

# Substance Use and Abuse in Terrorism Victims and Use of Substances for Treatment of Terrorism Victim's Post Trauma

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## Foreword on Terrorism

### Definition:

"The unlawful use of violence and intimidation, especially against civilians, in the pursuits of political aims." (Oxford Dictionary).



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## Terrorism:

- \* Uses threats and extraordinary, goal-oriented violence that it's primary purpose is to cause maximum harm.
- \* The intention is to psychologically disorganize and horrify victims of the target group.
- \* The choice of targets is often for their symbolic value and to obtain increased visibility.

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## The Effects on Humans

Almost without exception, the effect terrorism has on humans of the target group is the development of post-trauma syndrome to varying degrees.



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## Moderating Factors in PTSD

- \* The presence or absence of Prior Trauma
- \* The presence or absence of Substance Use and/or Substance Abuse
- \* Other factors (e.g., psychological hardiness, coping skills, other circumstances, etc.) to be discussed later.

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## A 2X2 Matrix

A. Persons who suffered early trauma (before terrorism traumatic event) and had a substance use and/or abuse history prior to terrorism traumatic event = C-PTSD + Complicating SU H/x.

B. Persons who did not suffer early trauma (before terrorism traumatic event) and had a substance use and/or abuse history prior to terrorism traumatic event = S-PTSD + Complicating SU H/x.

C. Persons who suffered early trauma (before terrorism traumatic event) but did not have a substance use and/or abuse history prior to terrorism traumatic event = C-PTSD + Simple SU H/x.

D. Persons who did not suffer early trauma (before terrorism traumatic event) and did not have a substance use and/or abuse history prior to terrorism traumatic event = S-PTSD + Simple SU H/x.

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## 2x2 Matrix

	Trauma	
	PRE	POST
PRE	C-PTSD + C-SU H/x	S-PTSD + C-SU H/x
POST	C-PTSD + S-SU H/x	S-PTSD + S-SU H/x

Substance Use

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## Complex PTSD

Treatment of PTSD is complicated (hence, Complex-Posttraumatic Stress Disorder) when a person had suffered prior disruptions to normal development through various insults to the self during their formative years.

A. When a new terrorism traumatic event occurs subsequent to earlier insults, and later in chronological time of their lives, it sets the stage for the development of what is considered Complex-PTSD.

B. This means that when a new traumatic disruption (such as a single terrorism event or multiple terrorism events) occurs, it is superimposed over a relatively fragile and less regulated self already in place, setting the stage for more serious and harder to treat post-trauma dysfunction.

C. The treatment of post-trauma is then prolonged, requiring attention to the trauma the terrorism event or events caused, and also therapeutic attention to earlier traumas and their activation by the more recent disruptive events.

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## Therapeutic Approaches to Complex PTSD

Consequently, the therapeutic approach in general has to attend to the traumatic history of the person and involve more retrospective techniques (e.g., psycho-dynamic approaches, hypnotherapy, EMDR, etc.), and humanistic and existential perspective (i.e., seeking to answer existential questions emerging from the terrorism event and other prior traumas).

These could involve:

- 1) What happened to me? Why did it happen to me?
- 2) Why did it happen to me again? Why did I survive?
- 3) How did I respond and why did I respond the way I did?
- 4) What does it say about me? Am I a coward or hero for surviving the way I did?
- 5) What if it happens again and what should I do? How do I prepare for the next time?
- 6) How can I live in a world in which things like this can happen to people like me?
- 7) How should I live in a world in which things like this happen to people like me?

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## Treatment of Addiction Takes a Back-Stage

In such situations, the treatment of substance use and abuse usually takes a back-stage to the immediate post-trauma syndrome that forms the dysfunctional foundation the person is desperately trying to regulate with substances, even if substance use and/or abuse started earlier than a more recent terrorism trauma.



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## Terrorism Trauma

The characteristic elements in the traumatic nature of terrorism events sets them apart as a distinct and different trauma-causing event than other traumatic events.

Almost always, the terrorist attack is sudden and therefore unexpected - leaving the persons without the opportunity to summon their mental resources (never mind practical or physical resources) to cope with the psychological challenges they face.

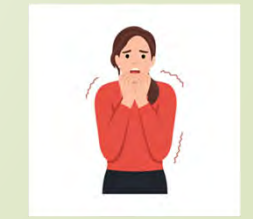


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## Typical Responses

Terrorism attack sets the stage for:

- 1) Intense surprise, panic, horror, disbelief.
- 2) Intense anxiety and mental disorganization.
- 3) Incoherent and self-defeating behaviors.
- 4) Reflexive responses that can be ego-dystonic.
- 5) Defensive maneuvers that can become psychotic (de-realization, dissociation, amnesia, etc.).



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## The Personal Dimension

Unlike other forms of trauma-causing events that are sudden and unexpected (e.g., natural disasters, vehicular accidents, violent crime, etc.), the evil intent (i.e., to kill, to destroy) in a terror attack creates a very personal reference, (i.e., someone is trying to kill/maim/hurt/terrorize me) which magnifies the horrifying experience.



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## Loss of Sense of Safety

Almost always, the terrorism attack strikes at the core of everyday life, at the mundane, and at seemingly safe activities (e.g., shopping at a grocery shop, traveling by bus or airplane, sleeping in one's bed, enjoying a show on stage, etc.), thereby creating intense dissonance. This creates a very strong disruption to one's sense of safety and dread (which is the purpose of terrorism).



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## Membership in a Group

Almost always, the victims are aware or soon become aware of the fact that they have been targeted because of their inherent membership in a particular (national, ethnic, or religious) group, something they cannot alter to save themselves (adding to the sense of helplessness).



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## Substance Use Complicates Trauma

The casual use of substances and the abuse of substances complicates the traumatic experience for most terrorism victims, and complicates subsequent treatment and recovery efforts.

A. One of the primary reasons behind this is in the characteristic diminution of tolerance for pain brought on by the use or abuse of substances, rendering the person's neural and psychic system even more vulnerable to the traumatic effects of the terrorism event than they would be without it.

B. Unlike other anaesthetizing medical practices (such as pre-operative sedation) which work to largely protect the person from the extreme pain that a physical assault (such as surgery) on their body would cause, the casual use or abuse of substances paradoxically tends to augment the emotional pain terrorism acts perpetrate.

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## Emotional Dis-regulating Effects



C. In a state where many casual users or abusers are motivated to use substances consequent to prior dis-regulating trauma that was inflicted upon them, and as an attempt to restore emotional balance, a new assault to their fragile emotional condition can be overwhelming.

It often creates a new state in which:

- 1) Ongoing substance use or abuse fails to restore emotional equanimity.
- 2) Collapse onto a temporary condition of psychosis can occur.

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## Substance Users Fair Worse

D. Many terrorism victims may have previously sought psychiatric treatments, legal substances (e.g., Marijuana, alcohol, etc.), and/or illicit substances to obtain relief from intense anxiety, panic, or other conditions, and found temporary relief - albeit at the cost of serious reduction in coping efficacy.

E. Given the poor track-record of most illicit, legal, and prescribed substances (e.g., tranquilizers) to provide significant restorative and consistent regulating effect over time, however, victims of terrorism are left wanting, and often even more affected by terrorism acts than others who are not substance users or abusers.

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## The Need for Treatment

F. Additionally, given the very high proclivity of most (if not all) illicit, legal, and prescribed substances to form habitual use, addiction, and consequent complications (e.g., mental dysfunction, greater emotional disruptions from common, every-day life dilemmas, social and occupational problems, etc.) psychological treatment and substance treatment in combination become imperative.



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## Combined Treatment

G. The treatment then combines the attention to the primary source of emotional disruption (i.e., a traumatic terrorist event or numerous terrorism events) which caused post-trauma syndrome, and to the replacement of substances with other devices better suited for long-term and sustainable emotional regulation.



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## Treatment Options

These could be a combination of:

- 1) Non-addictive prescribed substances (e.g., anti depressants, mood stabilizers, etc.).
- 2) Enhanced social support and 12-step communities.
- 3) Ongoing supportive psychological treatment (designed to reduce the intensity of the traumatic memories, designed to reduce the intensity of the emotional impact they have on the person and their relationships going forward, etc.).
- 4) A variety of somatic interventions (e.g., breathing techniques, cranial sacral stimulation, etc.) and hypnotic techniques (e.g., Brain Spotting, EMDR, etc.).
- 5) Sustained recovery with support (e.g., 12-step fellowship, sober communities, etc.).

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## October 7<sup>th</sup> Attack – A Natural Experiment

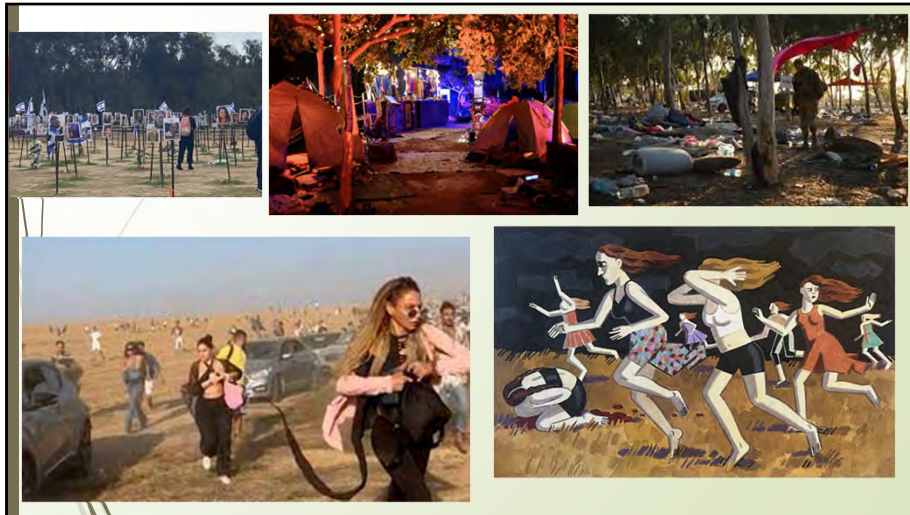


The October 7<sup>th</sup> terror attack on the south of Israel by Hamas created a "Natural Experiment Design" through which these effects could be observed on a large scale.

A. The 4,400 participants at the Nova Music Festival (a "Rave" styled event) on October 6-7 were largely persons who were either casual substance users or substance abusers. At the time of the attack on Saturday, October 7 at 6:30 AM local time, the majority of participants were under the influence of substances, and the majority of those, were under the influence of psychedelics.

B. They were attacked at their place of gathering simultaneously by barrages of rockets, and by an overwhelming force of hundreds of Hamas gunmen equipped with rocket propelled grenades, hand-grenades and machine-guns.

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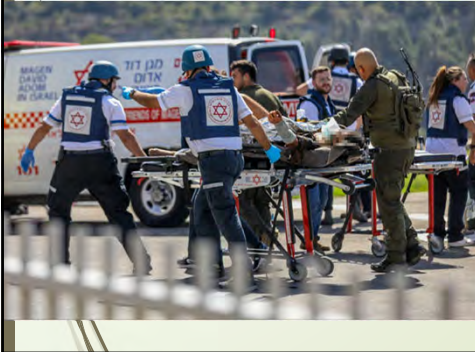
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## Description of the Attack

- 1) There were 364 killed at the site, 40 were kidnaped and taken to Gaza (either dead or alive), and approximately 550 were physically wounded in the attacks.
- 2) Approximately 150 of the festival participants captured by the terrorists were tortured, raped, group raped, mutilated, and sexually assaulted and the majority of them were also executed during the ordeal or shortly thereafter.
- 3) Many of the survivors who scattered during their escape helplessly witnessed their comrades being raped, maimed, tortured and executed from their places of hiding. Most of them exhibited intense survivors' guilt, intense grief, and depression as a consequence.
- 4) A small number of survivors were able to take up arms and actively participate in the impromptu and haphazard defense efforts. Some of those survivors tended to fair somewhat better because they were able to actively fight back rather than only succumb to the assault.
- 5) The vast majority of survivors exhibited the combination of C-PTSD + Complicating SU H/x. Their subjective experiences of terror and horror were reportedly greatly magnified by the neurologically enhancing effects of psychedelic substances (such as MDMA or Ecstasy, LSD, and such) they were using at the time.

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## Emergent Response



C. In hours and days subsequent to the attack, emergency psychiatric and mental hospitals were opened near evacuation centers in Israel to treat the survivors that arrived there. Approximately 3,500 survivors and their families received emergency psychological and psychiatric services in subsequent days by Safe Heart and other volunteer organizations that formed Ad Hoc at tent covered sites and parking lots in close proximity to the place where the attacks took place.

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## The Nature of Emergent Treatment

- 1) In those emergency facilities, volunteer mental health professionals provided short-term treatments which included EMDR, crisis mental health interventions, hypnosis, and CBT modalities.
- 2) Most of the survivors were prescribed tranquilizers and other psychiatric medicines without preliminary laboratory studies (e.g., gene-site) and with only minimal medical history available.
- 3) The assignment of provider-recipient combinations, and intervention-recipient combinations were haphazard because of the emergent nature of the situation.

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## The Fate of Survivors

D. Not all survivors arrived at evacuation sites and/or hospitals and not all survivors received treatment at the outset. Not all survivors received medical or psychological care thereafter, and information about those people who never received treatment is missing from the pool.

E. Those who received treatment obtained only short-term treatment because the war that ensued required mental health resources diverted to a growing number of potential recipients (e.g., soldiers suffering combat PTSD, civilian survivors of subsequent bombardment in other areas of the country, survivors of other, concurrent terrorism attacks, etc.).

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## One Survivor Cohort

F. Approximately 150 survivors were subsequently brought by not-for-profit organizations (Maman, Nefesh, etc.) to the U.S. (New York, Miami, and Los Angeles) where they were temporarily housed, and treated by volunteer professionals on a short-term basis (the presenter included).



- 1) Some of those survivors received mental health and recovery treatment in the U.S. for the first time since they had been attacked (presumably because they needed treatment that was not available to them in Israel).
- 2) Others among the survivors were brought to the U.S. with the expressed purpose of receiving additional treatment to the initial treatment provided in Israel (presumably because they needed/wanted more).

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## Second Survivor Cohort

G. Approximately 750 survivors that were treated locally by the Safe Heart organization and others in Israel subsequently continued with both treatment and participation in research with the Laboratory of Consciousness Studies at Haifa University (principal researchers: Dr. Royee Salomon & Dr. Yadmon).



- 1) Participants in that longitudinal study are periodically given questionnaires to report on their symptoms and experiences, they give saliva to test for the presence of cortisol (stress hormone), they wear sport watches to measure and record their sleep activity, and they are given periodic functional brain MRI's to study their stress response and recovery.
- 2) Their study is designed to illuminate how persons who were traumatized while under the influence of substances responded and recover from the stressful experiences they underwent.
- 3) Some of the participants in the study are treated with psychoactive substances (Ketamine, Kratom, MDMA, etc.) to help with their recovery, but there is no conclusive outcome data yet published on their treatment efficacy.

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## Preliminary Results

Preliminary commonly observed phenomena requiring further study in the presentations of survivors of the October 7th massacre was the pronounced paradoxical effect of PTSD in combination with substances.

A. Typical for PTSD are two extremes of the human memory experience and stress response:

- 1) For some people and with certain experiences, the memories of trauma cannot be erased (and in fact, continue to invade one's consciousness) and are easily activated by triggers.
- 2) For others and with certain other experiences, the memories of trauma become erased or not readily accessible (but can exert an impact in indirect ways thereafter, by association, and/or in symbolic ways), and are or are not readily activated by triggers.

Can't forget ← → Can't remember

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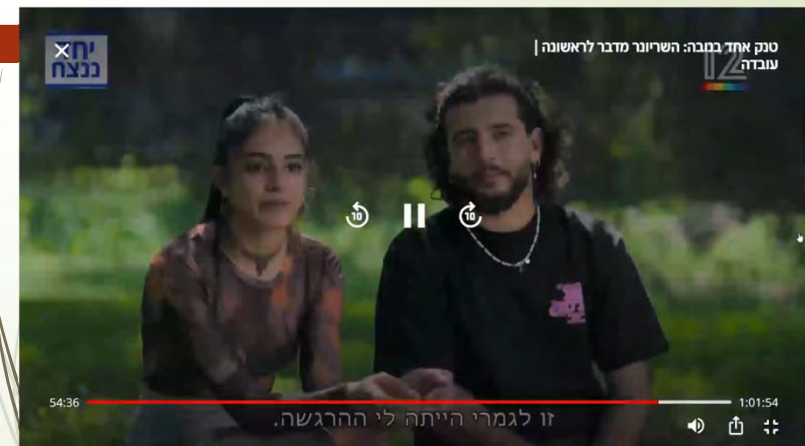
## Divergent Outcomes

B. In the survivors of the October 7th massacre at the Nova Music Festival, there seemed to be a curious division in the experiences along the following lines:

- 1) Experiences when the survivor was active in either fighting, hiding, or fleeing Hamas terrorists - those experiences were exceptionally preserved in memory and continued to invade consciousness later on (in flashbacks, dreams, vivid associations, etc.).
- 2) Experiences when the survivor was passive and idle in hiding, taken away, or rescued from the situation by others, were largely obliterated and largely subject to amnesia (most could not recall who rescued them or how they were removed from the situation, including when they also suffered physical injuries that required medical attention).

Active ↔ Idle

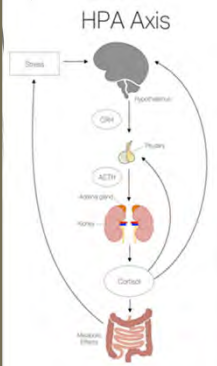
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## Hormone-Mediated Responses



C. It is theorized that the effects observed were mediated by the varying levels of Adrenalin and Cortisol hormones.

- 1) Thus, increase in Adrenalin and/or Cortisol during the emergent states could have overridden the sedating/hypnotic effects of substances consumed prior to the terrorist attack.
- 2) Subsequently, and when the emergent situation was over, the precipitous drop in Adrenalin and/or Cortisol may have mediated or enhanced the amnesic process.

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## Varying Impact of Treatments

D. This effect could explain to a large extent the parsimonious outcomes of both various hypnotic techniques (EMDR, Brain Spotting, etc.) in the treatment of the October 7th attack survivors' post trauma, as well as in the medicinal treatment (with tranquilizers) of the October 7th attack survivors' post trauma.

- 1) This, because the association of memories when active with increased levels of Adrenalin and Cortisol would make those memories less susceptible to decay or modification in intensity by the administration of either hypnotic techniques or tranquilizers.
- 2) Additionally, the amnesic process associated with memories when passive would only yield recall of events subsequent to the trauma-inducing terrorist attack, which are of lesser healing value.
- 3) Indeed, persons who received secondary treatment in the U.S. subsequent to having received such treatments in Israel, did not report substantial healing benefits of these interventions.

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## Treatment with Other Substances

E. Thus, the treatment of PTSD with other substances/medicines (e.g., Ketamine, High THC Cannabis, etc.) is expected to produce relatively minimal benefits for this type of population, and for the reasons mentioned above.



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## Treatment with MDMA



F. Preliminary results from treatment of PTSD with MDMA however seems to hold some promise because of the properties of MDMA in creating a greater sense of mental and emotional "presence," enhanced empathy, and enhanced emotional intelligence.

- 1) Persons who were under the influence of MDMA (Ecstasy) during the terrorist attack reported feeling they were making better decisions and accessed physiological resources they ordinarily could not access to help in their escape/fight/evade the attack on them.
- 2) Persons who were treated with MDMA (in controlled doses and therapeutic guidance protocols) showed significant reduction in PTSD symptoms compared to those who did not.
- 3) The researchers suggest that MDMA makes the person more emotionally effective, better able to have sympathy for oneself (which is necessary to deal with survivors' guilt), and are able to better recall the events retrospectively.
- 4) MDMA seems to also produce more oxytocin, which is the hormone which regulates the connection between humans and also produces a subjective feeling of comfort and self-soothing when recalling traumatic events (hence has a therapeutic effect on recovery from PTSD).

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## Other Preliminary Observations

G. Other preliminary observations gathered by the researchers of the Haifa University Laboratory of Consciousness longitudinal study which may be interesting to reflect upon:



- 1) Generally persons under the influence of psychedelics experienced the terror attack as more traumatic and as more personally disorganizing than those who were not under the influence at all. (Perhaps because the emotional impact of the trauma was enhanced by the substances).
- 2) Many of those survivors under the influence of psychedelics during the terrorist attack felt energized in their escape efforts ("I have never ran so fast in my life"), possibly because they did not feel the pain of the physical exertion while escaping from the Hamas terrorists.
- 3) Survivors who took psychedelics found it immensely difficult to stay alert and mentally present when they had to lie in hiding, quiet and immobile for long periods of time.
- 4) Those survivors under the influence of sedatives and Cannabis may have experienced the horrific impact of the terrorist attack to a lesser degree, and felt greater difficulty in summoning the necessary energy and motivation to either escape or fight.



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## More Preliminary Observations

- 5) It is thus presumed that some of those Nova Music Festival attendees who were under the influence of Cannabis and other sedating substances (such as Anxiolytics) may have perished in the attack because they were less able to become sufficiently energized/mentally organized to hide/run for their lives.
- 6) Those Nova festival attendees who were under the influence of performance enhancing substances such as stimulants (Amphetamine and its medicinal and street derivatives) likely experienced intensified anxiety and panic during the terrorist attack. Many of them are presumed dead because they either froze in fear or over-reacted physically in ineffective ways.
- 7) Survivors of the Nova Music Festival that were under the influence of substances generally felt confused, had difficulty with functioning and many reported needing specific directives from others in order to escape or to orient themselves towards an exit.
- 8) Survivors who were regular users of "downers" (alcohol, Marijuana, anti-anxiety medicines) generally tended to experience the trauma of the event more severely and their recovery was prolonged and complicated (possibly because of the lowering of their pain threshold).

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## The Role of the Community

G. The role of the community and social support in the recovery from trauma of the October 7th attack on the Nova Music Festival attendees cannot be understated when it comes to its healing properties.



- 1) Many of the participants felt a sense of camaraderie and safety with other participants who are all substance users and frequent attendees of such events.
- 2) The sense of safety was shattered by the terrorist attack, but the sense of belonging and mutual support did not waiver and many survivors reported helping others and/or being helped by others, during and subsequent to the terrorist attack.
- 3) Subsequent healing from trauma was greatly helped by the mutual support and the sense of community that was fostered both at the festival itself before the attack, and thereafter in the healing centers that were formed to attend to their emotional needs.
- 4) The overriding conclusion from the preliminary findings is that community and social support enhanced the resilience and the recovery in survivors of the October 7th Hamas terrorist attack.

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## Prior Exposure to Stress

The Impact of Prior Experiences of Stress Can Affect the Quality of Coping.

A. Studies conducted by the author and others, particularly involving coping with stress from terrorism yielded different results in the quality and type of coping between those who were exposed to prior stressful situations, versus those who were not.

B. Given the Israeli population by and large had served in the Israeli military, some of those who were victims of the Nova Music Festival massacre by Hamas terrorists had prior military service experience, and some did not.



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## Combat Exposure as Moderating Factor

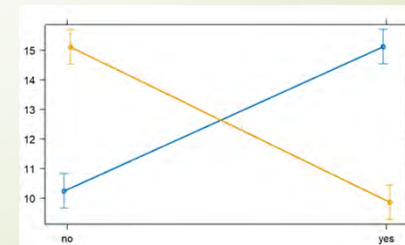
C. Additionally, among those who had prior military service, only some of them had been exposed to substantial stress as those created by combat situations. Among those exposed to prior stressors of this kind, it is expected that the coping would differ and would also vary in quality.

- 1) Prior studies conducted by the author and others indicate that those who had prior exposure to stressful situations similar in kind, such as combat situations tended to overcome new stressors better than those who did not.
- 2) Conversely, the same studies indicated that persons who had no prior exposure to intense stress as combat situations create, tended to fair not as good in subsequent recovery to terrorism victimization.
- 3) Furthermore, combat veterans, by and large tended to utilize active-oriented, and creative elaboration coping strategies, which are generally considered more effective for dealing with the stress that a terrorist attack would generate.
- 4) People who had no combat exposure in their prior experiences (whether in military or other circumstances), tended to engage in passive-oriented, and palliative coping strategies, which are considered less effective for dealing with stress that a terrorist attack would generate.

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## Coping Efficacy and Coping Orientation

D. Thus, coping efficacy and coping orientation will figure in the ultimate recovery process as additional dimensions emanating from the dialectical starting conditions of the victims (i.e., those who were exposed to prior combat situations and those who were not).



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## Questions? Comments?

No tomatoes, please.



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