Digital Trauma and Post-Traumatic Stress Disorder Among Bethlehem Residents Due to the Israeli War on Gaza

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Abstract:

Introduction: This study investigates the relationship between digital trauma and post-traumatic stress disorder (PTSD) among Bethlehem residents in the context of the Israeli war on Gaza. The research aims to understand how exposure to violent digital content impacts mental health, focusing on variables such as gender, age, and the type of digital platform used. Methods: A descriptive correlational methodology was employed, involving a sample of 312 active digital platform users. Data were collected using a 20-item Digital Trauma Scale and the PTSD Checklist (PCL-5), both of which demonstrated high reliability and validity. Results: The findings reveal no statistically significant differences in digital trauma levels between males and females. However, significant differences were observed based on age, with the 26-35 age group showing higher susceptibility. Digital trauma was also more pronounced among Instagram users compared to Facebook and Telegram users. Regarding PTSD, no significant gender differences were found except in avoidance symptoms, where females exhibited higher levels. The type of digital platform also influenced PTSD levels, with TikTok users experiencing higher PTSD symptoms compared to Telegram users. A positive correlation between digital trauma and PTSD was identified. Conclusions: The study highlights the significant impact of digital trauma on mental health in conflict zones, particularly among certain age groups and social media platform users. The results underscore the need for targeted psychological support to mitigate the effects of digital trauma and reduce PTSD among affected populations.

Keywords: digital trauma, PTSD, Israeli war on Gaza, Bethlehem, social media platforms.

Introduction:

Technological transformations have led to the emergence of a new type of trauma known as "digital trauma," associated with the intensive use of digital media, especially in the context of wars and conflicts. Modern wars are no longer confined to the battlefield; they have extended into the digital space, where citizens are constantly exposed to scenes of violence and destruction through social media and news platforms. Exposure to intense digital content related to wars, such as videos, images, and news, can lead to symptoms similar to post-traumatic stress disorder (PTSD), including anxiety, depression, panic attacks, recurring nightmares, and the re-experiencing of painful memories. Studies have shown that continuous exposure to traumatic scenes can lead to long-term psychological

disorders, even for individuals who were not directly involved in the conflict (Blanchard et al., 1996; Silver et al., 2013). Digital trauma amplifies the effects of psychological trauma through the continuous repetition of traumatic content and the strong emotional reactions it evokes. Social media also plays a significant role in reactivating painful memories through features such as reposting and commenting, leading to a continuous cycle of trauma and psychological stress (Hoffman et al., 2018). Digital trauma and PTSD are becoming increasingly important in the context of wars and disasters (Brenda, 2023). Continuous exposure to painful images and narratives can exacerbate feelings of helplessness, even among those not directly affected, leading to a phenomenon known as indirect trauma (Nešpor, 2023; Calati et al., 2023). Moreover, the psychological impact of war extends beyond the direct victims, affecting future generations through intergenerational trauma (Brenda, 2023). Digital interventions are considered a promising approach to addressing psychological trauma, especially PTSD. A systematic review indicates that digital mental health interventions (DMHIs), particularly those based on cognitive behavioral therapy (CBT), are effective in alleviating PTSD symptoms in adults, although evidence regarding the impact of intervention characteristics is inconclusive (Tng et al., 2024). In youth, internet and mobile-based interventions show potential but currently lack strong evidence of effectiveness, with results indicating only a small impact in reducing PTSD symptoms (PTSS) (Schulte et al., 2024). Children and youth are among the most vulnerable groups to the effects of digital trauma, as they are more sensitive to the psychological effects of exposure to scenes of violence and war online. This early exposure can lead to disturbances in emotional and social development, as well as increased levels of anxiety and depression (Pat-Horenczyk et al., 2013). Digital trauma is closely linked to PTSD and is based on repeated and continuous interaction with stress- and anxiety-inducing content, which increases the severity of psychological symptoms. Studies have shown that excessive use of smartphones can lead to increased dependence on these devices, reinforcing the impact of digital trauma (Cheever et al., 2014; Clayton et al., 2015). Spangenberg (2022) explains that trauma can occur due to watching violent and harmful digital content. One of the most violent scenes currently being viewed on digital platforms in the 21st century is the ongoing conflict in Gaza as a result of the war waged by the Israeli occupation. Continuous exposure to these harsh scenes leads to psychological disorders, notably traumatic experiences and PTSD (Hassan, 2023). Suleiman's (2023) study indicated a relationship between the Egyptian audience's exposure to scenes on digital and news platforms of the 2023 earthquake in Syria and Turkey and the perceived fears regarding those catastrophic events. Al-Yahfoufi (2010) suggests that wars and their horrors are among the most traumatic events that individuals can experience, potentially causing PTSD. Pinchevski (2016) argues that individuals can develop PTSD due to mediated experiences resulting from visual media and digital platforms.

Research Problem

Since October 7th, Gaza has been subjected to a brutal Israeli war characterized by continuous bombing, killing, displacement, starvation, and widespread destruction. These events are accompanied by shocking and horrifying scenes that spread across digital media, raising serious concerns about the impact of these scenes on the psychological state

of Bethlehem residents. The research problem lies in exploring the relationship between digital trauma and PTSD among Bethlehem residents as a result of this aggression and the extent to which variables such as gender, age, and the type of digital platform used to follow these events affect this relationship.

Importance of the Study:

This study will contribute to building a critical information base about the impact of shocking digital scenes on mental health, specifically in the context of PTSD. This will help guide future research efforts and therapeutic interventions.

Study Hypotheses:

There is no statistically significant relationship at the significance level ($\alpha \geq 0.05$) between digital trauma and PTSD among a sample of Bethlehem residents due to the Israeli war on Gaza. There are no statistically significant differences at the significance level ($\alpha \geq 0.05$) in the level of digital trauma among Bethlehem residents attributed to the following variables: gender, age, and the digital platform they follow. There are no statistically significant differences at the significance level ($\alpha \geq 0.05$) in the level of PTSD among Bethlehem residents attributed to the following variables: gender, age, and the digital platform they follow.

Study Limits:

Temporal Limits: The study covers a time period that includes the years 2023 and 2024, allowing for the observation of the effects of digital trauma and PTSD over a sufficient time span to analyze behavioral and psychological changes in the target sample.

Spatial Limits: The study focuses on a sample of Bethlehem residents, providing a specific local context for studying the effects of the Israeli war on Gaza through exposure to digital content.

Human Limits: The study is limited to a specific sample of adult digital platform users, selecting individuals who are significantly active on social media and digital news platforms.

Study Methodology:

The study employs a descriptive correlational methodology to achieve its objectives. This methodology allows for the analysis of relationships between different variables related to digital trauma and PTSD while accurately describing the psychological state of the participants based on data collected from the studied sample.

Study Population and Sample.

The study population consists of all digital platform users in Bethlehem. The study sample includes 312 users, selected using the available sampling method. The table below shows the distribution of the sample individuals according to the study variables.

Variables	Level	Frequency	Percent
Gender	Male	104	33.3%
	Female	208	66.7%
Age	25-18	69	22.1%
	35-26	93	29.8%
	45-36	108	34.6%
	46and above	42	13.5%
The digital platform they follow	Telegram	39	12.5%
	Instagram	86	27.6%
	TikTok	34	10.9%
	Facebook	142	45.5%
	Twitter/X platform	11	3.5%

Study Tools

The study used a 20-item digital trauma scale with a five-point Likert scale, where scores were distributed as follows: "Very High" (5 points), "High" (4 points), "Medium" (3 points), "Low" (2 points), and "Very Low" (1 point). The PTSD Checklist (PCL-5), developed by Weathers et al. (2013), which consists of 20 items, was also used. Scores were distributed as follows: "All the time" (5 points), "Most of the time" (4 points), "Sometimes" (3 points), "Rarely" (2 points), and "Never" (1 point).

Validity and Reliability

The validity of the study tool was verified by presenting it to a group of experts and by calculating the Pearson correlation coefficient between the questionnaire items and the overall tool score, which showed statistical significance for all items, indicating internal consistency. The tool's reliability was confirmed using the Cronbach Alpha coefficient, with an overall digital trauma level score of 0.97 and a PTSD level score of 0.94, indicating high reliability and strong consistency.

Statistical Processing

The statistical processing of the data was carried out by extracting the arithmetic means and standard deviations for the questionnaire items, using t-tests, One-Way ANOVA, Pearson correlation coefficients, and the Cronbach Alpha reliability coefficient, utilizing the Statistical Package for the Social Sciences (SPSS) software.

Results

Table 2: Independent Samples T-Test Results for the Participants' Responses on the Average Level of Digital Trauma Attributed to Gender

Gender	N	M	S D	T Value	Sig
male	104	4.341	0.626	0.44	0.65
female	208	4.373	0.592		

The table shows that the T value for the overall score is 0.44 with a significance level of 0.65, indicating no statistically significant differences in the average level of digital trauma among Bethlehem residents attributed to gender.

Table 3: Arithmetic Means and Standard Deviations for the Participants' Responses on the Average Level of Digital Trauma Attributed to Age

Age	N	M	S D	F Value	Sig
25-18	69	4.43	0.63	3.284	0.021
35-26	93	4.48	0.56		
45-36	108	4.26	0.55		
46 and above	42	4.22	0.70		

The table indicates apparent differences in the average level of digital trauma attributed to age. To determine the significance of these differences, One-Way ANOVA was used. The F value for the overall score was 3.284 with a significance level of 0.021, which is less than the significance level ($\alpha \geq 0.05$). This suggests statistically significant differences in the average level of digital trauma attributed to age, with the differences favoring the age group 26-35 years.

Table 4: Arithmetic Means and Standard Deviations for the Participants' Responses on the Average Level of Digital Trauma Attributed to the Digital Platform They Follow

Digital Platform	N	M	S D	F Value	Sig
Telegram	39	4.16	0.67	3.715	0.006
Instagram	86	4.54	0.50		
TikTok	34	4.43	0.60		
Facebook	142	4.29	0.62		
Twitter/X platform	11	4.36	0.53		

The table shows apparent differences in the average level of digital trauma attributed to the digital platform followed by participants. To determine the significance of these differences, One-Way ANOVA was used. The F value for the overall score was 3.715 with a significance level of 0.006, which is less than the significance level ($\alpha \geq 0.05$). This indicates statistically significant differences in the average level of digital trauma attributed to the digital platform, with the differences favoring Instagram compared to Facebook and Telegram. The differences between Instagram and Facebook, as well as between Instagram and Telegram, were in favor of Instagram.

Table 5: Independent Samples T-Test Results for the Participants' Responses on the Average Level of PTSD Attributed to Gender

Field	Gender	N	M	S D	T Value	Sig
Intrusive Symptoms	male	104	2.761	0.993	1.61	0.10
	female	208	2.928	0.789		
Avoidance Symptoms	male	104	2.745	1.127	2.30	0.02
	female	208	3.026	0.958		
Negative Alterations in Cognition and Mood	male	104	2.782	1.036	0.59	0.55
	female	208	2.848	0.845		
Hyperarousal	male	104	2.713	1.147	0.22	0.81
	female	208	2.741	0.937		
Total Score	male	104	2.756	0.964	1.05	0.29
	female	208	2.859	0.730		

The table shows that the T value for the overall score is 1.05 with a significance level of 0.29, indicating no statistically significant differences in the average level of PTSD attributed to gender in all fields except for avoidance symptoms, where the differences favor females.

Table 6: Arithmetic Means and Standard Deviations for the Participants' Responses on the Average Level of PTSD Attributed to Age

Field	Age	N	M	S D	F Value	Sig
Intrusive Symptoms	25-18	69	3.052	0.842	1.75	0.15
	35-26	93	2.810	0.843		
	45-36	108	2.881	0.854		
	46 and above	42	2.695	0.945		
Avoidance Symptoms	25-18	69	3.144	1.047	1.94	0.12
	35-26	93	2.989	1.093		
	45-36	108	2.805	0.901		
	46 and above	42	2.785	1.094		
Negative Alterations in Cognition and Mood	25-18	69	2.922	0.951	1.93	0.12
	35-26	93	2.891	0.881		
	45-36	108	2.825	0.876		
	46 and above	42	2.526	0.977		
Hyperarousal	25-18	69	2.858	1.003	1.30	0.27
	35-26	93	2.716	1.010		
	45-36	108	2.764	0.987		
	46 and above	42	2.476	1.071		
Total Score	25-18	69	2.960	0.858	1.90	0.12
	35-26	93	2.837	0.778		
	45-36	108	2.822	0.757		
	46 and above	42	2.582	0.937		

The table shows apparent differences in the average level of PTSD attributed to age. However, the F value for the overall score was 1.901 with a significance level of 0.129, which is greater than the significance level ($\alpha \geq 0.05$). This indicates that there are no statistically significant differences in the average level of PTSD attributed to age.

Table 7: Arithmetic Means and Standard Deviations for the Participants' Responses on the Average Level of PTSD Attributed to the Digital Platform They Follow

Field	Digital Platform	N	M	S D	F Value	Sig
Intrusive Symptoms	Telegram	39	2.743	0.994	2.59	0.03
	Instagram	86	2.925	0.881		
	TikTok	34	3.264	0.819		
	Facebook	142	2.774	0.835		
	Twitter/X platform	11	2.981	0.260		
Avoidance Symptoms	Telegram	39	2.756	1.224	1.13	0.34
	Instagram	86	2.854	1.051		
	TikTok	34	3.220	0.954		
	Facebook	142	2.950	0.982		
	Twitter/X platform	11	3.045	0.687		
Negative Alterations in Cognition and Mood	Telegram	39	2.570	0.891	3.79	0.00
	Instagram	86	2.814	0.910		
	TikTok	34	3.349	1.030		
	Facebook	142	2.778	0.884		
	Twitter/X platform	11	2.829	0.291		
Hyperarousal	Telegram	39	2.415	0.935	3.54	0.00
	Instagram	86	2.569	0.955		
	TikTok	34	3.164	1.113		
	Facebook	142	2.825	1.025		
	Twitter/X platform	11	2.581	0.603		
Total Score	Telegram	39	2.593	0.878	3.48	0.00
	Instagram	86	2.784	0.817		
	TikTok	34	3.269	0.790		
	Facebook	142	2.806	0.801		
	Twitter/X platform	11	2.827	0.262		

The table shows apparent differences in the average level of PTSD attributed to the digital platform followed by participants. To determine the significance of these differences, One-Way ANOVA was used. The F value for the overall score was 3.48 with a significance level of 0.00, which is less than the significance level ($\alpha \geq 0.05$). This indicates statistically significant differences in the average level of PTSD attributed to the digital platform followed by participants, with the differences favoring TikTok compared to Telegram.

Table 8: Pearson Correlation Coefficient and Statistical Significance of the Relationship Between the Participants' Average Estimates of the Level of Digital Trauma and PTSD

Fields	Pearson Correlation	Significance Level
Intrusive Symptoms	0.398**	0.000
Avoidance Symptoms	0.309**	0.000
Negative Alterations in Cognition and Mood	0.226**	0.000
Hyperarousal	0.207**	0.000
Total PTSD Score	0.310**	0.000

The table shows that the Pearson correlation coefficient for the overall score is 0.310 with a significance level of 0.000, indicating that the relationship is statistically significant. This means that there is a positive correlation between digital trauma and PTSD, where an increase in digital trauma leads to an increase in PTSD levels among Bethlehem residents due to the War on Gaza, and vice versa.

Discussion:

The results indicate no statistically significant differences in the average level of digital trauma between males and females among Bethlehem residents, suggesting that gender is not a determining factor in the level of digital trauma among the sample. This result highlights that the experience of digital trauma resulting from the Israeli war was similar between the genders. This could be attributed to the fact that collective traumas, such as military aggression, have similar psychological impacts regardless of gender, as both genders are exposed to similar environmental and social conditions under the aggression. Therefore, it can be said that the psychological responses to traumatic events in this context may be similar between males and females, consistent with the study by Fothergill & Peek (2004) and differing from Bryant et al. (2023), which showed gender differences. The results also indicate statistically significant differences in the average level of digital trauma attributed to age among Bethlehem residents as a result of the Israeli war on Gaza, with the differences particularly favoring the age group 26-35 years. This suggests that individuals in this age group may be more susceptible to digital trauma compared to other age groups. This may be due to the fact that this age group is in a life stage full of responsibilities and professional and social challenges, which increases their sensitivity to the psychological effects resulting from the aggression. Additionally, this age group may be more connected to technology and social media, increasing their exposure to content related to the aggression and deepening their experience of digital trauma. This result differs from the study by Mollica et al. (2023), which suggested no differences attributable to age. The results show that the differences were in favor of the Instagram platform compared to Facebook and Telegram, with digital trauma levels being higher among Instagram users. This can be explained by several factors. First, Instagram relies heavily on

visual content, such as photos and videos, making users more exposed to impactful and emotional scenes that increase the level of digital trauma. Additionally, the nature of interaction on Instagram may be more intense in terms of focusing on personal experiences and content directly related to the aggression, deepening the trauma experience for users. In comparison, content on Facebook and Telegram may be less focused on direct visual aspects and more diverse in terms of texts and discussions, which may mitigate the psychological impacts. Facebook tends to offer a variety of content, including articles and links, which may allow users more opportunity for critical interaction and emotional distancing from the content. Meanwhile, Telegram offers more private content with less interaction with large audiences, which may lessen the impact of trauma. This result is consistent with the findings of Durlofsky (2020) and Merrin & Hoskins (2020). The results indicate no statistically significant differences in the average level of PTSD attributed to gender in most fields, suggesting that males and females experience PTSD similarly in most aspects. This indicates that gender is not a significant factor in determining the level of PTSD among the sample. However, differences were found in the field of avoidance symptoms, favoring females, meaning that women in the sample exhibited higher levels of avoidance symptoms compared to men. Avoidance symptoms are associated with attempts to avoid reminders of the trauma or to steer clear of activities and situations that may trigger painful memories. This difference may reflect different coping strategies between the genders, where women may tend to avoid confrontation with traumatic events more than men as a means of adaptation. This result can be interpreted in light of psychological literature, which suggests that women often exhibit a more intense response to psychological stress, especially in the context of trauma, and may rely more on avoidance strategies as a means of coping with those stresses. These results are consistent with the study by Tolin & Foa (2006). The results indicate no apparent differences attributed to age, suggesting that age is not a significant factor in determining the level of PTSD among the sample in this study. This may reflect the overlap in life experiences and shared trauma effects among different age groups, where all individuals are exposed to traumatic conditions in ways that may be relatively similar, leading to comparable levels of PTSD regardless of age. This result is consistent with the study by Norris et al. (2002). The results indicate statistically significant differences in the average level of PTSD attributed to the digital platform followed by participants, suggesting that the type of digital platform followed by participants has a noticeable impact on the level of PTSD they experience, whether in the overall score or in different fields, except for avoidance symptoms. The difference between TikTok and Telegram was in favor of TikTok, meaning that users who follow TikTok experience higher levels of PTSD compared to those who follow Telegram. This result can be explained by the nature of the content provided by each platform. TikTok is characterized by its fast and intense content, which includes many short video clips that may contain shocking or anxiety-inducing scenes frequently, increasing levels of anxiety and PTSD among users. This type of content can have a more significant impact on psychological well-being due to its rapid and repetitive emotional nature. In contrast, Telegram is used more for sharing texts and content that may be less stimulating to psychological symptoms compared to the intense visual content on TikTok. Therefore, Telegram users may be less likely to experience PTSD at the same intensity as TikTok

users. This result is consistent with a study conducted by Durlofsky (2020). The results indicate a positive correlation between digital trauma and PTSD among Bethlehem residents as a result of the war on Gaza, indicating that this relationship is statistically significant. This means that the more intense the digital trauma experienced by individuals, the higher their level of PTSD, and vice versa. This positive correlation suggests that increased exposure to digital trauma, such as continuous exposure to news and shocking scenes through digital media and social networks, can significantly contribute to the increase in PTSD symptoms among the sample. In other words, the more individuals are exposed to digital content that reflects traumatic experiences or painful news, the more likely they are to develop PTSD symptoms. This result is consistent with the studies by Garfin et al. (2020) and Pizzoli et al. (2020).

Conclusions:

The results indicate that digital trauma resulting from the Israeli war on Gaza has similarly affected both males and females among Bethlehem residents, with increased trauma severity among the 26-35 age group and Instagram users compared to other platforms. PTSD did not differ significantly between genders, except for avoidance symptoms, which were more common among women, and age was not a major factor. Following TikTok was associated with increased PTSD compared to Telegram.

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