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Impact of Natural Trauma: Haiti's 2010 Earthquake

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Introduction

On January 12, 2010 Haiti experienced one of the most devastating earthquakes the Caribbean region had experienced in 200 years. Damages were estimated between 7.2 to 13.2 billion dollars. The estimated death toll from this disaster was more than 300,000 people. One year later many of the residents remain in temporary tent communities.

Natural disasters such as earthquakes and tsunamis can be viewed differently from disasters due to human actions because of the effect they have on the survivors. Most natural disasters happen with very little warning making the outcomes subsequently devastating. Natural disasters trigger intense psychosocial responses among many survivors.

This study focuses on the earthquake in Haiti to determine what psychosocial responses the survivors experienced. Participants were compared with trauma participants from India, southern Sudan, and the West Bank.

Methods

Participants

Participants were 84 volunteers who were survivors of the 2010 earthquake in Haiti. Mean age was 29.4 years; 65% of were male and 35% were female. Comparisons were also made with 141 participants from India, southern Sudan, and the West Bank and a second Haiti sample.

Instruments

A **Demographic Questionnaire** included items about age, gender, and education.

The **Impact of Events Scale-Revised (IES-R)** assesses the type of distress a person has experienced due to traumatic events during their lifetime.

The **Cumulative Trauma Scale (CTS)** gathers data on the various types of traumatic events the person has experienced over his or her lifetime/

The **Dissociative Experience Scale (DES)** screens for dissociative experiences due to trauma. For this study, only the eight taxon items were included.

Procedure

Data were gathered in May of 2010, four months after the earthquake.

For purposes of data analysis participants were compared with groups from India, Southern Sudan, and the West Bank who had also been exposed to trauma.



Results

CTS Results

Alpha = .78. CTS data revealed that most participants reported four traumatic experiences: witnessing/experiencing 1) a natural disaster (88.2%), 2) involving the sudden death of a loved one/close friend (89.6%), 3) seeing dead bodies (89.4%) and 4) witnessing accidental killings of another person (65.6%). No significant gender differences were found. A significant main effect was found ($F(3, 100) = 20.53, p < .001$); a Scheffe post hoc test showed that participants from the Sudan scored significantly higher on the CTS than other participants.

IES Results

Alpha = .89. Factor analysis of these data indicated six factors with eigenvalues greater than one, accounting for 53.24% of the total variance. A scree plot suggested one principle factor (see Figure 1) and seven items that did not fit well with the rest for this sample. Results were $F(4, 154) = 7.46, p < .001$ for Factor 1; post hoc test showed Haitian participants scored significantly higher than participants from the West Bank and India.

DES Results-Short Version

No main effects were found for DES-3, DES-7, and DES-27. Significant main effects were found for DES-5 ($F(3, 150) = 9.67; p < .001$), DES-8 ($F(3, 145) = 5.80; p < .001$), DES-12 ($F(3, 152) = 3.10; p = .029$), DES-13 ($F(3, 149) = 3.0-19; p = .025$), and DES-22 ($F(3, 146) = 3.90; p = .010$).

Participants from India scored higher on DES-5; those from the Sudan scored higher on DES-8; those from the Sudan and India scored higher on DES-22. Results indicate different forms of dissociation across groups. In this sample, most survivors act so differently in one situation, compared to another that they feel as if they were two different people (84%); most also experienced hearing voices inside their head telling them to do things or commenting on things they were doing (77%).

Gender

No significant gender differences were found.

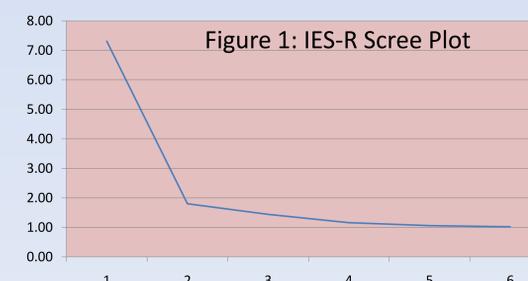
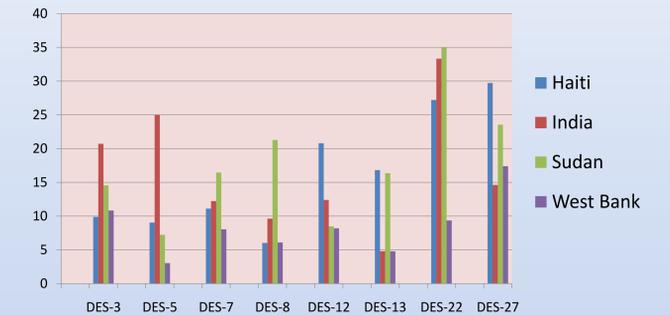


Figure 2: DES Responses



Discussion

- Significant differences were found among participants from different countries in the traumas reported, their impact, and the forms of dissociation reported.
- Haiti participants reported witnessing a natural disaster, that resulted in the sudden death of loved ones or close friends. They reported seeing dead bodies and witnessing the accidental deaths of others. Surprisingly, participants reported an extremely low level of other traumatic experiences such as physical or sexual assault, kidnapping, forced slavery, or combat.
- Most survivors reported experiences of dissociation, feelings that they were detached from themselves, that may be due to the earthquake-induced trauma they witnessed.
- No significant gender differences were found between for any of the administered scales.
- Educational levels for this sample seem well above the Haitian average, thus results may not generalize well to the Haitian populace; causal conclusions cannot be established with these data.
- Differences among groups may be due to exposure to different forms of trauma or cultural differences

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