Individual and Public Resilience and Coping with Long Term Outcomes of War

IPSA World Congress, July 12-16 2009, Santiago, Chile
RC 29 – Psycho-Politics Research Committee

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Abstract

The present study focuses on the distinction between individual and public resilience, and their effects on long term negative (stress symptoms) and positive (posttraumatic recovery-PTR) war outcomes one year after the end of the war. Structural equation modeling analysis indicated the following: (a) Individual and public resilience served as mediators between economic situation and exposure to traumatic war events, and the two war outcomes: The higher individual and public resilience reported, the lower level of symptoms and higher level of posttraumatic recovery. (b) Gender and age significantly predicted PTR as well as symptoms. Being either a female or an older person was associated with a lower level of PTR and a higher level of stress symptoms. (c) The age by exposure interaction affected both individual and public resilience. (d) The model indicates clearly that the best predictor of posttraumatic recovery is public resilience while the best predictor of stress symptoms is individual resilience.

Key words: Individual resilience, public resilience, national resilience, stress symptoms, posttraumatic recovery, life satisfaction, Second Lebanon war, mediation model.
The present study focuses on the distinction between individual and public resilience, and their effects on long term negative (stress symptoms) and positive (posttraumatic recovery) war outcomes. To our best knowledge, no previous study has examined the mutual effects of these two modes of resilience on coping with long term affects of war. In recent years, as terror attacks become prominent threats across the world, and specifically since the 9/11 attack in NY, resiliency has been researched extensively. In these studies the main research question is the ability of the civil population to withstand adverse events such as a mass casualty terror attack or war, and its ability to recover and return to normal every day life. This ability is described in most studies as resilience.

Resilience is a positive trajectory of adaptation after a disturbance, stress, or adversity (Norris et al., 2008), which constitutes “the capacity for successful adaptation, positive functioning or competence… despite high-risk status, chronic stress, or following prolonged or severe trauma” (Egeland, Carlson, & Stroufe, 1993, p. 517).

Examining the literature more closely indicates a rather equivocal picture (e.g., Adger, 2000; Bonanno, 2004; Brown & Kulig, 1996). It is possible to indicate three salient equivocal issues: (a) The level of resilience which is being studied is not unified. Different studies relate to different levels of resilience such as individual, community and social/national resiliency. (b) Tools measuring individual resilience have been validated more often whereas the validity of measures of community and national resilience has not been substantiated sufficiently. (c) Most research on resilience focuses on one of its aspects (individual or national) without examining possible association between them. The current study will try to cope with some of these difficulties.

**Individual resilience** – One approach to resilience has posited that since security and threats are evaluated by individuals who experience security or insecurity in a subjective manner (Bar-Tal, Jacobson & Klieman, 1998; Tremblay, Blanchard, Pelletier, & Vallerand, 2006), resilience should be therefore regarded as an attitude or an attribute of the individual (e.g., Antonovsky, 1987; Kobasa, 1982). Individual resilience was defined by Bonanno (2005) as the individual's ability to maintain a stable level of functioning following traumatic events and as a "trajectory of healthy functioning across time" (p. 136). According to this point of view, an individual's resilience refers to his/her ability to continue functioning properly during and after
crisis or traumatic event at all levels of behavior, and to cope successfully with the changing demands of the environment.

Several researchers have perceived resilience as a personality trait which refers to components like “hardiness” (Kobasa, 1982) or “sense of coherence” (Antonovsky, 1987). As a personality trait, resilience includes factors such as the will to live, perception of a situation as challenging, sense of commitment and control, sense of meaning, self-efficacy, and learned resourcefulness (e.g., Denz-Penhey & Murdoch, 2008). The current study follows Antonovsky's definition of individual resilience.

According to this model (Antonovsky, 1979, 1987) sense of coherence (SOC) includes three components: (a) comprehensibility—the extent to which one perceives the world as ordered and the problems one faces as understandable and clear; (b) manageability—the extent to which one believes that the requisite resources for coping successfully are at one’s disposal or at the disposal of others upon whom one can rely; and (c) meaningfulness—the extent to which one feels that the problems and demands posed by living are challenges worthy of commitment and engagement. Sense of coherence is regarded by this model as a health-engendering personality trait that functions as a psychologically based stress-resistance resource. SOC is expected to be a major factor determining one's ability to cope with harsh events such as war, as well as the rate of recovering from traumatic events and returning to normal life after experiencing distress.

The extensive research linking SOC with reactions to stress (e.g., Delgado, 2007; Dudek & Koniarek, 2000; Roth & Ekblad, 2006; Surtees, Wainwright & Khaw, 2006) and wellbeing (e.g., Ekwall & Hallberg, 2007; Hart, Wilson, & Hittner, 2007; Fok, Chair, & Lopez, 2005; Schneider, et al., 2005) have supported the contention that SOC is a valid measure for individual resilience. Furthermore, based on previous research (e.g., Albertsen, Nielsen, & Borg, 2001) we have assumed that SOC will mediate between demographic characteristics and two war outcomes (stress symptoms and posttraumatic recovery).

**Public resilience**

Community Resilience – A different line of research concentrated on community resilience (e.g., Kimhi & Shamai, 2004; Kulig, 2000; Sonn & Fisher, 1998), assuming that in assessing coping with severe stress, the community rather than the nation should be the investigated unit. According to this model, a community which is characterized by high resilience will show high ability to prevail and cope with highly stressful
situations as well as better recovery ability, compared to a community with low resilience.

A literature review indicates that the concept of community resilience is defined rather loosely (Adger, 2000; Breton, 2001; Clauss-Ehlers & Lopez-Levy, 2002; Halling, Schindler, Walker, & Roughgarden, 1995; Kulig, 2000; Norris & Stevens, 2007; Patton & Johnston, 2001; Sonn & Fisher, 1998). According to Kimhi and Shamai (2004) community resilience includes three major determinants: resistance, recovery, and creativity. Resistance refers to the ability of the community to absorb emotional agitations (Halling et al., 1995), recovery focuses on the rate of recovery from harsh events (Breton, 2001; Patton & Johnston, 2001; Pfefferbaum et al., 2006), and creativity addresses the ability of a social system to maintain a constant process of creating and recreating, so that the community not only responds to adversity, but in doing so reaches a higher level of functioning (Kulig, 1996; Kulig & Hanson, 1996).

Compared with the field of individual resilience, there is limited knowledge regarding community resilience. Overall there seems to be an agreement among researchers that community resilience is an important resource in coping with major disasters and in mass trauma interventions (e.g., Norris, et al., 2008; Norris & Stevens, 2007; Tobin & Whiteford, 2002; Walsh, 2007). Community resilience research has indicated that a high level of community resilience enhances individuals’ coping during stress situation and is instrumental in faster post stress recovery.

National/social Resilience – Several studies have referred to resilience as a societal phenomenon, and investigated it in terms of national resilience (Barnett, 2004; Chemtob, 2005). The concept of national or social resilience is a broad one addressing the issue of the society's sustainability and strength in several diverse realms (Amit & Fliescher, 2005).

According to Ben-Dor et al., (forthcoming) four main social components were attributed to this mode of resilience: patriotism, optimism, social integration, and trust in political and public institutions. They reasoned that in a time of intractable conflict, members of a resilient society would display durable stability in maintaining these components. Their study shows that this indeed was the case in coping with the El Aksa intifada (uprising) by Israeli society (see similar result in Elran, 2006).

Friedland (2005) has argued that national resilience is probably the most elusive concept of resilience since it 'should express, on the one hand, society's ability to withstand adversity with its values and institutions remaining intact. On the other hand,
social resilience is also manifested in society's ability to cope with a changing, sometimes hostile, environment by changing and readjusting in new and innovative way' (p. 8).

It appears that community and national resilience may be regarded as two overlapping expressions of public resilience that can be collapsed into a single general concept. In the present study we submit that two major domains constitute the general notion of resilience: a sense of individual resilience, and a feeling of public resilience. The first refers to a sense of coping which is derived mainly from the individual's belief that s/he is capable of enduring, surviving, and overcoming distressing conditions. This belief mainly reflects self-confidence and positive self-regard. The second domain pertains to confidence in a larger or smaller social reference group which is supposed to provide its members with security, sense of belonging, and social identity. To the best of our knowledge, the issue of national resilience as mediator between demographic and war outcomes has not been studied directly. However, based on individual resilience research, we have assumed that public resilience will also serve as a mediator between demographic characteristics and two war outcomes.

**Resilience and possible affects of war**

War constitutes a major source of stress whose traumatic effects endure in many cases a long time after its termination (Galea et al., 2004). Research on the aftermath of war tends to distinguish between detrimental effects such as postwar stress symptoms, anxiety, and posttraumatic stress disorder (PTSD) (Dyregrov, Gjestad, & Raundalen, 2002; Hadi, Llabre, & Spitzer, 2006), and beneficial stress-related outcomes (Ickovics, Meade, & Kershaw, 2006; Linley & Joseph, 2004). Tedeschi and Calhoun (1996, 2004) have termed such outcomes “posttraumatic growth”. They assumed that these beneficial outcomes manifest a struggle with highly challenging life crises which are expressed by an increase in personal strength and interpersonal relations, positive changes in self-perception and a richer spiritual life.

We submit therefore, that recuperation from war traumas should be assessed by allowing respondents to rate their present condition as better as well as worse compared with their prewar condition. We will term this recuperation "posttraumatic recovery" (PTR), and hypothesized that individual as well as public resilience would be positively linked with attempts to find some good emerging from the plight of war, that is, PTR. By the same token we assumed that these modes of resilience would be negatively associated with detrimental postwar expressions such as stress symptoms.
Examination of the components of public resilience shows that they generally pertain to positive social perceptions of the present and the future, or to the morale of the public (Chemtob, 2005; Kimhi & Shamai, 2004). PTR pertains to a positive self-perception of the individual which reflects an aspect of personal morale (Tedeschi & Calhoun, 1996; 2004). It may be assumed, therefore, that public resilience will have stronger links with PTR than individual resilience. By the same token, we assumed that since individual resilience and post-war symptoms are attributes which seem to be rooted more deeply in one's personality structure (e.g., Rioli, Savicki, & Cepani, 2002), and are controlled to a lesser extent by changing circumstances, these symptoms will be associated more strongly with individual than with public resilience.

**Biographic variables and coping**

Previous data indicated that several additional variables affect coping with harsh events such as war and acts of terror. Four salient variables seemed to emerge: Economic situation (e.g., Eytan, et al., 2004; Galea et al., 2004; Lee et al., 2003), exposure to traumatic events (e.g., Kuterovac-Jagodić, 2003; Shamai & Kimhi, 2007), gender (e.g., Agronick, Stueve, Vargo, & O'Donnell, 2007; Chen, 2007; Yahav & Cohen, 2007), and age (e.g., Carballo et al., 2004; Tang, 2007; Trautman, 2002). These studies showed that higher level of stress symptoms was contingent on poor economic conditions, higher exposure to traumatic events, older age, and being a female, whereas beneficial postwar responses were inversely associated with these variables. Based on research on SOC and age (e.g., Hendirkx, Nilsson, & Westman, 2008) and gender (Tamres, Janicki, & Helgeson, 2002) we assumed that these two demographic variables would affect stress symptoms as well as PTR but not individual or public resilience. On the other hand, following previous research associating SOC with economic condition (e.g., Tsuno and Yamazaki, 2007) and exposure to traumatic events (e.g., Hogh & Mikkelsen, 2005) we assumed that these two variables would be associated with both individual and public resilience as well as with the two war outcomes (symptoms and PTR). Moreover, since exposure has been found to have different effects in various age groups (e.g., Dohrenwend, et al., 2008) we also assumed that exposure by age interaction would be associate with individual and public resilience.

The contribution of public and individual resilience to coping with the aftermath of war was investigated in the present study using a large Israeli sample of inhabitants of the border town of Kiryat Shemona. The study took place one year after this town had been targeted by hundreds of rockets fired from Lebanon during the Second
Lebanon War in 2006. Most of the town's inhabitants were directly affected by this war and were forced to evacuate their homes and seek shelter elsewhere (Israeli Ministry of Foreign Affairs, 2006).

The following hypotheses were investigated:
1. Individual and public resilience will associate positively with each other.
2. Individual and public resilience will associate negatively with stress symptoms and positively with posttraumatic recovery. In addition, individual and public resilience will associate negatively with exposure and positively with economic condition but not with age and gender.
3. Individual and public resilience will serve as mediators between two demographic characteristics (economic situation, exposure to traumatic war events) and two war outcomes (symptoms and PTR): The higher the exposure and the lower the economic situation, the more symptoms and the less PTR. However, high individual and public resilience will have a negative effect on symptoms and a positive effect on PTR.
4. The interaction between exposure by age will affect both stress symptoms and PTR

**Method**

**Participants**

The sample constituted 858 adults (40% male, 60% female), residents of the border town of Kiryat Shemona. Ages ranged from 18 to 85 ($M=55.09$, $s.d=16.19$). Forty-four percent had more than 12 years of education, 50% had 9 to 12 years of schooling, and 6% had studied 8 years or less.

**Sampling and Procedure**

Three sub-samples were included: (a) Thirty-six streets (covering most of the city streets) were sampled randomly from the map of Kiryat Shemona, about ten months after the 2006 fighting. One research assistant covered each street, going from door to door. In the event of absenteeism or refusal to participate, students were instructed to move on to the next door. This process continued until each student had completed 20 questionnaires. The sample included 747 respondents (about 15 questionnaires were rejected as a result of incomplete responses). (b) In order to guarantee inclusion of a wide enough range of ages in the sample, 50 elderly people (aged 65 and above) of the daycare center for older adults in Kiryat Shemona were added. Research assistants
helped them respond individually to the research questionnaire. (c) To ensure representation of individuals with a higher level of education, 73 teachers, who constituted 90% of the local high school teachers, were administered the research questionnaire individually. Twelve questionnaires were discarded due to missing data.

Instruments

**Individual resilience** - The short form Sense of Coherence scale (Antonovsky, 1987) was employed. This scale, consisting of 13 items, measures three components of SOC: meaningfulness, manageability and comprehensibility. Responses were indicated using a seven point bi-polar scale. Five of the items were reverse-scored such that higher numerical ratings indicated higher levels of SOC for all items. A general sense of coherence mean score was employed. The internal reliability (Cronbach alpha coefficient) of this score in the present study was .79. Validity and reliability data for the 13-item SOC scale are presented in Antonovsky (1992), Gana and Garnier (2001), Hittner (2007), and Pallant and Lae (2002).

**Public Resilience** – While previous studies measured community and national resilience separately, the present study combined items pertaining to community resilience (Kimhi & Shamai, 2004) as well as to national resilience (Ben-Dor et al., 2007) into a general public resilience scale of 11 items. These items were rated by a 5-point scale ranging from 1 “very low” to 5 “very high”. The reliability of this scale was \( \alpha = .81 \). Higher scores indicate a higher level of public resilience.

The five items derived from the community resilience scale pertained to trust in the town's leadership during this period of insecurity, perceived strength of the community in case of further hostilities, current level of endurance of the community compared with its level before the Second Lebanon War, the current social situation in town and the perceived effect of war on the social situation. The six items drawn from the national resilience scale were: Level of identification with the state of Israel and its values, belief in a peaceful future, confidence in the spirit of the state of Israel, trust in the high command of the Israeli Defense Forces (IDF), trust in the Israeli troops, trust in the ability of the defense system to protect civilians.

**Stress Symptoms** - The short version of the Brief Symptom Inventory (BSI, Derogatis & Savitz, 2000; Derogatis & Spencer, 1982) was utilized. This 19-item instrument is scored on a Likert scale ranging from 1 (very low) to 5 (very high). The scale consists of three subscales: anxiety (6 items), somatization (7 items), and depression (6 items), \( \alpha = .94 \).
**Posttraumatic recovery** - PTR was assessed by an eight-item inventory of perceived war effects based on a previous instrument pertaining to this issue (Kimhi & Shamai, 2004; Shamai & Kimhi, 2007). Respondents were requested to compare their present situation with their pre-war situation on eight domains of possible war effects: physical health, morale, social activity, school work/work place, interest and activity in hobbies or sports, emotional state, level of optimism, and hope for a better future. The response scale ranged therefore from 1 “much worse than before the war” to 5 “much better than before the war”, with 3 standing for “the same as before the war”. A higher score thus indicated a higher level of PTR. The reliability of the eight items ($\alpha = .81$) justified the use of an overall mean score. More positive scores of perceived war effects indicate a higher level of posttraumatic recovery following the war.

**Economic condition** – The economic situation was measured by 3 items: Economic situation before the war, economic situation today and family income compared to average family income in Israel (7,900 NIS). The items range from 1 ("very bad") to 5 ("very good"). The reliability of the three items ($\alpha = .73$) justified the use of an overall mean score. General economic conditions mean score was employed.

**Exposure to traumatic war events** – This instrument, based on Palmieri et al., (in press) scale, measures level of exposure to traumatic events. It contains 4 items (witnessing death, witnessing casualties, being injured, and fear of death). A 4-point response scale determined whether each of these outcomes of war happened to him personally (4), to a close family member (3), to a member of the extended family (2), to friends (1). Additional 3 items constructed specifically for this study (scale 1-4), pertained to the following issues: difficult/traumatic events experienced during the last war; damage caused to one’s house during the war; rockets falling in the vicinity of home during the war. The sum of all these items indicates level of exposure to traumatic war events. No internal consistency coefficient was computed for this scale since its items refer to independent war distresses whose accumulation indicates higher exposure to stress.

**Gender**: Female were coded as 2, male coded as 1.

**Results**

A preliminary correlation matrix between the investigated variables (see Table 1) indicated that, in line with our assumption, individual and public resilience were
positively correlated with each other, and negatively with symptoms and positively with PTR.

**Table 1: Pearson Correlations between investigated variables, means and standard deviations**

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td>--</td>
<td>.058</td>
<td>-.231***</td>
<td>.081*</td>
<td>.029</td>
<td>.008</td>
<td>.129***</td>
<td>-.171***</td>
</tr>
<tr>
<td>2. Gender</td>
<td>--</td>
<td>-.143***</td>
<td>.054</td>
<td>-.026</td>
<td>.053</td>
<td>.168***</td>
<td>-.165***</td>
<td></td>
</tr>
<tr>
<td>3. Economic</td>
<td>--</td>
<td>-.208***</td>
<td>.261***</td>
<td>.185***</td>
<td>-.396***</td>
<td>.263***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Exposure</td>
<td>--</td>
<td>-.142***</td>
<td>-.261***</td>
<td>.185***</td>
<td>.244***</td>
<td>-.175***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. SOC(^1)</td>
<td>--</td>
<td>.235***</td>
<td>-.569***</td>
<td>.369***</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6. Public res.</td>
<td>--</td>
<td>-.290***</td>
<td>.455***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. Symptoms</td>
<td>--</td>
<td>-.429***</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>8. PTR(^2)</td>
<td>--</td>
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<td></td>
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</table>

**M (SD)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>29.99 (18.61)</td>
<td>1.58 (1.05)</td>
<td>2.94 (5.81)</td>
<td>10.18 (1.01)</td>
<td>4.59 (5.81)</td>
<td>10.18 (1.01)</td>
<td>1.97 (.89)</td>
<td>2.75 (.69)</td>
</tr>
</tbody>
</table>

**p<.01, ***p<.001**

\(^1\)SOC – Sense of coherence

\(^2\)PTR – Posttraumatic recovery

To examine our hypotheses a structural equation model positing causal relations among the variables was produced using AMOS 16 (Arbuckle, 2007) and the estimation method of maximum-likelihood. A model including the four demographic variables (gender, age, economic condition and exposure) and one interaction (exposure by age) allowed all paths according to our theoretical model: (a) Gender and age to symptoms and PTR. (b) Economic condition and exposure to individual and public resilience, as well as to symptoms and PTR. (c) Interaction exposure by age to individual and public resilience. (d) Individual and public resilience to symptoms and PTR (see Figure 1). The data provided very good fit as clearly indicated by all fit measures: Chi-square=5.90, df=6, p=.43, CMIN/DF=.985, NFI=.998, RFI=.986, RMSEA=.000, PCLOSE=.979.

Looking further at our final model (Figure 1) indicates the following: (a) All paths in the model but one (exposure to PTR) were significant. (b) Gender and age significantly predicted PTR as well as symptoms. Being a female and an older person were associated with lower levels of PTR and higher levels of stress symptoms one year after the end of the war, in accordance with our second hypothesis. (c) The two resilience modes associated positively with economic condition and negatively with exposure to war traumas. Individual and public resilience were not correlated significantly with age and gender (see also Table 1). These results further support our
second hypothesis. (d) Individual and public resilience served as mediators between economic situation and exposure to traumatic war events and the two war outcomes (symptoms and PTR): those with higher individual and public resilience reported lower levels of symptoms and higher levels of PTR. These results fully support our third hypothesis. (e) Age by exposure interaction affected both individual and public resilience. Examining the paths in our model indicates clearly that the best predictor of PTR is public resilience while the best predictor of stress symptoms is individual resilience. These results fully support our fourth hypothesis.

In order to further explore the effects of individual and public resilience across ages the 870 respondents were divided into four groups according the medians of SOC (Median=4.48, s.d=1.02) and public resilience (Median=2.46, s.d=.64): High SOC high public resilience (N=256); low SOC, low public (N=248); low SOC, high public (N=187); high SOC low public (N=179). A multivariate analysis of variance (MANOVA) compared these four groups on stress symptoms and PTR. Highly significant group effect was found $F(9, 843)=43.66, p<.000$. Univariate analyses of variance (ANOVAs) (see Table 2) indicated that group effect was significant for two war outcomes. Scheffe post hoc analyses presented in Table 2 indicated the same pattern of results: The high SOC high public group resilience reported best coping
level (low stress symptoms and high PTR) while low SOC, low public reported the lowest coping level. The two other groups scored in between the first two groups.

Table 2: ANOVAs comparing the four adult groups on the research variables, means, standard deviations and F values

<table>
<thead>
<tr>
<th>War outcomes</th>
<th>Resilience groups</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>F(3, 843)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Hi individual/Hi public</td>
<td>Hi individual/Lo public</td>
<td>Lo individual/Hi public</td>
<td>Lo individual/Lo public</td>
<td></td>
</tr>
<tr>
<td>Stress symptoms</td>
<td></td>
<td>M</td>
<td>s.d.</td>
<td>M</td>
<td>s.d.</td>
<td>M</td>
</tr>
<tr>
<td>d&gt;b&gt;c&gt;a</td>
<td></td>
<td>1.55</td>
<td>.64</td>
<td>2.24</td>
<td>.92</td>
<td>1.78</td>
</tr>
<tr>
<td>Posttraumatic recovery</td>
<td></td>
<td>2.81</td>
<td>.53</td>
<td>2.56</td>
<td>.68</td>
<td>2.48</td>
</tr>
<tr>
<td>a, b, c, d Scheffe post hoc test</td>
<td>***p&lt;.000</td>
<td></td>
<td></td>
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</table>

Discussion

The present study examined associations between two modes of resilience, and detrimental and beneficial psychological outcomes of war. Following the contention that resilience plays an important role in successful adaptation with the harmful aftermath of prolonged or severe trauma (Brown & Kulig, 1996), we assumed that it would be also contingent on more constructive outcomes of war. More specifically, we hypothesized that public as well as individual resilience would mediate between economic condition as well as exposure to traumatic events during the war and two war outcomes: positively affecting PTR and negatively affecting postwar stress symptoms one year after this war. In addition, we hypothesized that exposure by gender interaction would be associate with the two resilience modes. The results which supported these hypotheses are in line with previous research pertaining the important role of resilience in coping with an adversity (e.g., Bonanno, 2005; Denz-Penhey & Murdoch, 2008; Kimhi & Shami, 2004; Kulig, 2000; Norris & Stevens, 2007; Patton & Johnston, 2001; Sonn & Fisher, 1998). The data indicated further that these predicted links with postwar adjustment were replicated for the public and the individual resilience.

We are not aware of any previous study addressing the relative contribution of public and individual resilience to beneficial and detrimental outcomes of war. We reasoned, therefore, that public resilience pertains to public morale, that is, the public...
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belief in a better future, and belief in its ability to overcome hardship and to strive for improvement despite current anxiety and distressing conditions. Similarly, PTR refer to personal morale and to one's ability to remain optimistic in stressful conditions. Both of them reflect reactions to external conditions, and are assessed according to their ability to prevail over them. It was hypothesized, therefore, that public resilience would be a better predictor of PTR compared with individual resilience. We hypothesized further that individual resilience, measured by SOC, which is regarded as a personality attribute (Antonovsky, 1987), would be a better predictor of postwar symptoms which were retained one year after the termination of hostilities, and would probably continue to affect a substantial number of the participants in the future. Our findings supporting these hypotheses suggest that individual resilience (SOC) serves as a 'stress buffer' against the negative effect of traumatic events like war, and is a more efficient means of coping with detrimental reactions in the process of postwar adjustment. Public resilience seems to be linked with more beneficial postwar responses (i.e., PTR) which contribute toward returning to normal life after experiencing the distress of war. Overall, our results indicated clearly that both levels of resilience are very important factors regarding people's ability to withstand stressful events such as war and to return to normal life one year after its termination.

Previous research indicated that economic conditions (Eytan, et al., 2004), being a woman (Agronick, Stueve, Vargo, & O'Donnell, 2007; Chen, 2007), age (Carballo et al., 2004; Tang, 2007), and exposure to traumatic events (e.g., Hobfoll et al., 2008) tended to damage postwar adjustment measured either by unfavorable responses such as stress symptoms, or by favorable PTR responses (Kimhi, Eshel, Zysberg, & Hantman, submitted). Individuals with lower economic resources, higher exposure to traumas, and women displayed higher levels of symptoms and a lower degree of PTR. Based on these findings we hypothesized that gender and age would affect both PTR and symptoms but not individual or public resilience. We also hypothesized that economic condition and level of exposure to traumatic events would affect both resilience and war outcomes. Our results indicated that the main effect of economic condition and exposure on war outcomes was mediated by individual and public resilience. Future research should consider these two variables when examining effects of demographic characteristics on beneficial postwar responses as well as negative effects of war. Based on our results, it seems reasonable to assume that a low level of
economic resources and exposure to traumatic events reduce peoples' resilience. Further research is needed to support these results.

The data also support our hypothesis that age and gender would not be associated with both kinds of resilience. No significant difference was found between males and females or between younger and older participants. It appears that while women (see literature review: Tamres, Janicki, & Helgeson, 2002) and older people (Carballo et al., 2004, Tang, 2007; Trautman, 2002) are generally affected more strongly by the experience of war, they do not differ in their ability to readjust to postwar conditions. It appears that wide generalizations concerning the effect of war on women and older people should be replaced by a more concise coping model delineating the strengths and weaknesses of these groups.

**Limitations of the study and directions for future research** - Six limitations of this study should be mentioned. First, this study was based on data gathered from a specific community which was extremely affected by war. Additional studies of war afflicted communities, as well as those which were not affected to a great extent by war should also be conducted to substantiate the present findings. Second, the data presented above are based solely on self reports. Future research may benefit from adding behavioral measures of resilience such as health measures, work, economic activity, which are not included in the present study. Third, both postwar symptoms and PTR seem to change with time. The correlational design of the present study does not allow for drawing conclusions concerning causal relations among the investigated variables. A longitudinal design is required to point out cause and effect relations between these variables. Fourth, the present public resilience scale seems to be both valid and reliable. However, the lack of a standard instrument for assessing public resilience limits the ability to compare studies pertaining to different cultures and situations. Fifth, future research on public resilience should develop additional behavioral measures of resilience. Sixth, the present study took place in a town which had been targeted by missiles from the Lebanon for many years before the Second Lebanon War. Consequently its community resilience was lower compared with similar populations living farther away from this turbulent border. Kimhi and Shamai (2004) concluded that the community resilience was reduced by this prolonged stress. It is possible therefore that the low level of public resilience which was found preceded the 2006 war. The present data should therefore be interpreted cautiously.
The main conclusion suggested by this study pertains to the importance of both individual and public resilience as sources for coping with traumatic events such as war or terror.

References


Individual and Public Resilience


Kulig, J., & Hanson, L. (1996). Discussion and expansion of the concept of resiliency: Summary of think tank. Lethbridge, AB: University of Lethbridge, Regional Center of Health Promotion and Community Studies.


