Consequences for Children of Mass Violence, Terrorism and Disasters," *International Review of Psychiatry* 19, no. 3 (2007): 263-277, https://doi.org/10.1080/09540260701349480.

and social development, affecting both current functioning and future life prospects.[69] Consequently, it is essential to investigate the impact of media exposure to terrorism on the mental health of adolescents to gain a clearer understanding of the psychological effects. This will help formulate strategies to lessen the impact from trauma, create resilience and encourage positive developmental results.

7. Hypotheses

Based on the literature review, the following hypotheses have been formulated:

1. There is a positive relationship between media exposure to terrorism and post-traumatic stress symptoms among adolescents.
2. Gender moderates the relationship between media exposure to terrorism and post-traumatic stress symptoms among adolescents.
3. Geographical location moderates the relationship between media exposure to terrorism and post-traumatic stress symptoms among adolescents.

8. Method

Research Design

Quantitative research design has been used to achieve the objectives of the study as it aligns with the stated aim of the study which entails investigating the

[69] Mary Ann Hoffman and Theresa Kruczek, "A Bioecological Model of Mass Trauma: Individual, Community, and Societal Effects," *The Counseling Psychologist* 39, no. 8 (2011): 1087-1127, https://doi.org/10.1177/0011000010397932.

impact of indirect exposure to terrorism on adolescents' mental health, keeping in view the role of gender and geographical location of the participants. Convenience sampling technique is used to collect data from the targeted population through a survey method to approach the potential sample of the study and administer the questionnaire.

Sample

The sample consisted of 716 students selected through convenience sampling technique from different cities of KP, Punjab and Islamabad Capital Territory. Students were taken from educational institutes of both the private and government sectors. The age range of students was between 14-17 years (M= 15.23; SD=.88) and the range of monthly income (M= 75027; SD =362016.59). As a part of the inclusion criteria, participants were required to be enrolled students at the selected institutions. Moreover, only those children who, along with their immediate family members, had not experienced any traumatic event (e.g., direct exposure to a terrorist attack, loss of a loved one, accident, tragedy, etc.) in the past six months were eligible to participate. The study excluded individuals who had undergone any traumatic event to reduce the likelihood of associating any mental health effects with that specific incident. This step ensured that the psychological repercussions observed could be more precisely connected to indirect exposure to terrorism, whether through media coverage or environmental factors, rather than being influenced by personal trauma. The following table describes the details of the sample characteristics.

Table 1

Sample Characteristics for the Study (N = 716)

Demographics		*N*	%	Demographics		*n*	%
Gender	Male	361	50.4	Region	KP	276	38.54
	Female	355	49.6		Punjab	230	32.12
					Federal	159	22.20
Age	14	152	21.2	Class	8	14	2
	15	310	43.3		9	140	19.6
	16	193	27		10	501	70
	17	61	8.5		11	56	7.8
					12	5	.70
Educational Institute	Private	318	44.41	City	Rawalpindi	107	15
	Government	397	55		Islamabad	61	8.5
					Sialkot	75	10.5
					Peshawar	144	20.1
					Kasur	45	6.3
					Lahore	129	18
					Abbottabad	155	21.6
Discipline	Science	623	87	Family System	Nuclear	433	39
	Arts	93	13		Joint	280	60

The sample reflects a diverse demographic group with significant variability across regions and cities. To evaluate the effect of geographical distance from the epicentre of the attack in relation to the study variables, data was collected from various cities across the country. In this context, Sialkot, Lahore, Kasur, and Rawalpindi were included in the Punjab region (the farthest region from the epicentre of the attack) whereas Khyber Pakhtunkhwa (the epicentre of the attack) comprised Peshawar. The other cities included Abbottabad and Islamabad (moderately distant from the attack site). This gives a better understanding of the indirect exposure to terrorism through media on adolescents' mental health in relation to geographical location.

Procedure

All the procedures performed in the study were approved by the ethical committee of the leading researcher's institution in its Advanced Studies Research

Board's (ASRB) meeting number 302. This included the appropriateness of questions in the booklet, information provided in the informed consent along the protocols followed during and after the data collection process.

After the approval from the Board, the researchers extended invitations to schools to take part in the study. The aims of the study and the methods for data collection were explained to them, and queries were addressed. Written approval was obtained from the heads of the institutions and the parents of the participants for conducting focus group discussions (FGDs). The consent form contained details about the study's objectives, risks and benefits associated with participation, along with the criteria for inclusion.

Even though the ethical committee at the researchers' university approved the data collection procedures and great care was taken to ensure that questions were non-threatening and non-leading, the potentially distressing nature of some questions was recognized. To protect participants from possible psychological harm, highly qualified mental health professionals from the National Institute of Psychology were involved throughout the research process. The email address and phone number for the counselling sessions were included in the consent form (see Appendix 1) for participants to reach out, if necessary. The consent form explicitly stated that participants had the right to withdraw at any time and that their confidentiality and anonymity would be fully protected. It was noted that students' participation was entirely voluntary, and they had the option to withdraw their involvement and data at any time during the data collection process. Additionally, the focus group discussion guide and booklet for the validation phase, along with the protocols to be implemented during and after data collection, underwent a thorough review by the heads of the educational institutions.

9. Instruments

Media Exposure to Terrorism Scale

Media Exposure to Terrorism Scale (METTS), a uni-dimension scale indigenously developed with 7 items was used to measure media exposure to terrorism. The scale comprised of 7 items (e.g, *To what extent have you been exposed to the images or scenes of destructed school building through media platforms*) with response options never *(0), rarely (1), occasionally (2), sometimes (3), and frequently (4).* METTS has demonstrated good internal consistency (α = .81). Scoring high on the scale indicates higher exposure to media coverage of the terrorist attack on APS Peshawar. Low scores indicate less exposure of the participants to the attack's media coverage.

Child Revised Impact Event Scale

The Impact Events Scale was originally developed by Horowitz *et al* in 1979 to monitor the primary phenomena of re-experiencing a traumatic event and avoiding the event and the feelings associated with it. The present version is designed for use with children aged 8 years and above who can read independently. It consists of 4 items measuring 'Intrusion' (a preoccupation with a traumatic experience, frequent thoughts and images about the experience, related feelings about the experience, troubled dreams about the experience, and a frequent need to talk about the experience) and 4 items measuring 'Avoidance' (a mechanism for dealing with tragic life events that work by denying the meaning and consequences

of the event and behavioural inhibitions).[70] Individual items are rated according to the frequency of their occurrence during the past week (None = 0, Rarely = 1, Sometimes = 2, and A Lot = 3) in relation to a specific traumatic event. Scores are obtained for the 4 Intrusion items (e.g. *Do you think about it even when you do not mean to*?), and 4 Avoidance items (e.g. *Do you try not to talk about it*?). Scores range from 0-40 where high scores indicate more PTSS. Internal consistency ranges from .75-.84 for the total of the scale and the two subscales: Intrusion .70 - .90 and Avoidance .62-.82.[71] Whereas in the present study, intrusion symptoms (α = 0.63) and avoidance symptoms (α = .67) have demonstrated moderate reliability.

10. Results

In order to achieve the underlying objectives of the study, statistical analyses were conducted. Results of the parametric test revealed that the distribution for all the scales was within the range (+1 - 1).[72] Furthermore, correlations were computed through Pearson Product Moment Correlation. Mean differences between male and female participants were computed by using an independent t-test and moderation was carried out through regression analysis.

Relationship between Study Variables

The results of the study revealed that there is a significant positive relationship between METT and intrusion symptoms (r = .34**) whereas METT

[70] Horowitz, Mardi, Nancy Wilner, and William Alvarez, "Impact of Event Scale: A Measure of Subjective Stress," *Psychosomatic Medicine* 41, no. 3 (1979): 209-218, doi: 10.1097/00006842-197905000-00004.

[71] Inger W. van der Kooij *et al*., "Use of a Screening Tool for Post Traumatic Stress Disorder in Children in Suriname," *Academic Journal of Suriname* 4, no. 1 (2013): 347-352, https://adekusjournal.uvs.edu/index.php/acjoursu/article/view/116.

[72] Süleyman Demir, "Comparison of Normality Tests in Terms of Sample Sizes under Different Skewness and Kurtosis Coefficients," *International Journal of Assessment Tools in Education* 9, no. 2 (2022): 399, https://dergipark.org.tr/tr/download/article-file/265457.

shows a non-significant relationship with avoidance symptoms (r = .03). This indicates that with an increase in METT, intrusion symptoms increase while there is no significant change in avoidance symptoms.

Group Difference between Male and Female Participants

Table 2 below illustrates the mean difference computed across the three study variables with reference to the gender of the participants.

Table 2

Mean, Standard Deviation and t-values for Male and Female Participants along Study Variables (N=716).

	Male n=(361)		Female (n=355)				95% Cl		
	M	SD	M	SD	t (df)	*p*	LL	UL	Cohen's D
Medexp	18.59	6.06	21.00	5.10	-5.74(695)	.00	-3.23	-1.58	.43
Intru	11.50	4.95	13.40	4.76	-5.22(714)	.00	-2.61	-1.18	.39
Avoid	10.46	5.45	10.70	5.95	-.56(705)	.57	-1.07	.59	.04

Note. Med ex*p*= Media exposure to terrorism; Intru= Intrusion (Post- traumatic stress symptom); Avoid= Avoidance (Post-traumatic stress symptom).

Mean differences in Table 2 indicate that female adolescents scored significantly higher than males on METTS and intrusion symptoms, with a medium effect size.

Moderation Analysis

Moderation analysis has been carried out using SPSS Process macro (Model 1) to test the moderating role of gender and geographical location between

METT and PTSS. As correlational analysis reveals that METT is significantly positively related to intrusion symptoms and has a non-significant relationship with avoidance symptoms. Therefore, moderation analysis with avoidance symptoms has neither been tabulated nor graphically represented.

Moderating the Role of Gender in the Relationship between METT and Intrusion Symptoms

Table 3 illustrates the moderating role of gender (where 'male' has been categorized as 1 and 'female' as 2) in intrusion symptoms and METT through the main effect.

Table 3

Moderating Effect of Gender in Predicting Intrusion Symptoms from Media Exposure to Terrorism (N = 716)

	Intrusion (PTSS)	
Predictor	B	95% CI
Constant	11.85***	[11.03, 12.68]
Control variable		
Regions	-.06	[-.44, .32]
Gender	1.18***	[.48, 1.88]
MET	.20***	[.11, .29]
MET x Gender	.17**	[.04, .30]
R^2	.14	
ΔR^2	.01	
F	28.02**	

Note. *p<.05. **p <.01. p***<.001.

In Table 3, results show that METT predicts intrusion symptoms (PTSS) through interaction with gender. Moreover, both gender and media exposure to terrorism positively predict intrusion symptoms in the main effect. Further, the Mod graph in Figure 1 explains the moderating role of gender, providing evidence and clarity.

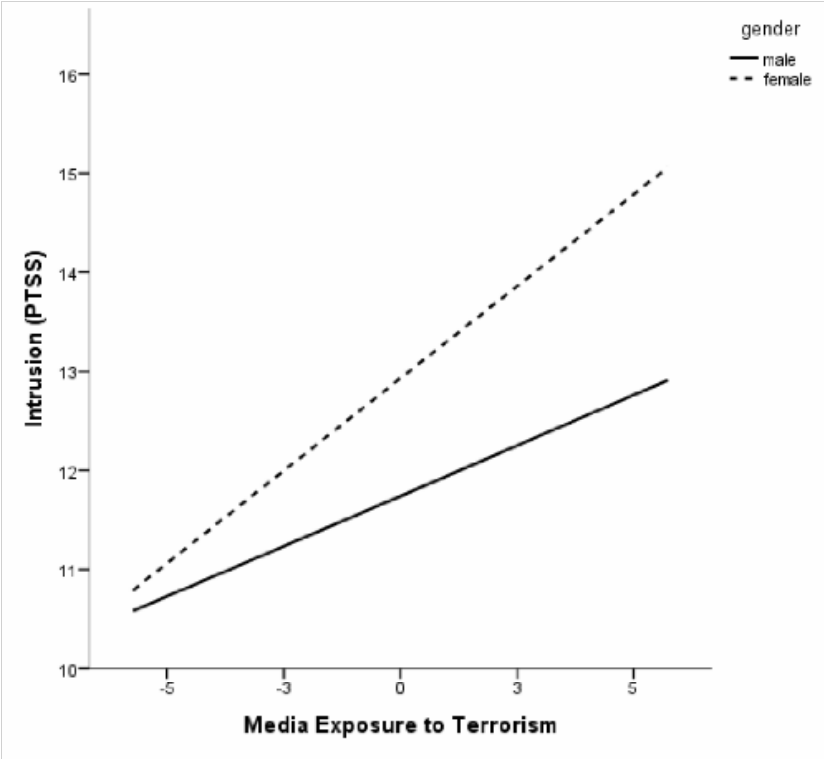

Figure 1 . Mod graph showing the interaction effect of gender and media exposure to terrorism on intrusion symptoms.

Figure 1 describes that increased media exposure to terrorism results in more intrusion symptoms. The steepness of the slope for females indicates that this relationship is stronger in female adolescents ($t= 7.49$, $p < .001$) as compared to male adolescents ($t= 4.48$, $p < .001$).

Moderating Role of Region (Geographical Location) in the Relationship between METT and Intrusion Symptoms

Table 4 illustrates the moderating effect of the region (distance of KP, ICT, and Punjab from the epicentre of the attack) in the relationship between METT and intrusion symptoms. The effect of gender is controlled as it might confound the moderation analysis.

Table 4

Moderating Effect of Region in Relationship between Media Exposure to Terrorism and Intrusion Symptoms (N = 716).

	Intrusion symptoms (PTSS)	
Predictor	B	95% CI
Constant	11.86***	[11.38, 12.34]
Control variables		
Gender	1.19***	[.50, 1.89]
Region	-.04	[-.43, .34]
Medexp	.26***	[.20, .32]
Medexp x region	.07**	[.008, .14]
R^2	.14	
ΔR^2	.01	
F	28.16***	

p<.05. **p<.01. p*<.001.*

Table 4 illustrates that regions (KP, Punjab and Federal) are significantly moderating the relationship between media exposure to terrorism and intrusion symptoms. 'Region' describes the distance from the epicentre of the terrorist attack

on the APS Peshawar. Moderation analysis reveals that media exposure to terrorism has a direct positive relationship with intrusion symptoms. The Mod graph in Figure 2 further clarifies the statistical values in Table 4.

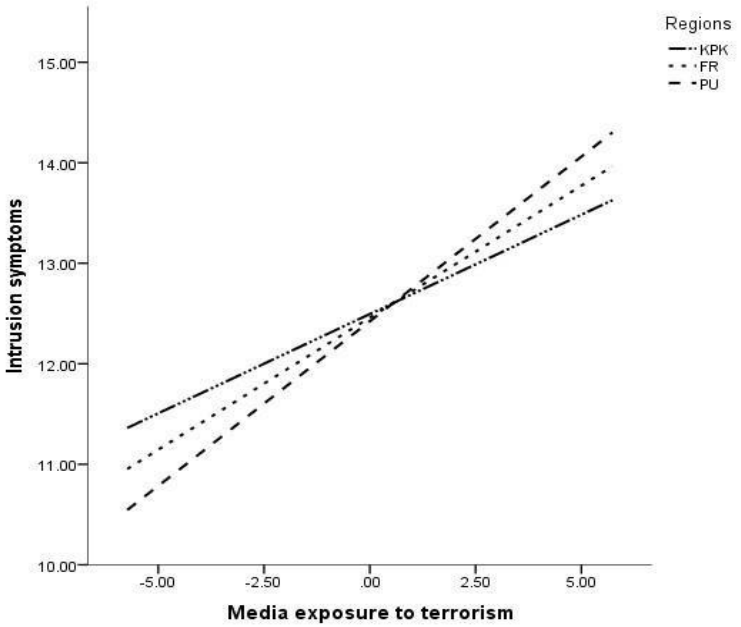

Figure 2. Mod graph showing interaction effect for regions and media exposure to terrorism on intrusion symptoms.

Figure 2 highlights the graphical representation of moderation analysis which showed that the proximal region (KP) has shown fewer intrusion symptoms (t=4.33, p=.000) as compared to other regions that are Punjab (t=8.24, p= .000) and ICT. This indicates that with an increase in distance from the epicentre of the attack, intrusion symptoms have increased among adolescents as an effect of METT.

In Figure 2, Punjab has the steepest slope out of all the three regions and the line for KP is less steep comparatively. This pattern means that the relationship between media exposure to terrorism and intrusion symptoms is strongest for individuals who belong to Punjab region followed by those who reside in the ICT whereas the relationship is weak for those who belong to KP region.

11. Discussion

As stated earlier, the objective of the study is to identify the impact of media exposure to terrorism on the mental health of adolescents. The mental health of adolescents has been examined by measuring PTSS in adolescents as a result of exposure to media coverage of the terrorist attack on APS Peshawar. The findings of the present study reveal that adolescents who have been extensively exposed to media coverage of the terrorist attack on APS Peshawar have developed PTSS. It has supported other studies which maintain that media exposure to terrorism results in adolescents' symptoms patterns which were similar to PTSD. It is due to the reason that adolescents cognitively struggle to regulate the traumatizing or emotional ladder elements. The existing body of literature also indicates that assimilating explicit and disturbing content is hard for adolescents, potentially leading them to develop PTSS.[73]

Findings have also revealed that intrusion symptoms are significantly positively related to media exposure to terrorism, but avoidance symptoms have shown a non-significant positive relation with the predictor METT. Thus,

[73] Rukhsana Kausar and Tahera Anwar, "Perceived Stress, Stress Appraisal and Coping Strategies Used in Relation to Television Coverage of Terrorist Incidents," *Pakistan Journal of Social and Clinical Psychology* 8, no. 2 (2010): 119-131, https://www.gcu.edu.pk/pages/gcupress/pjscp/volumes/pjscs2010-119-131.pdf.

Hypothesis 1 that there is a positive relationship between media exposure to terrorism and PTSS is partially accepted.

Different studies highlight that avoidance symptoms are diminished if a person maintains his/her routine at the workplace or home.[74] Relating it to the current study, after the Peshawar incident, those who were indirectly exposed to the terrorist attack through media faced less disruption in their surroundings as compared to those who had been directly exposed or were in proximity to the incident. In the aftermath of the APS Peshawar terrorist attack, comprehensive actions were taken nationwide to lessen its negative effects on children and youth. These actions included the implementation of enhanced security measures, such as routine safety drills, barbed wire barriers around schools, and the installation of surveillance cameras. Mental health professionals were also deployed in schools to assist students dealing with stress or trauma associated with the event. Most importantly, schools across all regions were quickly reopened, indicating a restoration of the state of normalcy and stability. These initiatives were essential in lessening environmental disruptions that are often associated with avoidance symptoms. By addressing possible triggers and fostering a sense of security, the response to the APS Peshawar attack effectively reduced the avoidance symptoms among children and adolescents. Since the children carried on with their normal routine, less frequency of avoidant behaviour was observed in participants in the current study.

[74] Suzanne C. Leaman and Christina B. Gee, "Religious Coping and Risk Factors For Psychological Distress among African Torture Survivors." *Psychological Trauma: Theory, Research, Practice, and Policy* 4, no. 5 (2012): 457, https://doi.org/10.1037/a0026622.

Role of Gender

Moderation analysis and group differences have been estimated using SPSS in order to investigate the role of gender between media exposure to terrorism and adolescents' mental health. Moderation analysis has indicated significant interaction terms which suggests that gender has moderated the relationship between media exposure to terrorism and PTSS.[75] Thus, accepting Hypothesis 2 of the study.

The Mod graph of METT and PTSS (intrusion symptom) has indicated that media exposure to terrorism has fueled the intrusion symptoms more in female adolescents than males, indicating that girls are at higher risk for developing PTSS intrusion symptoms as compared to boys with an increase in media exposure. Results of the study have been supported by past studies where females have consistently scored higher on emotional reactions, PTSS, anxiety, depression, and internalizing symptoms in the wake of a traumatic event.[76] Similar results have also been observed for the t-test where female participants have shown a higher tendency to develop intrusion symptoms comparatively.[77] A possible justification in this regard is that the coping strategies used by women are less effective than those used by men when facing a traumatic or unpleasant event.[78] Moreover, women are socialized in such a way that they are susceptible to reactive

[75] Danielle M. Morabito *et al*., "Unique and Interactive Relations among Post-traumatic Stress, Distress Tolerance, and Anger Responding to Traumatic Event Cues," *Journal of Experimental Psychopathology* 10, no. 1 (2019), doi:2043808719831472.

[76] Sharisse May M. Barra *et al*., "Understanding sex differences in depressive symptomatology among Malaysian adolescents," *Recoletos Multidisciplinary Research Journal* 7, no. 1 (2019): 63-79, doi.org/10.32871/rmrj1907.01.06; Justyna Kucharska, "Sex Differences in the Appraisal of Traumatic Events and Psychopathology," *Psychological Trauma: Theory, Research, Practice, and Policy* 9, no. 5 (2017): 575, doi.org/10.1037/tra0000244.

[77] Robert *et al*., "Media Exposure and Post-Traumatic Stress Symptoms in the Wake of the November 2015 Paris Terrorist Attacks," 21.

[78] B. Sue Graves *et al*., "Gender Differences in Perceived Stress and Coping Among College Students," *PloS one* 16, no. 8 (2021), doi: 10.1371/journal.pone.0255634.

depression.[79] In addition, women are generally more emotional and sensitive than their male counterparts, since societal roles assigned to them involve sensitivity, care and concern for all which enhances their internalizing tendency. Studies have also found that females are more empathetic than males.[80] This attribute increases their internalizing symptoms when exposed to METT in the context of APS Peshawar. All these facts render them pervasively disadvantaged in responding emotionally to problematic situations.[81]As a result, they remain more prone to develop PTSS symptoms as compared to males.

Role of Geographical Location

Accepting Hypothesis 3 of the study, results revealed that geographical distance from the epicentre of the attack significantly moderates the relationship between the METT and intrusion symptoms. In this vein, people who were far from the epicentre of the attack and were exposed to the incident through explicit media coverage given to the incident, have shown increased intrusion symptoms. Although Punjab is geographically distant from the area where the incident occurred, the slope for intrusion symptoms has been the steepest in the region. These findings align with results from previous studies, further supporting the conclusions of this research. It has thus been established that media exposure to terrorism creates a collective trauma as individuals experience trauma indirectly

[79] Catherine Haw, "Psychological Perspectives on Women's Vulnerability to Mental Illness," in *Women and Mental Health*, (UK: Routledge, 2014), 65-105, ebook, https://psycnet.apa.org/record/2000-12570-004.
[80] Malgorzata Gambin and Carla Sharp, "The Differential Relations between Empathy and Internalizing and Externalizing Symptoms in Inpatient Adolescents," *Child Psychiatry & Human Development*, *47*, no. 6 (2016): 966-974, doi: 10.1007/s10578-016-0625-8.
[81] Janet S. Hyde and Amy H. Mezulis, "Gender Differences in Depression: Biological, Affective, Cognitive, and Sociocultural Factors," *Harvard Review of Psychiatry* 28, no. 1 (2020): 4-13, doi:10.1097/HRP.0000000230.

and at a higher intensity.[82] They rely on the information provided by media, which creates sensational news to attract audience's attention. Such coverage potentially instigates PTSS among the audience, specifically amongst those individuals who reside at an increased distance from the affected site and develop their worldview based on what they watch on media.[83] Keeping in view these facts, the results of the study are justified where participants from Punjab have shown increased intrusion symptoms as an effect of METT.

12. Implications

Results of the study are likely to facilitate the development of prevention or intervention programs that address the specific challenges for adolescents growing up in a society in which they are confronted with recurrent terror threats and thereby with persistent sources of trauma. Based on the results of the study, mental health professionals must take into account measures that could specifically deal with the mental health concerns of adolescents who have been indirectly exposed to traumatic incidents such as terrorism. Also, there should be intervention plans that are gender specific as females are more prone to develop PTSS as compared to males as an effect of indirect exposure to terrorism. Moreover, the results of the study highlight the importance of strict monitoring of media organisations concerning the information/content they share. Policymakers ought to think about developing rules and regulations to make sure that media platforms are conscious of their content and its possible psychological effects on the audience.

[82] Pfefferbaum, Palka, and North, "Media Contact and Post-traumatic Stress," 165.
[83] Miriam Bajo *et al*., "Post-traumatic Cognitions and Quality of Life in Terrorism Victims: The Role of Well-Being in Indirect Versus Direct Exposure," *Health and Quality of Life Outcomes* 16 (2018): 1-9, doi: 10.1186/s12955-018-0923-x.

13. Conclusion

This study focuses on the impact of media exposure on the mental health of adolescents who are indirect victims of terrorist incidents, by using an indigenously developed METT Scale. By presenting the case study of APS Peshawar, the study shows that due to the extensive media coverage of the incident, intrusion symptoms have been observed among adolescents who were exposed to the terrorist attack on APS Peshawar through media.

This research has examined the impact of two variables—gender and geographical location—on adolescents' mental health, with a particular focus on the development of Post-Traumatic Stress Symptoms (PTSS). It has been found that females are more prone to develop PTSS as compared to male counterparts as they have high METT and display more internalizing symptoms. Moreover, the study has also highlighted that due to the crude nature of the content, adolescents feel threatened and unsafe despite their distance from the epicentre of the attack. Hence, the study reveals that terror and fear inflicted through terrorist attacks transcend the boundaries as a result of extensive media coverage of these incidents. Based on the results of the study, it has been deduced that there should be an intervention plan that specifically targets the impact of indirect exposure to terrorism on mental health.

Appendix 1

Consent Form

Respected Parent/ Guardian,
As we all know, the horrific Army Public School (APS) Peshawar attack has shocked the national consciousness of the country. The heart-wrenching and disturbing imagery shown on television has intensified our worry for the safety of children. Another point of concern is that exposure to such imagery may affect children's sense of security and their mental health. Therefore, we have set out to conduct group discussions among adolescents on the premises of their educational institutions to explore this overlooked aspect of the fallout from the APS Peshawar attack.
We invite your child to take part in a research study led by (Authors' details removed). If your child fulfils the following criteria, we request you to allow them to participate in this research:

- Is currently enrolled at _____ school
- Is within the age range of 14-17 years
- You or, as per your knowledge, your child has not faced a possibly traumatizing event (such as loss of a family member, physical harm, damage to property, etc.) in the past 6 months.
- You or your child must not be directly exposed to any terrorist attack.
- Your child must not be diagnosed or under treatment for any psychological problem.

The study, as well as the rights of participants, are described below:
Nature of Study:
Your child will participate in a 45-minute group discussion that will be conducted in your child's educational institution. These discussions will be supervised by a moderator and an assistant moderator whose credentials are ratified by the head of your child's institution. The discussion will be guided by a set of questions exploring children's feelings and perspectives about the media coverage of APSP attacks. These questions have been approved by the (Authors' details removed). Furthermore, the responses of your child will be audio recorded as per the standard research procedures for the analysis of data, however, the identity of your child will not be revealed to anyone except the principal researcher and her verified associates.
Risks and Benefits of the Study:
Your child's participation will be a great help for us in uncovering how indirectly experiencing traumatic events through media can affect children's health. We hope that the findings of our study can inspire policymakers to regulate possibly

distressing media coverage and design interventions to buffer children who are impacted by such media coverage.

Although we have taken great care to ensure that our questions will not be disturbing or threatening to the participants, however, in case any of the questions invoke distress among your children, we will refer them to a team of certified mental health professionals from (Institution details removed) led by our highly esteemed and experienced faculty member,(Institution details removed). You can reach out to our counselling centre through their contact details:

Email: (Institution details removed)

Rights of Participants:

We assure you that all procedures of our research have been approved by the ASRB at Quaid-i-Azam University (Authors' details removed). The research study also has the approval of the head of your child's educational institution (as evident by the stamp of the institution below). Furthermore, we guarantee that:

- Participation of your child in this study is completely voluntary.
- Your child may choose to withdraw their participation and their data from the study at any time without any consequences
- All data gathered during our research will be kept confidential. Anonymity will be guaranteed, and the names of participants will not be revealed to the public, or in any publications.

If you are willing to let your child participate in this study, please fill out the following information and sign your consent below:

****Parent/Guardian: ****

Name: _____ Name of Child/Ward/ Student: _____

Signature: _____ Date: _____

****For Institutional Use Only****

Head of The Institution: _____ Name of the Institution: _____

Signature and Stamp : _____ Date:_____

If you have any questions, feel free to contact us at the contact details provided below.

Thank you for your time and consideration.

Sincerely,

(Authors' details removed)