RESILIENCE TO PTSD IN DISASTER WORKERS

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Main Aims & Outcomes

- AIMS: To identify resiliency factors in volunteers from an Israeli disaster rescue service.

- OUTCOME: By identifying salient dispositional, cognitive, group, organisational, and environmental predictors of resilience and articulating the mechanisms that link them to adaptive and growth outcomes, emergency organisations will have the capacity to intervene prior to exposure to adverse events rather than waiting until after the event, as is currently the norm.

Personal Note

- The aim of the study was <u>not</u> to promote, challenge, or legitimise the actions of governments, rather to study a phenomenon - to study a course of action such as terror attacks or major accidents, on a specialised voluntary emergency response group.

- Equal weight should be placed on studying the plight of Palestinian emergency workers – restricted access.

Brief Outline of the Study

- Until recently, Israelis have experienced the highest frequency of suicide attacks in modern history.

- Previous research indicates a surprising measure of moral resilience and public stamina in Israelis.

- Among the most severe cases of PTSD evident in emergency volunteers.

- As Israel is considered by mental health experts to be the perfect laboratory for traumatic stress, this study examines the resiliency of a unique religiously motivated volunteer group exposed to disasters.

Defining PTSD

The definition encompasses the concept of

"vicarious traumatisation or *secondary traumatisation"*
(being confronted by serious injury to others)

Has significance for emergency service populations and rescue workers

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The Participant Group

- ZAKA Rescue and Recovery was founded in Israel in 1995 to provide emergency First Aid, assist in rescue efforts, recover and identify attack victims to ensure they receive a proper burial, and inform the victims' next of kin.
- The organisation has grown and developed into an internationally recognised First Response service, mobile victim identification unit, and Search & Rescue team.

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- ZAKA shares its accumulated knowledge, expertise, and professionalism with rescue teams and governments throughout the world.
- ZAKA representatives have participated in the rescue efforts subsequent to:
  – September 11th
  – Terrorist bombing in Mombasa, Kenya (Nov. '02)
  – The recovery the remains of the Columbia Space Shuttle (Feb. '03)
  – Terrorist bombing, Istanbul Synagogues (Nov. '03)
  – Terrorist bombing at the Taba Hilton, Egypt (Oct. '04)
  – Disaster recovery efforts following the Tsunami (Thailand Dec. '04)
  – Forensic expertise (London, July '05)
  – Disaster recovery, Hurricane Katrina (New Orleans, Sept. '05)
  – ZAKA was recognised by the United Nations as Volunteer Organization of 2001.

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ZAKA Volunteer Training

- ZAKA training includes:
  - A three-month forensics program consisting of identification, forensics, DNA technology, finger printing, and a psychological screen.
  - A Medical First Responder skills course requires a further 120 hours of instruction.
  - A minimum of 80 hours of training in rescue.
  - Volunteers are trained by the police and MDA (Israeli Red Cross), in management of forensic evidence and religious management of the deceased.
  - On average only 60% pass three courses and go onto to field work.
  - Only 20% remain volunteers after the first 10 incidents they attend.

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Cultural context

- Jewish tradition places great importance on treating the deceased with utmost dignity – the body is sacred irrespective of religion.
- Taking care of the dead is known in Hebrew as "Chesed shel emet" - an altruistic kindness that the beneficiary cannot repay.
- Volunteers attribute their dedication and emotional strength to their religion.

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At risk group

- ZAKA volunteers are exposed to both physical and psychological risk hazards.
- There have been incidences of double suicide bombings where rescuers have been killed on scene after the second bomb was detonated.
- Rescuers have been taken hostage, and two have been killed.

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Hypothesis

- *Hypothesis 1:* Traumatic symptoms and general well-being are dependent on ego resilience and personality characteristics.
- *Hypothesis 2:* Individuals holding by religious ideals and a sense of religious duty are more resilient to traumatic experiences (traumatic symptoms and general well-being are dependent on religiosity).
- *Hypothesis 3:* Previous exposure to disaster incidents results in greater resilience (traumatic symptoms and general well-being are dependent on time served with
- ZAKA, time proximity to previous incident and army service).
- *Hypothesis 4:* Idiosyncratic differences (including demographics such as age, employment, education, geographic region) do not account for resiliency.

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Measures

- Revised Impact of Events Scale (RIES)
- General Health Questionnaire – 28 (short-form) (Goldberg & Williams, 1988) - a brief screener for general well-being.
- Costa and McCrae's (1992) NEO Five-Factor Inventory (NEO–FFI) – OCEAN traits
- Ego resilience questionnaire (ER-89)

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Demographic variables

- Age
- Marital statues (despite a preferred pre-requisite of being married)
- Religious orientation
- Army service
- Education
- Employment
- Years of service for ZAKA
- Time since most recent attended incident

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Open ended questions

- Motivation for joining ZAKA
- Positive impact of volunteering for ZAKA
- Negative impact of volunteering for ZAKA
- Impact on family
- Expectations prior to attending a scene

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Results: Demographics

- 829 postal questionnaire distributed, 37.6% were (N = 312) returned – 301 valid
- All male
- Age range 23-72 (mean 40)
  - Significant correlation between PTSD and age (p = .02)
- 98% Married
- 84.6% well-educated
  - Education negatively correlated with PTSD (p = 0.002) and GHQ (p = <0.001)
- 92.7% employed (Education, R.E.)
  - Greater PTSD associated with self-employed
  - Greater GHQ associated with Government workers

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Results: Demographics 2

- 71.8% Military service
  - few differences between army service and non-service.
- 63.5% stringently observant / 26.9% v. stringent
  - less religious poorer mental health coping (v. stringent 2 units lower on scores)
- Time served with ZAKA mean: 50.56 months
  - GHQ measures increased with time in service. An increase of service of one month resulted in an increased score of 0.02 units.
  - No association with RIES
- Time since last incident mean: 1 week
  - NS obs.

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Results: Clinical

- PTSD
  - Total RIES and subscales considered within low range
  - Only 2.1% in clinical range for diagnosis

- General Psychiatric Symptoms
  - Caseness somatic symptoms in 3% of cohort
  - Caseness Anxiety & Insomnia in 1% of cohort

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Results: Personality

- Conscientiousness and Extroversion domains in the normal range; Agreeableness, Openness and Neuroticism, in descending order, reported at the lower end of the scale.
- Higher Neuroticism values are associated with higher severity scores
- Extroversion ↑ = GHQ ↓
- Sig –ve correlation Extroversion vs. RIES
- Openess – NS
- Agreeableness – NS
- Conscientiousness ↑ = GHQ ↓

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Results: Ego Resilience

- Significant association between GHQ-28 scores and the ER-89 totals (p = <0.001).

- Significant associations between all RIES measures and the ER-89 scores (p = <0.001).

- All correlations indicating that as the ER-89 scores increased, the RIES measures decreased.

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Summary of findings

- ZAKA volunteers have faced the daily prospect of mass traumas for over 10 years, and in spite of these incidents, the cohort in general is proving itself surprisingly resilient in the face of continued incidents.

- The data revealed general low severity of traumatic stress and low level of well-being difficulties.

- Extrapolation of the data reveals lower trauma severity in this cohort than in studies of the Israeli population (16%), Israeli Police Forensic investigators (9.4%), and combat veterans, and general norms (7-14%).

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- **General resilience factors (noted in disaster services):**
  - Preparedness
  - Experience with professional role-related trauma exposure (medical staff / security staff)
  - Habituation process
  - Attention to mental health needs through psychoeducation, debriefing, and a cohesive familial support and community support network.

- **Specific ZAKA resilience factors:**
  - Religiosity
  - Sense of purpose in their duties

- **Group protective factors;**
  - Being male (studies consistently demonstrate a two-fold increase in the prevalence of PTSD in women)
  - Employed, highly educated, Married

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Therefore resilience factors are..

"Characteristics of persons and environments. Factors or processes are protective if they contribute to good outcomes in individuals at risk."

(Benard, 1995 & 1997)

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Resilience factors are…

- supportive relationships (with peers, family)
- cognitive skills (problem solving, planning, critical reflection, adaptation)
- social skills (communication, friendships, conflict resolution)
- positive self perceptions (self-esteem, self-efficacy)
- positive future orientation (sense of purpose, hope, optimism, aspirations)
- competence (vocational/academic)
- models and information (role models, support)
- belonging, responsibility & participation

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Conclusions 1

- The religious lifestyle and culture of ZAKA volunteers may offer a **sense of belonging, cohesion, and a social support network.**

- **Belongingness** through more specific **social identity** (ethnic identity, racial identity, or cultural collective) relates to positive psychological adjustment.

- **Social support** through spiritual social identity offers such benefits as reinforcing the coping mechanisms of one's religious schema when faced with bereavement.
  - Sustaining social support critical in process – 9/11 greater social support were less negatively impacted.

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Conclusions 2

- The cohort represents a highly *specialised* and *homogenous* sample, with a religiously based *culture* that directs their duties and provides a sense of *purpose* in their work. It is assumed that such direction and practice foster health, well-being, and resilience to trauma.

- Creating a perceived purpose for their pain and suffering and healing through helping and caring for others, helps individuals to *regain environmental mastery* and *perceived control*, which has been found critical to maintaining hope in adverse life threatening situations (e.g. concentration camps, prisons, war zones, acute care hospital units, and abusive family environments).

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Conclusions 3

- Religiosity and involvement in a religious community may offer considerable benefits of social support and therefore aids coping.
  - Religious practices may offer a structure and template to one's life routines and goals.
  - In particular, being raised with a strong sense of religion and ideology can help foster resilience and lead to improved mental health and reduced incidence of disease.

- Religiosity in this context does ultimately imply that one must be a religious observant Jew.
  - **It is the religious construct which provides a sense of meaning and purpose for coping with deleterious events, as well as the cohesive community and support that a religious identity provides.**

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Conclusions 4

- Being raised with a strong sense of religion and ideology can help foster resilience to adverse life events. The effects of religion, however, may be so diverse, and may be dependent on the specific religion, the specific outcome being measured, and most importantly the context.

- What is clear from the data, is that support and cohesion as psychological resources, from religious circles as well as secular, provide important protection against adverse psychological outcomes.

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Exerts for personal interviews with ZAKA volunteers during collaboration in designing the research

"For a couple of hours you take your heart away from your body, but for sure afterward, you go back home and the whole smell, the whole image, the whole picture, the noise, even the feeling of touching a body which is not a body any more...is coming back."

"Many times you're coming and the mother is injured and she's looking at the body [of her child] and the head is [missing]. It is impossible to explain, not in English, not in Hebrew, not in French, not even in Arabic."

"People ask us many time, 'what's the worst case?' ...There is no worst, we take every case of unnatural death as the worst...but which is the hardest, it is the kids."

"I feel this work is a mission. Once you accept that you can do it - you can't stop."

"I believe that as human beings we have a body and a soul. Death means the separation of the two. Also, I try to look at the work logically and scientifically."

"Every terror attack we come to is an individual trauma. You can't get used to a child without a leg or an arm, or a head found on the second floor, but human nature is - the first time something awful happens, you talk about it for a few weeks or a month. The next time, you talk less. It becomes routine. And everyone has to decide how to deal with this new routine."

"When we arrive at the scene, we re-programme ourselves and work in a trance. If we stopped to think about what we were doing, we'd become paralysed."

Lessons learnt from international research (implications for multi-cultural research)

- Know your obstacles
- Know your participants
- Know the language
- Know the culture
- Know thy self

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