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The Experience of Bombing and its Mental Health Consequences

Background

The NATO forces air strikes on Yugoslavia in 1999 lasted 78 days. All the citizens of the country were exposed. The exposure differed in frequency, in types of stressful events related to bombing (for instance, direct eye witnessing of missiles impact, or hearing sounds of explosion, or hearing aircrafts carrying missiles, or close relative injured, or close relative drafted in defense forces, etc.)

Method

Objectives. The overall objective of the research was to study the effects of air strikes on mental health of affected individuals. The specific objectives were:

- To assess the type of symptomatology caused by the bombing
- To assess the prevalence of each symptom grouping
- To explore differences in symptomatology between those individuals who lived in the city that was continuously targeted during the 78 days of air raids and those who lived in the city that was exposed to threats of being directly targeted but eventually had never been targeted.
- To ascertain the role of subjective appraisal of stressful experience in shaping the degree of suffering of those who have been subjected to the above described stressful events.

Sample. A sample of 368 adolescents and adults was drawn from two cities, Novi Sad and Zrenjanin. Novi Sad was heavily bombed every day during the air strike campaign. The citizens of Zrenjanin, a town geographically close to Novi Sad, were exposed to threats, air raid sirens, sounds of army aircrafts carrying bombs over flying the town, they worried for their friends and relatives in Novi Sad, but the town itself has never been targeted.

Procedure. The data were collected immediately following the cease of attacks in mid June 1999. Trained interviewers, mostly graduates of psychology, administered the battery of tests.

Instruments. Various instruments were used to assess the type and intensity of reactions. The variable of intensity of exposure to the stressful events during the bombing was assessed by the questionnaire specifically designed for the purposes of this investigation. The questionnaire consisted of a list of stressful events that the population was exposed to during the bombing and the respondents were asked to identify whether they have experienced those events and if so to what degree.

The questionnaire also requested the respondents to provide their subjective assessment of the treat that they were exposed to during the 78 days of bombing. The scores obtained by this part of the questionnaire provided index of subjective assessment of the threat. (The EXP-COP-99 questionnaire for adolescents and adults-Kapor-Stanulovic & Zotovic, 1999).

Depression and anxiety scores were obtained by standard available instruments for anxiety and depression (Birlerson, 1981; Ramanaiah et al., 1983). PTSD scores were obtained using a list of items that were compiled from the list of symptoms of PTSD drawn from the DSM/III (Am. Psychiatric Association, 1987)

Results and discussion

Table 1. contains the results obtained by assessing PTSD symptoms using the PTSD checklist. For the purpose of clear presentation and easy analysis the results were divide into two categories: those without symptoms and those with symptoms.

Table 1 – Respondents with and without **PTSD** symptoms

	f	%
without	134	36.5
with PTSD sympt.	233	63.5
Total	367	100.0

The results indicate that 63,5% of subjects exposed to the bombing reported suffering from severe symptoms of PTSD. If mild reactions (one symptom) are included, than up to 90% of the sample reported some degree of suffering.

2. The results of measures of anxiety and depression are presented in tables 2 and 3.

Table 2 – Respondents with and without **anxiety** symptoms

	f	%
without	281	76.6
significant level of anxiety	86	23.4
Total	367	100.0

Table 3 - Respondents with and without **depressive** symptoms

	f	%
without	309	84.2
significant level of depressive sympt.	58	15.8
Total	367	100.0

The data shown in tables 2 and 3 indicate that 23.4% of respondents complained of anxiety symptoms and 15.8 % of depressive symptoms.

3. The role of objective exposure to threat and subjective assessment of exposure to threat in symptom formation was assessed by using two different indicators. The objective exposure was measured by the place of residence during the bombing (high or low objective exposure) and subjective assessment to threat by a self reporting assessment of threat.

Comparison of the results of respondents residing in the city of Novi Sad (high level of objective exposure) and Zrenjanin (low level of objective exposure) revealed no significant difference in PTSD, anxiety and depression scores.

Comparison of measures of subjective assessment of threat (obtained by a self assessment scale of threat) and measures of PTSD, anxiety and depression revealed a significant correlation between PTSD, depression, anxiety and subjective assessment of the intensity of threat (see Table 4). All three comparisons are significant at the .001 level.

Table 4. Comparison of subjective assessment of the intensity of threat and PTSD, anxiety and depression scores

	Subjective assessment of threat
PTSD	.337 (p < .01)
depression	.236 (p < .01)
anxiety	.227 (p < .01)

Conclusion

In sum, the most frequent symptom grouping following the exposure of bombing was PTSD, followed by anxiety and then by depression symptoms.

The most intriguing result seems to be that the intensity of symptoms experienced was not significantly different between the samples drawn from the two cities. Comparison of respondents residing in Novi Sad (high level of objective exposure) and Zrenjanin (low level of objective exposure) revealed no significant difference in PTSD, anxiety and depression scores. In other words, real exposure to bombing compared to "only" a threat of potential bombing caused the same intensity of suffering and consequent reactions. On the other side, subjective assessment of threat, if high, correlated with increase in all three examined symptom groupings.

The last cited result gives new light to the theoretical considerations of the meaning of stressful experience. It indicates the important role of subjective appraisal contributing to the experience of an event. Furthermore, it points to the complexity of interplay between objective exposure and the imminence of exposure with the adverse consequences on mental health of individuals affected.

References

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