



Warfare of The Mind: Psychological and Neurocognitive Assaults on Civilians in the 2024 Lebanese-Israeli War

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Introduction

Over recent years, Lebanon has been perpetually spiraling down a grave tunnel of socio-economic and psychological despair. With hyperinflation, an irreversibly collapsed infrastructure, political deadlock, and constant social unrest, Lebanon has surrendered to a paralyzed state of hopelessness. As a result, it catapulted headlong into a gruesome war against Israel in September 2024.¹ Throughout recorded history, the conflict between Lebanon and Israel has echoed with multitudes of clashes (the wars of 1978, 1982, 2000, 2006).² On the 17th of September 2024, Israel engaged in a series of macabre tactics, including the remote and simultaneous detonation of 3,000 explosive pagers within Hezbollah's military personnel, with many innocent Lebanese civilians caught in the crossfire.³ Heavy bombing erupted across large areas of Lebanon, displacing 1.2 million people into makeshift shelters⁴ and placing people in a state of apprehension and hypervigilance as rates of psychological instability and mental scarring escalated.⁵ Generally, warfare entails the manifestation of violence, subjection of power, and martyrdom of masses in exchange for national advantage through ground, naval, aerial, and cyber domains, each requiring the bargain of bloodshed for power. However, under those traditional kinetic operations, a subtle yet powerful tool is constantly at play; it involves the indoctrination and subjugation of the enemy's mind and intuition through psychological utility - in other words, psychological warfare. Psychological warfare, or psywar, involves achieving military goals through psychological manipulation of the enemy's front, thereby precipitating demoralization and undermining their prospects of victory. It aims to galvanize civilian rebellion against its own guerrilla groups (such as the HA military members in Lebanon). Hence, this hinders enemy response to war assaults and delays engagement in war.⁶ Israel ceaselessly conducted such psychological operations in the recent war: persistent drone sounds, aerial sonic breaks, pre-strike warnings, night booming, threatening broadcasts, and misinformation. Although those tactics catalyze the consolidation of strategic advantage, their aftermath is significant and still leaves devastating neurophysiological sequelae in Lebanese populations. Eventually, it led to neurobehavioral changes and an ultimate

¹ Anna Gordon, "Concerns Grow as Conflict Escalates between Israel and Hezbollah," TIME (Time, September 20, 2024), <https://time.com/7022954/israel-hezbollah-lebanon-conflict/>

² Loveday Morris, "Israel Eyes Lebanon Offensive with Lessons from Past Invasions," Washington Post (The Washington Post, September 28, 2024), <https://www.washingtonpost.com/world/2024/09/28/israel-lebanon-history/>.

³ Laila Bassam and Maya Gebeily, "Israel Planted Explosives in Hezbollah's Taiwan-Made Pagers, Say Sources," Reuters, September 18, 2024, <https://www.reuters.com/world/middle-east/israel-planted-explosives-hezbollahs-taiwan-made-pagers-say-sources-2024-09-18/>.

⁴ "Displaced Families in Lebanon Yearn for Peace and a Return Home | UNHCR," UNHCR, 2024, <https://www.unhcr.org/news/stories/displaced-families-lebanon-yearn-peace-and-return-home>.

⁵ "Al Arabiya English," Al Arabiya English (Alarabiya, September 24, 2024), <https://english.alarabiya.net/webtv/programs/gnt/clips/2024/09/24/demand-for-mental-health-services-in-lebanon-higher-than-ever-due-to-conflict>.

⁶ R Schleifer, *Psychological Warfare in the Arab-Israeli Conflict*. (Palgrave Macmillan, 2016).

collapse of Lebanon's social fabric. This paper therefore asks: To what extent has Israel's weaponization of psychology during the 2024 conflict jeopardized Lebanese civilians' emotional regulation, cognitive functions, and neurobehavioral health? This paper will examine the history of psywar in monumental wars such as the First and Second World Wars and the culmination in the 2024 Lebanese-Israeli conflict, while emphasizing the urgency of recognizing its biological consequences on civilian cognition and psychophysiology, and neurobehavior.

Historical Context

Despite Israel's recent and extensive use of such psychological strategies against Lebanon in the recent conflict, psywar operations are antiquated and trace back to the very dawn of human warfare. Notably, the London Blitz stands as a substantial testament to the psychological toll brought upon civilians following psychological operations. It involved German terror bombing against the United Kingdom during World War II as an attempt to "force the British to surrender, rather than attempt to destroy the RAF",⁷ according to the BBC. Since the British maintained a high morale and resilience,⁸ *The Times* reported— based on Ministry of Health findings— that cases of shock and psychological distress were halved after the raids.⁹ However, stating that there was an absolute absence of psychological scarring would be misleading. Dreams were a psychic place where distressing and traumatic emotions played out.¹⁰ Many described nightmares, specters, and ghostly apparitions signifying the unprocessed emotional residue of grief, depression, and fear of death.¹¹ Moreover, by 1944, substantial evidence indicated that, in addition to being "organic diseases", gastrointestinal disorders were increasingly recognized as "psychosomatic disorders"¹² where the mind under stress readily caused bodily symptoms such as "peptic ulcer, gastritis, and dyspepsia."¹³ Similarly, Aubrey Lewins hypothesized that the presentation of mental health consequences from war-related stress could be "delayed."¹⁴ In 1943, Dr. C.P. Blacker, through a national mental health survey, expanded by noting that "latent neurosis" had surfaced among civilians post-war,¹⁵ hence justifying the absence of strain during the Blitz. Other psychological

⁷ BBC, "The Battle of Britain and the Blitz - World War Two and the Holocaust - KS3 History - Homework Help for Year 7, 8 and 9.," BBC Bitesize, n.d., <https://www.bbc.co.uk/bitesize/articles/zgm77yc>.

⁸ Stephen T Casper, "The Origins of the Anglo-American Research Alliance and the Incidence of Civilian Neuroses in Second World War Britain," *Medical History* 52, no. 3 (May 2008): 327–46, <https://doi.org/10.1017/s0025727300002660>, 7

⁹ Stephen T Casper, "The Origins of the Anglo-American Research Alliance and the Incidence of Civilian Neuroses in Second World War Britain," 7

¹⁰ Oliver Parken, "Blitz Spirits: Ghosts of London and the Nation in Second World War Britain," *The London Journal*, June 21, 2022, 1–18, <https://doi.org/10.1080/03058034.2022.2068281>, 7

¹¹ Oliver Parken, "Blitz Spirits: Ghosts of London and the Nation in Second World War Britain," 8

¹² Edgar Jones, "The Gut War," *History of the Human Sciences* 25, no. 5 (December 2012): 30–48, <https://doi.org/10.1177/0952695112466515>, 8

¹³ Edgar Jones, "The Gut War," 4

¹⁴ Edgar Jones, "Air Raids and the Crowd – Citizens at War," BPS (The British Psychological Society, May 9, 2016), <https://www.bps.org.uk/psychologist/air-raids-and-crowd-citizens-war>.

¹⁵ Edgar Jones, "Air Raids and the Crowd – Citizens at War"

tactics were witnessed during the U.S. aerial leaflet dropped over Japan in August 1945: Allied bombers dropped leaflets over Japan claiming that the “American Airforce does not wish to injure innocent people,” on the contrary it will “bring peace and free the people from the oppression of the [Japanese] military clique.”¹⁶ Those void promises, delivered by the American forces, are merely a tactic to exploit citizens’ desperation for peace, hence, making them more susceptible to yielding those deceptive claims. More usages continued to be revealed decades later, such as the false dissemination of information in Operation Wandering Soul during the Vietnam War. The U.S. forces exploited local Vietnamese beliefs by broadcasting messages of Vietnamese voices “from beyond the grave” urging Viet Cong fighters to flee their positions;¹⁷ and other emotional appeals that became focal points of many military successes. Much like the British during the Blitz and the multiple analogues that followed, similar psychological frameworks continue to shape contemporary conflict. The Israeli-Lebanese conflict of 2024 marked the epitome of psychological damage inflicted on civilians which will be explored in the following discussion.

Allostatic Load or Overload

Over the past decades, Lebanon has endured successive and compounding hardships that subjected its population to chronic psychological fatigue and prolonged exposure to stress. After the Lebanese civil war that spanned 15 years until 1990, the Lebanese population withstood political instability, regional conflicts in the 2006 war with Israel, skyrocketing inflation and unemployment in 2019, and the devastating 2020 Beirut Port explosion, which killed thousands of people and left the capital in huge public debt. Each of those traumatic events spilled over the unresolved mental toll of the previous one, compounding a sea of debilitating neuropsychological and physiological effects that distorted stress-hormone systems, eroded normal brain functioning, and provided the groundwork for precipitation of what researchers refer to as allostatic load. In contrast to beneficial stress (allostasis), where the body adapts to daily environmental alterations of stress and induces immediate changes in the body’s regulation system, allostatic load or overload is “the strain on the body produced by systems under challenge and the changes in metabolism and wear and tear on a number of organs and tissues.”¹⁸ It is provoked by frequent and prolonged activation of stress systems, leading to excessive release of stress hormones such as glucocorticoids (eg. Cortisol) and catecholamines (eg. adrenaline and noradrenaline). Elevated levels of the former for a prolonged period can cause dendritic retraction and reduced neuropil volume, which ultimately brings about cognitive impairment and disrupts “tasks involving

¹⁶ Atomic Heritage Foundation, “Warning Leaflets - Nuclear Museum,” <https://ahf.nuclearmuseum.org/> (Atomic Heritage Foundation, 2022), <https://ahf.nuclearmuseum.org/ahf/key-documents/warning-leaflets/>.

¹⁷ Herbert Sgm and Friedman, “The Wandering Soul PSYOP Tape of Vietnam ,” March 23, 2014, <https://medicinthegreentime.com/wp-content/uploads/2012/03/WANDERING-SOULS-PSYOPS.pdf>, 3

¹⁸ B. S. McEwen and E. Stellar, “Stress and the Individual. Mechanisms Leading to Disease,” *Archives of Internal Medicine* 153, no. 18 (September 27, 1993): 2093–2101, <https://pubmed.ncbi.nlm.nih.gov/8379800/>,.

hippocampal function,”¹⁹ primarily leading to memory deficit. This was evident in a study by Karam et al., who examined recall bias following the Beirut Port Blast and found that trauma exposure led to both diminished and distorted memory. Another detriment impaired on the brain’s plasticity, clinically defined as “the ability of the nervous system to change its activity in response to intrinsic or extrinsic stimuli by reorganizing its structure, functions, or connections.”²⁰ It elaborates on our capacity to learn, adapt to environmental changes, process sensory information, and aid in recovery after brain trauma. Saaltink and Vreugdenhil’s study on the interplay between stress and adult neurogenesis suggested that elevated glucocorticoid levels, acting via glucocorticoid receptors, mediate “direct stress-suppressive effects on cell proliferation.”²¹ This jeopardizes our rational thinking and adaptation to the inherent dynamism of life, primarily in times of compounding traumatic events followed by war. Plasticity distortion also explains the lack of emotional adaptation and control during extremely stressful events, causing psychological vulnerability and manifestation of mental disorders. In the case of Lebanon, following the Beirut Port explosion, “37% met criteria for PTSD, and 80% were screened as having symptoms of depression.”²² Recently, in the light of war, Israel’s ongoing strikes depressed the already vulnerable state of the Lebanese population, which crippled them with relentless stressors, kept their physiological and psychological systems activated, thus diminishing their neuroplastic ability to adapt to new threats and permanently disrupting the functionality of daily life.

Night Bombing and sleep deprivation

“It was one of the inflexible rules of Mr. Churchill’s daily routine that he should not miss this rest,” stated Churchill’s valet, Frank Sawyers. Amidst the brutal realities of the Second World War, Winston Churchill effectively cherished the power of sleep as a strategic tool for personal resilience, maintaining mental balance, and restoring energy.²³ Especially during the Blitz, he would retreat to the War Rooms midday after lunch for an hour or two of sleep to reenergize and continue upon waking. It is what modern commentators refer to now as Churchill’s “secret productivity weapon”.²⁴ One of Israel’s exclusive psychological tactics against Lebanon was stripping away the serenity of sleep through purposeful routine nighttime terror bombing over the country, easing any notion of night as a reprieve. Israel exploited the foreboding darkness of the

¹⁹ Bruce S. McEwen, “Physiology and Neurobiology of Stress and Adaptation: Central Role of the Brain,” *Physiological Reviews* 87, no. 3 (2007): 873–904, <https://doi.org/10.1152/physrev.00041.2006>, 889

²⁰ Matt Puderbaugh and Prabhu D. Emmady, “Neuroplasticity,” National Library of Medicine (Treasure Island (FL): StatPearls Publishing, May 1, 2023), <https://www.ncbi.nlm.nih.gov/books/NBK557811/>.

²¹ Dirk-Jan Saaltink and Erno Vreugdenhil, “Stress, Glucocorticoid Receptors, and Adult Neurogenesis: A Balance between Excitation and Inhibition?,” *Cellular and Molecular Life Sciences* 71, no. 13 (February 13, 2014): 2499–2515, <https://doi.org/10.1007/s00018-014-1568-5>, 2504

²² Joseph El Khoury et al., “The Beirut Explosion Psychological Impact Study: An Online Cross-Sectional Population Survey.,” *Traumatology*, February 10, 2022, <https://doi.org/10.1037/trm0000353>

²³ alexpang, “Winston Churchill’s Secret Productivity Weapon | Full Focus,” Full Focus, November 7, 2017, <https://fullfocus.co/naps/>

²⁴ alexpang, “Winston Churchill’s Secret Productivity Weapon | Full Focus”

night to instill greater fear in the Lebanese population. The IDF successively fired night bombs mainly in the Dahyeh region under the pretext of attempting to erode Hezbollah house fronts. The bombs were indiscriminate and produced a loud noise that even those in distant areas could hear. Patricia Hakmeh of Trócaire describes the scene in her journal: “The nights are filled with the frightening sounds of drones, airstrikes, and the sounds of bombs hitting the ground... it is surreal.”²⁵ Nevertheless, the victims of the displacement lay awake every night wondering whether this would be the night they lost their home or workplace. Psychologist Judith Herman, specializes in war trauma, stated in *Libnanews* that the “unpredictability of attacks and the inability to see what is happening amplify the trauma.”²⁶

Upon the collective fragmentation of sleep and the excessive state of hyperarousal with obsessive attentiveness to news of bombing, it risked an increase in blood pressure, a decrease in the parasympathetic tone, and an elevation of cortisol and insulin levels,²⁷ which contribute to the emergence of aforementioned allostatic overload consequences. Furthermore, sleep loss results in impairment of psychomotor vigilance.²⁸ Consequences such as lapses, hindered reaction time, and reduced attentiveness hence emerge. As a result, people of Lebanon faced a hard time concentrating on simple daily tasks and devising rational decisions in times of danger. Deprivation of the rapid eye movement (REM) stage during sleep also induces a state of aggression and increased fighting behavior. Violence and petty crime soared from 2024 to the first quarter of 2025: “security incidents are becoming more frequent – snatch thefts, carjackings, burglaries, and more.”²⁹

Drone Buzzing and Sonic breaks

Throughout the war, the sound of MK drones drowned the country. Escaping the sound was hampering and disrupting people’s peace. It made practicing self-soothing or therapeutic activities, which are in great demand in wartime, impossible. While many universities and schools engaged in online learning, attempting to uphold the continuity of education for students, and many citizens continued to show up for work, the prolonged din of drones erupted in a massive state of hypervigilance and anxiety. *The New Arab* report quoted a Lebanese woman who described the sound as “watching [her] all the time... it's always in the back of our minds...as if it's following

²⁵ Patricia Hakmeh, “Life in Lebanon: ‘Our Nights Are Filled with the Terrifying Sounds of Bombing and Airstrikes,’” *TheJournal.ie* (TheJournal, October 20, 2024), <https://www.thejournal.ie/readme/lebanon-hell-6518379-Oct2024/>

²⁶ Newsdesk Libnanews and Newsdesk Libnanews, “Disinformation, Terror and Sedition: War Is Also Psychological in the Israeli-Lebanese Conflict,” *Libnanews*, Le Média Citoyen du Liban, October 8, 2024, <https://libnanews.com/fr/disinformation-terror-and-sedition-war-is-also-psychological-in-the-israeli-lebanese-conflict/>

²⁷ Bruce S. McEwen, “Physiology and Neurobiology of Stress and Adaptation: Central Role of the Brain,” 881

²⁸ Bruce S. McEwen, “Physiology and Neurobiology of Stress and Adaptation: Central Role of the Brain,” 882

²⁹ Soumia Benmerzoug, “Security in Lebanon: When the Streets Call for Order,” *This is Beirut*, 2025, <https://thisisbeirut.com.lb/articles/1312671/security-in-lebanon-when-the-streets-call-for-order>.

us.”³⁰ Even children as young as 12 years old are directly affected, where one quoted she feels a “pain in her heart” and “terror” when the “familiar” buzzing returns, especially after witnessing a direct strike on her home after hearing it.³¹ This state of heightened alertness is provoked by the repeated activation of the amygdala,³² the brain’s fear center, resulting in a neural signature of trauma where, over time, the brain’s fear circuits become sensitive to the anticipation of the buzzing or even anxious about its absence. Many analysts asserted that such chronic noise pollution promotes “sympathetic and endocrine activity,” which in tandem raises stress hormones such as cortisol and norepinephrine.³³ Critically, cortisol in excess can “down-regulate” its own receptors in immune cells, fostering hormonal resistance and provoking pro-inflammatory cytokines. This inflammation feeds back into the brain, where cytokines can induce oxidative stress that eventually leads to alterations in brain structure and function. Consequently, it impairs the brain’s plasticity and cognitive and emotional regulation.³⁴ Hence, even in relatively safe situations, citizens harbored a sense of fear, anxiety, and irritability. This is referred to as classical fear conditioning, where a neural stimulus stimulates emotions of fear after its “repeated pairing with an aversive stimulus.”³⁵ Therefore, events of drone ringing can trigger recent flashbacks of bombing and even restore memories of previous wars. Sporadic sonic breaks also re-institute memories from the Beirut Port Blast, engaging civilians in greater states of mental strain.

Cyber and media-induced trauma

Bombs across Lebanon were struck indiscriminately, leaving citizens uncertain about when and where the next attack might hit. This unpredictability compelled many Lebanese citizens to remain confined within their sanctuaries, whether in households, a public-school classroom, or makeshift tents on the street. It thrust civilians into a monotonous life detached from work, social connections, and the hassle of everyday life they once led. As a result, the frequency and duration of time spent navigating social media platforms predictably escalated. In the age of globalization combined with the rapid advancement of technology, news reports and social media updates have become quick conduits of information, contributing to the direct exposure of people to distressing wartime imagery and narratives. On 17 September 2024, the date of Israel's detonation of pagers and walkie-talkies, videos of men answering phones or pagers and being caught by explosions plagued the media. Morbid humor and fear were also instituted as pro-Israeli influencers shared

³⁰ Suzanne Abou Said, “Buzz of Death: Israeli MK Drone Leaves Lasting Trauma in Lebanon,” *The New Arab*, 2024, <https://www.newarab.com/news/buzz-death-israeli-mk-drone-leaves-lasting-trauma-lebanon>.

³¹ Suzanne Abou Said, “Buzz of Death: Israeli MK Drone Leaves Lasting Trauma in Lebanon”

³² Omar Hahad et al., “Noise and Mental Health: Evidence, Mechanisms, and Consequences,” *Journal of Exposure Science & Environmental Epidemiology* 35 (January 26, 2024): 1–8, <https://doi.org/10.1038/s41370-024-00642-5>, 4

³³ Omar Hahad et al., “Noise and Mental Health: Evidence, Mechanisms, and Consequences,” 4

³⁴ Omar Hahad et al., “Noise and Mental Health: Evidence, Mechanisms, and Consequences,” 3

³⁵ Lissek S et al., “Classical Fear Conditioning in the Anxiety Disorders: A Meta-Analysis,” *Behaviour research and therapy*, November 1, 2005, <https://pubmed.ncbi.nlm.nih.gov/15885654/>

mocking clips of the detonations and perpetuated hostile comments.³⁶ Waves of fear spread all over the country as many threw away their electronic devices after rumors on social media platforms claimed them to be rigged with explosives. The Tahrir Institute for Middle East Policy (TIMEP) also reported a consequent “[exacerbation] of anxiety and a sense of vulnerability among civilians.”³⁷ Furthermore, digital platforms induced nationwide distress through circulating footage of bombed buildings, burning vehicles, and injured or deceased civilians, often without content warnings. Importantly, even posts appealing for missing people, such as that documented by L’Orient Today, where a mother shared photos of her missing 16-year-old daughter Naya following the collapse of a building in Naqoura,³⁸ served as a constant reminder of the near possibility of loss and danger. Manipulation of digital availability was taken as far as generating AI-images. AFP fact-check identified two AI-generated images depicting an Israeli airstrike near a Middle East Airlines plane in Beirut. This false image was picked up by several influential accounts, aggregating the collective anxiety in people, especially those intending to flee the country for safety.³⁹ Besides AI usage, hundreds of phone calls and WhatsApp messages were documented by unknown contacts mimicking Lebanese numbers with “threats and calls to evacuated specific areas”⁴⁰ Dr. Alison Holman, a health psychology researcher at UC Irvine, discusses in her study that “bloody images, especially those involving large-scale collective violence... may be associated with fear and worry [and] contribute to symptoms of psychological disorders such as PTSD and anxiety.” Moreover, some physiological consequences due to such emotionally charged media also manifest, which include “persistent autonomic dysregulation, cardiovascular and endocrine disorders.” Due to such grave consequences, one might expect a decrease in the affiliation with digital consumption of media to alleviate its shortcomings. However, a cyclical link was discovered between “trauma-related media exposure and distress”⁴¹ by Rebecca R. Thompson et al, a postdoctoral scholar at UC Irvine who studies psychological responses to trauma and media exposure. She concluded that “distress can increase subsequent trauma-related media consumption that promotes increased distress to later events.” Dr. Holman

³⁶ “‘Inhumane’: Social Media Users Condemn Posts Mocking Victims of Deadly Lebanon Blasts,” Middle East Eye, 2024, <https://www.middleeasteye.net/trending/israel-supporters-mock-lebanons-deadly-pager-attacks>.

³⁷ Kassem Mnejja, “Israel’s Digital Assault on Lebanon,” The Tahrir Institute for Middle East Policy -, December 4, 2024, <https://timep.org/2024/12/04/israels-digital-assault-on-lebanon/>.

³⁸ Lisa Goursaud, “The Untraceable Number of Missing in Lebanon from the Israel-Hezbollah War,” L’Orient Today, December 22, 2024, <https://today.lorientlejour.com/article/1440822/in-lebanon-the-untraceable-number-of-missing-from-the-israel-hezbollah-war.html>.

³⁹ Daniel Patrick Galgano, “AI-Generated Images Falsely Claimed to Show Bombing near Beirut Airport,” Fact Check, October 25, 2024, <https://factcheck.afp.com/doc.afp.com.36KL83M>.

⁴⁰ Nourhane Kazak, “Messages, Calls, and Radio: How Is the Israeli Occupation Sending Panic Warnings?,” SMEX, September 23, 2024, <https://smex.org/messages-calls-and-radio-how-is-the-israeli-occupation-sending-panic-warnings/>.

⁴¹ Rebecca R. Thompson et al., “Media Exposure to Mass Violence Events Can Fuel a Cycle of Distress,” *Science Advances* 5, no. 4 (April 1, 2019): eaav3502, <https://doi.org/10.1126/sciadv.aav3502>.

refers to it as “attentional bias,” where people find it difficult to “disengage”⁴² from stressful content, creating a feedback loop. This compounded exposure of aversive visuals interferes with cognitive processing by which intrusive memories or flashback-like experiences become evident, as suggested by Dr. Holman, often without conscious intent. To understand the underlying neural mechanisms behind flashback formation, we refer to an analogue trauma study performed by Dr. Corin Bourne, a researcher in the Department of Psychiatry at the University of Oxford. Using an fMRI to track brain activity while exposing participants to a traumatic film and monitoring involuntary memories over the following week. The recurrent flashbacks were associated with “significantly increased activation across widespread brain regions including the amygdala, ventral occipital cortex, striatum, rACC, thalamus, left IFG, and MTG,”⁴³ regions involved in “emotional processing, higher-level visual processing and mental imagery, and threat processing.”⁴⁴ The specificity of the neural encoding processes segregated between “traumatic content that subsequently flashed back and similar content that did not,”⁴⁵ pointing out the unconscious manner of storing traumatic visuals. This reinforces the fact that increased peri-traumatic neural engagement with aversive content fosters intrusive memories, which are the hallmark of PTSD and neuropsychological implications.

Conclusion

In conclusion, the 2024 Lebanese-Israeli conflict is a historical hallmark of warfare that extends beyond kinetic destruction to mental invasion. Through night bombing, sounds of sonic breaks and drone buzzing, and aversive digital content, Lebanese civilians were struck by waves of distress and fears accumulated over the burdens of the prior crisis. Those faculties left a lasting neuropsychological effect such as hypervigilance, cognitive and emotional disruption, and a grave susceptibility to trauma-related disorders. While wars are terminated by the silencing of guns, they still echo in the minds and bodies of those who lived them. Being able to recognize the neuropsychological and behavioral costs of war is at the forefront of efforts required to manage its lasting effects. Only by addressing such hidden scars can Lebanon reclaim its collective strength and stability that has been eroding for long.

⁴² E. Alison Holman et al., “Media Exposure to Collective Trauma, Mental Health, and Functioning: Does It Matter What You See?,” *Clinical Psychological Science* 8, no. 1 (October 8, 2019): 111–24, <https://doi.org/10.1177/2167702619858300>.

⁴³ C. Bourne, C. E. Mackay, and E. A. Holmes, “The Neural Basis of Flashback Formation: The Impact of Viewing Trauma,” *Psychological Medicine* 43, no. 7 (October 18, 2012), <https://doi.org/10.1017/s0033291712002358>, 1528

⁴⁴ C. Bourne, C. E. Mackay, and E. A. Holmes, “The Neural Basis of Flashback Formation: The Impact of Viewing Trauma,” 1528

⁴⁵ C. Bourne, C. E. Mackay, and E. A. Holmes, “The Neural Basis of Flashback Formation: The Impact of Viewing Trauma,” 1528

Bibliography

- Al Arabiya English. "Al Arabiya English." Alarabiya, September 24, 2024.
<https://english.alarabiya.net/webtv/programs/gnt/clips/2024/09/24/demand-for-mental-health-services-in-lebanon-higher-than-ever-due-to-conflict>.
- alexvang. "Winston Churchill's Secret Productivity Weapon | Full Focus." Full Focus, November 7, 2017. <https://fullfocus.co/naps/>
- Atomic Heritage Foundation. "Warning Leaflets - Nuclear Museum."
<https://ahf.nuclearmuseum.org/>. Atomic Heritage Foundation, 2022.
<https://ahf.nuclearmuseum.org/ahf/key-documents/warning-leaflets/>.
- Bassam, Laila, and Maya Gebeily. "Israel Planted Explosives in Hezbollah's Taiwan-Made Pagers, Say Sources." Reuters, September 18, 2024.
<https://www.reuters.com/world/middle-east/israel-planted-explosives-hezbollahs-taiwan-made-pagers-say-sources-2024-09-18/>.
- BBC. "The Battle of Britain and the Blitz - World War Two and the Holocaust - KS3 History - Homework Help for Year 7, 8 and 9." BBC Bitesize, n.d.
<https://www.bbc.co.uk/bitesize/articles/zgm77yc>.
- Benmerzoug, Soumia . "Security in Lebanon: When the Streets Call for Order." This is Beirut, 2025. <https://thisisbeirut.com.lb/articles/1312671/security-in-lebanon-when-the-streets-call-for-order>.
- Bourne, C., C. E. Mackay, and E. A. Holmes. "The Neural Basis of Flashback Formation: The Impact of Viewing Trauma." *Psychological Medicine* 43, no. 7 (October 18, 2012): 1521–32. <https://doi.org/10.1017/s0033291712002358>.
- Casper, Stephen T. "The Origins of the Anglo-American Research Alliance and the Incidence of Civilian Neuroses in Second World War Britain." *Medical History* 52, no. 3 (May 2008): 327–46. <https://doi.org/10.1017/s0025727300002660>.
- El Khoury, Joseph, Lilian Ghandour, Raghid Charara, Lynn Adam, Fadi Maalouf, and Brigitte Khoury. "The Beirut Explosion Psychological Impact Study: An Online Cross-Sectional Population Survey." *Traumatology*, February 10, 2022.
<https://doi.org/10.1037/trm0000353>.
- Gordon, Anna. "Concerns Grow as Conflict Escalates between Israel and Hezbollah." TIME. Time, September 20, 2024. <https://time.com/7022954/israel-hezbollah-lebanon-conflict/>.

- Goursaud, Lisa. "The Untraceable Number of Missing in Lebanon from the Israel-Hezbollah War." *L'Orient Today*, December 22, 2024.
<https://today.lorientlejour.com/article/1440822/in-lebanon-the-untraceable-number-of-missing-from-the-israel-hezbollah-war.html>.
- Hahad, Omar, Marin Kuntic, Sadeer Al-Kindi, Ivana Kuntic, Donya Gilan, Katja Petrowski, Andreas Daiber, and Thomas Münzel. "Noise and Mental Health: Evidence, Mechanisms, and Consequences." *Journal of Exposure Science & Environmental Epidemiology* 35 (January 26, 2024): 1–8. <https://doi.org/10.1038/s41370-024-00642-5>.
- Hakmeh, Patricia. "Life in Lebanon: 'Our Nights Are Filled with the Terrifying Sounds of Bombing and Airstrikes.'" *TheJournal.ie*. *TheJournal*, October 20, 2024.
<https://www.thejournal.ie/readme/lebanon-hell-6518379-Oct2024/>
- Holman, E. Alison, 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 (October 8, 2019): 111–24.
<https://doi.org/10.1177/2167702619858300>.
- Jones, Edgar. "The Gut War." *History of the Human Sciences* 25, no. 5 (December 2012): 30–48. <https://doi.org/10.1177/0952695112466515>.
- . "Air Raids and the Crowd – Citizens at War." BPS. The British Psychological Society, May 9, 2016. <https://www.thejournal.ie/readme/lebanon-hell-6518379-Oct2024/>
- Kassem Mnejja. "Israel's Digital Assault on Lebanon." *The Tahrir Institute for Middle East Policy* -, December 4, 2024. <https://timep.org/2024/12/04/israels-digital-assault-on-lebanon/>.
- Kazak, Nourhane. "Messages, Calls, and Radio: How Is the Israeli Occupation Sending Panic Warnings?" *SMEX*, September 23, 2024. <https://smex.org/messages-calls-and-radio-how-is-the-israeli-occupation-sending-panic-warnings/>.
- McEwen, B. S., and E. Stellar. "Stress and the Individual. Mechanisms Leading to Disease." *Archives of Internal Medicine* 153, no. 18 (September 27, 1993): 2093–2101.
<https://pubmed.ncbi.nlm.nih.gov/8379800/>.
- McEwen, Bruce S. "Physiology and Neurobiology of Stress and Adaptation: Central Role of the Brain." *Physiological Reviews* 87, no. 3 (2007): 873–904.
<https://doi.org/10.1152/physrev.00041.2006>.

- Middle East Eye. “‘Inhumane’: Social Media Users Condemn Posts Mocking Victims of Deadly Lebanon Blasts,” 2024. <https://www.middleeasteye.net/trending/israel-supporters-mock-lebanons-deadly-pager-attacks>.
- Morris, Loveday. “Israel Eyes Lebanon Offensive with Lessons from Past Invasions.” Washington Post. The Washington Post, September 28, 2024. <https://www.washingtonpost.com/world/2024/09/28/israel-lebanon-history/>.
- Newsdesk Libnanews, and Newsdesk Libnanews. “Disinformation, Terror and Sedition: War Is Also Psychological in the Israeli-Lebanese Conflict.” Libnanews, Le Média Citoyen du Liban, October 8, 2024. <https://www.thejournal.ie/readme/lebanon-hell-6518379-Oct2024/>
- Parken, Oliver. “Blitz Spirits: Ghosts of London and the Nation in Second World War Britain.” *The London Journal*, June 21, 2022, 1–18. <https://doi.org/10.1080/03058034.2022.2068281>.
- Patrick GALGANO, Daniel . “AI-Generated Images Falsely Claimed to Show Bombing near Beirut Airport.” Fact Check, October 25, 2024. <https://factcheck.afp.com/doc.afp.com.36KL83M>.
- Puderbaugh, Matt, and Prabhu D. Emmady. “Neuroplasticity.” National Library of Medicine. Treasure Island (FL): StatPearls Publishing, May 1, 2023. <https://www.ncbi.nlm.nih.gov/books/NBK557811/>.
- R Schleifer. *Psychological Warfare in the Arab-Israeli Conflict*. Palgrave Macmillan, 2016.
- S, Lissek, Powers As, McClure Eb, Phelps Ea, Woldehawariat G, Grillon C, and Pine Ds. “Classical Fear Conditioning in the Anxiety Disorders: A Meta-Analysis.” *Behaviour research and therapy*, November 1, 2005. <https://pubmed.ncbi.nlm.nih.gov/15885654/>.
- Saade, Tamara . “Coping with Trauma in Lebanon, When the War Never Really Ends.” *The New Humanitarian*, May 28, 2025. . <https://www.thenewhumanitarian.org/news-feature/2025/05/28/coping-trauma-lebanon-when-war-never-really-ends>
- Saaltink, Dirk-Jan, and Erno Vreugdenhil. “Stress, Glucocorticoid Receptors, and Adult Neurogenesis: A Balance between Excitation and Inhibition?” *Cellular and Molecular Life Sciences* 71, no. 13 (February 13, 2014): 2499–2515. <https://doi.org/10.1007/s00018-014-1568-5>.
- Said, Suzanne Abou. “Buzz of Death: Israeli MK Drone Leaves Lasting Trauma in Lebanon.”

The New Arab, 2024. <https://www.newarab.com/news/buzz-death-israeli-mk-drone-leaves-lasting-trauma-lebanon>.

Sgm, Herbert, and Friedman. “The Wandering Soul PSYOP Tape of Vietnam ,” March 23, 2014. <https://medicinthegreentime.com/wp-content/uploads/2012/03/WANDERING-SOULS-PSYOPS.pdf>.

Thompson, Rebecca R., Nickolas M. Jones, E. Alison Holman, and Roxane Cohen Silver. “Media Exposure to Mass Violence Events Can Fuel a Cycle of Distress.” *Science Advances* 5, no. 4 (April 1, 2019): eaav3502. <https://doi.org/10.1126/sciadv.aav3502>.

UNHCR. “Displaced Families in Lebanon Yearn for Peace and a Return Home | UNHCR,” 2024. <https://www.unhcr.org/news/stories/displaced-families-lebanon-yearn-peace-and-return-home>.