Psychological impact of military violence on children as a function of distance from traumatic event: the Palestinian case

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Abstract. *The psychological well-being of 114 Palestinian children aged 5-16 was assessed with questionnaires. Three groups of children were distinguished: children living at close proximity (500 meters or less) to a bombed target; children living within a distance of 500-1000 meters, and children living at a greater distance than 1000 meters. The results showed that the well-being of Palestinian children was negatively affected by the military and political violence to which they were subjected. The study also demonstrates that psychological security is as crucial as physical security to the wellbeing of children. It may not be sufficient to relate the impact of a traumatic event to the physical distance alone, psychological distance also has to be taken into account.*

Keywords: children, armed conflict, traumatic event, proximity, psychological distance, PTSD

Physical Security Versus Psychological Security

Within the past few decades, children have been increasingly subjected to greater traumatic experiences emanating from military and political conflicts. The literature shows a dramatic increase in the number of studies devoted to the impact of war, political oppression, and combat violence on the mental health and well-being of children (Allwood, 2002). Furthermore, these studies encompass a wide geographic and ethnic spectrum, although the majority of victims are from Africa (Cliff & Noormahomed, 1993; Dawes, 1990; McIntyre & Ventura, 1995), the Middle East (Baker, 1993, 1991, 1990; Elbedour, Baker, & Charlesworth, 1997; Dyregrov, 1993; Macksoud, Aber & Cohn, 1996; Punamaki, Qouta, & El Sarraj, 1996), Southeast Asia (Garbarino, 1993), the Balkans, and Latin America (Miller, 1996; Allodi, 1989). An examination of these studies also shows that researchers investigated the relationship between traumatic events and a host of variables such as gender, age, severity of trauma, social support provided, and the impact of the trauma on the psychological health and adjustment of children. Although the effects of direct and vicarious trauma have been studied extensively, no study was found to examine trauma as a function of geographical distance. Given the nature of modern warfare in terms of precision bombing, laser-guided ordinance, and select targeting, physical security may not be correlated with psychological security. This study was conducted in an attempt to shed light on this supposition. In other words, do children who live in close proximity to the traumatic event (e.g., bombardment, special operations,

etc.) develop different psychological responses from those of their counterparts who live at a 'safe' physical distance to the event, but who hear or see it? The repeated Israeli 'incursions' into Palestinian cities and communities during the second Intifada, using guided aerial and ground ordinance, serve as an ideal situation to answer this question. A review of the pertinent literature and description of the political and military conflict in the West Bank and Gaza Strip is necessary in order to establish a proper psycho-political context for the interpretation of the data.

Nature and Psychological Reaction of Palestinian Children to First and Second Intifadas

The degree of traumatisation inflicted on Palestinians during the first Intifada has been well documented in psychological (Baker, 1990, 1991) and human rights literature (e.g., Al-Haq, 1988). Death, injury, incarceration, detention, and severe restrictions on mobility and personal liberty were everyday occurrences for Palestinian children living in the occupied Palestinian territories of the West Bank and Gaza Strip. The studies conducted on Palestinian children during that period showed that they suffered from anxiety, depression, and PTSD symptoms (Thabet &Vostanis, 2000; Khamis, 1993; Garbarino & Kostelny, 1996). Self-esteem was enhanced, however, due mainly to the role, status, and participation of children in the Intifada (Baker, 1992). Furthermore, the Israelis did not resort to the use of aircraft or heavy artillery during the first Intifada. The conflict was between demonstrating civilians (children and adults) armed with stones, and Israeli soldiers using live ammunition, tear-gas, rubber-coated and plastic bullets, and sound bombs. Many of the dire psychological effects of the first Intifada were found to have been mitigated by the resilience of Palestinian children (Qouta, El-Sarraj, & Punamaki, 2001) and the relative peace brought about by the establishment of the Palestinian National Authority as the result of the Oslo Agreements in 1993 (Qouta, Punamaki, & El Sarraj, 1995).

The second Intifada (September 2000), however, witnessed a major tactical shift on the Israeli and Palestinian sides. Although it began in a similar manner (widespread demonstrations by civilians, including children) as its predecessor, it soon escalated to the use of firearms and weapons, reaching new magnitudes of destruction in March 2002, when Israeli forces began to make repeated and systematic 'incursions' into Palestinian cities and towns. The Israelis resorted to the use of Apache helicopters, F-16 fighter jets, and tanks and armoured personnel carriers to target buildings, installations, individuals and vehicles. The Palestinians, on the other hand, countered by employing light weapons (mainly AK-47 rifles) and suicide bombings.

Statistics on the number of deaths and injuries inflicted by the Israelis on Palestinian children below the age of 16 reveal that the second Intifada is (was) far more deadly than its predecessor. While approximately eight children per month lost their lives during the first Intifada (Baker, 1990), the figure more than doubled (18.4) during the second Intifada (Defence for Children International – Palestine Section, 2002, period 29 September 2000 to 31 July 2002). Hence, while children were not primary participants or actors in the second Intifada, the casualties they sustained were far more frequent and serious

than those which they suffered during the first Intifada. Furthermore, the use of targeted bombardment and shelling of residential areas during the second Intifada posed real and serious dangers to residents in the targeted areas.

Palestinian children during the first Intifada feared for their security on the street. Previous research on Palestinian children related to their exposure to political and military violence revolved around providing prevalence figures for symptoms of anxiety, depression, and PTSD. Analyses were conducted to determine whether region (West Bank or Gaza Strip), gender, age, or residence (urban, rural, camp) influenced the prevalence or severity of these symptoms, and the mechanisms employed by Palestinian children and their families to cope with stress-related symptoms. Distance, however, was not considered a major factor, because the streets were the main arena of confrontation. In comparison, the confrontation during the second Intifada was far more violent but more focused. Anecdotal data gathered from mental health field workers during the second Intifada suggested that the severity of psychological reaction observed amongst children may be a function of distance.

Methodology

Sample. The sample for this study was taken from the population of Palestinian children living in the West Bank whose age at the time of sampling was 5-16 years old, and who lived in cities or towns that were subjected to aerial or land strafing. The data gatherers were instructed to map out the residential neighbourhoods of these towns in terms of proximity to bombardment to form the following three categories:

1. Close proximity. This area encompassed all homes falling within a 500 meter radius of ground zero (bombed target). This category represents areas where physical security of the residents is threatened. Group 1 represents children living within this area .
2. Moderate distance. Homes that fell within a 500 –1000 meter radius from the bombed target constituted this category. Although physical security is not compromised within these areas, psychological pressure is inflicted on the residents due to sound and vibration effects caused by bombing. Children living within this zone are represented by Group 2.
3. Remote distance. All areas falling outside the 1000 meter radius of the bombed target, but which remain within hearing distance from ground zero represent this category. Group 3 depicts children living within this zone.

The data gatherers were instructed to randomly select 10 homes from the close proximity area, and five homes from each of the moderate and remote distance areas. Homes that did not have children within the targeted age group were excluded. Due to the severe restrictions on travel and mobility imposed by the Israeli Army in the West Bank during the data gathering period (March – May 2002), the data gatherers could not canvass all the targeted neighbourhoods. Despite this limitation, the data gatherers were able to obtain at least one sample from each of the cities and towns that had been subjected to bombardment. Furthermore, the data gatherers were instructed to give priority to those areas that had been subjected to military activity within a six-week period. This scheme yielded 79 children who lived in the 'Close proximity Area', 30 children from the 'Moderate distance Area', and 31 children

who came from the 'Remote distance Area'.

Instruments. The following instruments were used in the present study:

1. Child PTSD Reaction Index (Arabized Version). This instrument is a translation of the Child PTSD Reaction Index (CPTSD-RI) developed by Frederic, Pynoos and Nader (1987). It consists of a 20-item self-report (interview format) questionnaire based on DSM-III criteria for PTSD. Items are rated on a five-point scale ranging from 0 (none of the time) to 4 (most of the time). CPTSD-RI score ranges and associated degrees of PTSD symptom severity are as follows: 0 to 11, none; 12 to 24, mild; 25 to 39, moderate; 40 to 59, severe; and 60 to 80, very severe. The Arabized instrument was used previously on Palestinian children and was found to be appropriate for this population (Quouta et al., 2001, Thabit & Vostanis, 2000).

2. Arabized Version of the Children's Depression Index (CDI). This instrument consists of 27 items related to depression symptoms measured on a three-point (always, sometimes, never) scale. It is based on the original instrument developed by Kovacs (1982), and was translated and normed on Arab children by Gharib (1988). Reliability and validity data for the Arabized version are comparable to those provided for the original instrument.

3. The Cooper Smith Self-Esteem Inventory (Arabized Version). This 25 item scale was translated, Arabized, and normed on Arab children by Musa and Dassouki (1981). The instrument was used widely on Arab children, including Palestinian children, and was found to be appropriate for such populations (Baker, 1993).

Procedure. The data were gathered by graduate students enrolled in a public health Master's degree course, and who conducted the exercise as an assignment for the research methodology class. Hence, the students were trained not only in data gathering procedures, but also how to conduct interviews and avoid situations that threaten the integrity of the research[1]. Furthermore, the students were instructed to establish rapport with the family and children prior to gathering the data. Before the actual data collection, visits were made to the homes in order to secure permission for participation in the study, and provide the families with a brief description of the study, its purpose, and how the data would be used. None of the households canvassed

Variable		Age	PTSD[1]	Depression[2]	Self-Esteem[3]
Group 1	M	10.25	34.33	221.57	15.61
	S.D.	2.12	10.73	3.6	3.17
	Range	6-14	18-67	9-30	9-20
Group 2	M	10.47	30.5	22.07	15.1
	S.D.	2.64	11.48	3.45	3.65
	Range	6-16	8-52	15-29	6-20
Group 3	M	10.71	31.61	23.9	14.42
	S.D.	2.16	9.5	4.41	4.81
	Range	6-14	18-62	18-36	3-22

1. Theoretical Range = 0 - 80
2. Theoretical Range = 0 - 54
3. Theoretical Range = 0 - 25

Table 1. Means, S.D. and Ranges of Age, PTSD, Depression and Self-Esteem Scores Distributed According to Group Membership.

refused to participate in the study.
The data were gathered during a three-month (March – May 2002) period in which Israeli incursions into Palestinian cities and towns in the West Bank were intensive and extensive. The data were scored, coded, and analysed using descriptive statistics and discriminate analysis (method = rao) on the scores of the three groups of children according to age, gender, PTSD, depression, and self-esteem scores.

Results

Table 1 depicts the means, standard deviations, and ranges for the subjects in the three groups. It shows that age scores for the three groups were comparable in terms of means (10.25, 10.47, 10.71) and standard deviations (2.12, 2.64, 2.16), the average age being approximately 10 - the youngest being six and the oldest 16.

The table also shows that mean PTSD score for each group (Group1 = 34.33, Group2 = 30.5, Group3 = 31.61) fell within the moderate (25-39) PTSD symptomatology range. The scores, however, varied widely amongst the three groups, ranging between the experience of mild symptoms (12-24) to very severe ones (greater than 60) with the exception of Group 2 in which one subject scored in the range (< 12) in which PTSD cannot be determined.
Mean depression scores depicted in Table 1 reveal that all three groups displayed moderate (45-55 percentile) symptoms of depression. Table 2, however, shows that those who lived at a greater distance (Group3) from the traumatic event displayed depression scores significantly ($\underline{p}$ = .015) higher ($\underline{M}$ = 23.9) than their counterparts who lived in close ($\underline{M}$ = 21.57) or moderate distance ($\underline{M}$ = 22.07) to the bombardment. Dispersion of depression scores was most pronounced in the Close Proximity Group (Range = 9 – 30) compared with the Moderate distance (15-29) and Remote distance (18-36) groups.

The results depicting self-esteem scores show that the means (Group 1 = 15.61, Group 2 = 15.1, Group 3 = 14.42) of the three groups did not fall outside the norms (fifth stanine) for their peers in the Arab world. Furthermore, although the scores exhibited wide variance (11, 14, and 19 for groups 1, 2, and 3 respectively) they did not differ from each other significantly, as shown in Table 2.
Results of the discriminate analysis revealed that the depression score was the only variable capable of discriminating between the three groups with any statistical significance ($\underline{p}$ = .015). Furthermore, the analysis showed that group membership could be predicted with 58% accuracy. A closer examination of the data, however, reveals that prediction of group membership was higher for subjects in the Close Proximity Group (93.6%) than for the Moderate or

Variable	F	Sig
Gender	0.037	n.s.
Age	0.476	n.s.
PTSD	1.704	n.s.
Depression	4.303	0.015
Self-Esteem	1.18	n.s.

Table 2. F Values for Age, Gender, PSTD, Depression and Self-Esteem Means According to Group Membership.

Remote Distance Groups (0.0%, 19.2% respectively). It should be noted here that not only was analysis unable to accurately predict membership in the moderate and remote distance groups, but it generally assigned those members to the close distance group.

Discussion

This study attempted to investigate the effect of trauma as a function of distance from the traumatic event. Indices of psychological well-being were collected on children who lived within close, moderate, and remote distance of bombarded targets. The results of the study clearly showed that the well-being of Palestinian children was affected negatively by the military and political violence to which they were subjected. Symptoms of depression, psychosomatic conditions, sleep disturbances, and PTSD were found to be above normal levels. These findings are congruent with previous findings on children traumatised by war conditions (Miller, el-Masri, Allodi, & Qouta, 1997). The results of the study also showed that symptoms of depression constituted the only index able to discriminate between the three groups with statistical significance.

Living within hearing distance was not found to be a significant factor in how children respond to aerial and land bombardment. All three groups displayed moderate PTSD reactions to bombardment irrespective of the distance of their homes from the target zone. The data also showed that acute symptoms of PTSD were found in all three groups. This result does not contradict previous studies on the prevalence of PTSD in Palestinian children (Thabet & Vostanis, 2000). A recent unpublished survey conducted by Quouta (2003) shows that nearly one-third (32.7%) of Palestinian children displayed acute symptoms of PTSD during the second Intifada. Although PTSD symptoms tend to subside when exposure to the traumatic condition is terminated, the persistence and prevalence of PTSD symptoms need to be interpreted with great caution. The available data seem to suggest that PTSD symptoms resulting from exposure to military trauma often tend to be persistent and delayed in manifestation (Allwood, Bell-Dolan, & Hussain, 2002; Sack, 1999).

The result that distance was not found to be a function of trauma could have more than one interpretation. It may imply that being within hearing distance of bombardment has the same effect as witnessing the stress-provoking event. The element of psychological security, therefore, is compromised by the elements of anticipation and lack of control over the outcome of the event. Being sequestered in the home prevents access to information regarding the gravity of the situation outside. The child's security, therefore, is compromised by the anticipation that the next shell or missile could result in his/her injury or death. This fear could also have been magnified by the resonating sound effects of the bombardment due to the topography (open hills) of the area (West Bank) where the data were collected. It is also difficult to locate the source of sound within such a topography, especially during the night when most of the bombing took place, thus exacerbating the feeling of having no control over the situation.

Although the discriminate analysis was moderately able (58%) to predict overall group membership, an examination of the actual and predicted assignment of each subject shows that membership of the close proximity group was predicted with extreme accuracy (93.6%). None of the children in the moderate distance group were

predicted accurately but were assigned overwhelmingly to the close proximity group. A similar pattern was detected for those who fell within the remote distance group. In other words, irrespective of how far a child lives within hearing distance of the stressful or traumatic event, (s)he is liable to develop psychological reactions similar to those of children who live within the target zone.

The results depicted in this study confirm what mental health researchers have found. Exposing children to military violence is detrimental to their psychological well-being. This study, however, has also demonstrated that psychological security is as crucial as physical security to the well-being of children. Researchers and mental health practitioners need to consider not only the direct exposure of children to traumatic events, but also must examine the effect of psychological security. It may be not sufficient to determine trauma in terms of physical distance, but also in terms of psychological distance.

The element of psychological rather than physical security appears to be the crucial factor in predicting the mental health outcome of children living in areas of military conflict. The gravity of the political and military measures instituted by the Israeli military forces at the time the data were collected, and the subsequent inability of the data gatherers to collect information relevant to the integrity of the study - such as the degree of previous subjection to military and political violence - may have been responsible for the inability of the analysis to differentiate groups two and three. It may be, however, that the pervasiveness of the military action to which Palestinian children were subjected during the second Intifada has resulted in collective rather than individual traumatisation.

These findings pose a challenge for practitioners who deal with children living under perpetual subjection to military and political violence. It seems that they may need to address the psychological security of the child as well as his/her physical security. Palestinian society, being a collective society, can draw upon the cohesiveness of extended family members to mediate if not ameliorate this threat. During the first Intifada, Baker (1990) found that the psychological well-being of Palestinian children was highly correlated with the 'perceived' well-being of their mothers. Mothers who were able to cope with the stresses of military occupation were able to 'buffer' their children against adverse pathological effects. Children of mothers who were able to maintain a daily routine, and to provide psychological support through stories, activities, and explanations of how the family could protect itself, tended not to develop grave psychological symptoms when exposed to stresses associated with occupation.

Although the results of this study may pose a new variable for researchers and practitioners in traumatology, the measurement of distance from the target zone needs to be elaborated in future research. At what distance from the target zone does psychological security begin to take hold. Perhaps the inability of the discriminate analysis to distinguish between the three groups in this study may be the result of not separating the groups sufficiently in terms of distance. The results, however, appear to indicate that the physical range of a traumatic event such as bombardment may be much more far-reaching than was hitherto believed to be the case. The clinical and practical ramifications of such a finding are enormous and, perhaps, ominous. The psychological fallout of bombardment may be just as devastating as its physical destruction.

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[1] The students were requested to administer the instruments according to a counter-balanced design to control for administration order effect.