

# Resiliency and War Experiences: A Psychometric Study of the Lebanese Adolescent Experience of War

Rana Tayara

The University of York, York, YO105DD, UK

---

**Abstract** If Article 22 of the Universal Declaration of Human Rights, which states that “Everyone, as a member of society, has the right to social security and is entitled to realisation, through national effort and international co-operation and in accordance with the organization and resources of each State, of the economic, social and cultural rights indispensable for his dignity and the free development of his personality” is taken as a fundamental right for each individual to develop a healthy psychological state, then protecting the mental health of individuals everywhere is a priority. This priority becomes more critical during conflict, where psychological well-being is threatened by several traumatic experiences. This article investigates the post-traumatic-growth of Lebanese adolescents after the war in 2006 and its relation to resiliency in a sample of 549 Lebanese Adolescents from four main regions in Lebanon (Beirut, South, Bekaa Valley and the North of Lebanon). Strong correlations were found between the different types of war experiences and resiliency. Bereavement, combat and displacement were found to negatively correlate with resiliency subscales, whereas witnessing violence was found to positively correlate with resiliency subscales.

**Keywords** Resiliency, Lebanon’s War, Adolescents, War Experience

---

## 1. Introduction

A growing body of research has been shown to indicate that the differences between individuals’ behaviours, emotional and psychological well-being post-trauma is partially related to socio-cultural factors such as gender, socioeconomic status and ethnicity[1],[2]. Therefore, it was considered important in this research to look at the region, religion, age and gender differences together with adolescents’ war experiences in order to gain a greater insight as to why some individuals appear to have experienced a positive growth after the trauma by showing resilience and being more capable at adapting positively with war stress, while others did not. In the case of Lebanon, different regions have been affected differently by the war due to their geographical locations (Figure 1). The South of Lebanon and the Bekaa Valley were Israel’s main target along with the South of Beirut as these three regions are considered as Hezbollah’s main quarter.

It was also important to look at the relationship between religion, religious affiliation and war experiences when studying the case of Lebanon due to the special situation of Lebanon (i.e., the presence of 17 different religious sects) and also due to the fact that religion is a very important part

of an individual’s daily life in Lebanon. One needs to consider other factors such as social identity and cultural background in order to understand the relation between war experiences and the individual. According to Social Identity Theory, group members create in-group/self-categorisation that enhancement that favours the in-group at the expense of the out-group[3].

This self-categorisation means that people’s sense of who they are is defined in terms of ‘we’ rather than ‘I’. Unfortunately in the case of Lebanon, while the coping behaviours of adolescents post-war are best explained by looking at their cultural background as Lebanese adolescents define themselves as Phoenicians, Arabs, Muslims Sunni, Muslims Shii, Christian, Orthodox, Christian Catholic, Christian Maronite, Christian Protestant and many more, this may lead to identity confusion especially during a political conflict.

Religion in Lebanon is not merely a function of individual preference reflected in ceremonial practice of worship. Religion in Lebanon determines social and political identification. Hence, religion is politicised by the confessional allocation system in distributing power, benefits, and positions. This was further seen in the current study, as Shii adolescents were more likely to be involved in combat and to be injured. One reason behind this may be that Muslim Shiis represent the biggest number of Hezbollah supporters (the political/resistance party leading the July 2006 war against Israel) and therefore, Shii adolescents may have perceived the war as a war for the

---

\* Corresponding author:

rana.tayara@lau.edu.lb (Rana Tayara)

Published online at <http://journal.sapub.org/ijpbs>

Copyright © 2013 Scientific & Academic Publishing. All Rights Reserved

liberation of Lebanon and therefore felt the need to take part in it.

Even while living under similar circumstances, young children and adolescents' war experiences differ, possibly as being considered helpless, young children are more likely to be looked after by parents and caregivers during the course of such hardships than adolescents[4]. In order to study the psychological impact of war on adolescents resiliency has been studied.

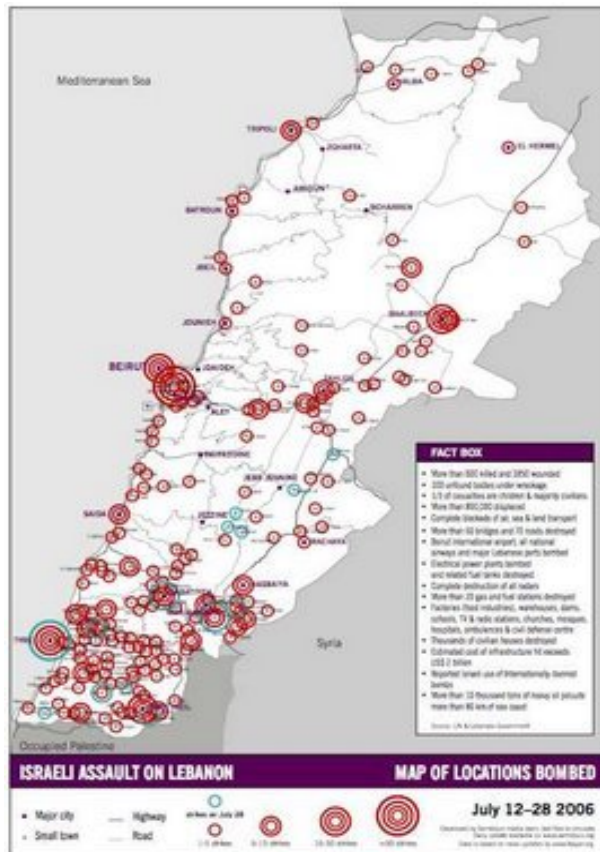


Figure 1. Map of Locations Bombed in Lebanon (July 2006)

### 1.1. Resiliency

Resiliency is the process of overcoming any negative effect of exposure to risk, while coping successfully with traumatic experiences and avoiding negative trajectories related to those risks[5],[6],[7]. It is in many ways similar to emotional intelligence in that just like EI, being resilient allows you to identify how you would react in certain emotional situations, therefore, helping you gain better control over your reactions when stressed. On the other hand while emotional intelligence looks at general situations, resilience looks to study individual's coping pre, during and post-traumatic situations.

Theories of resilience are focused on psychological strengths rather than deficiencies even though it is concerned with risk exposure. Models of resiliency assure that adolescents have factors to help them in order to avoid negative effects of a risk exposure. The first factor is assets, which refer to positive features that an individual has, such

as competence, self-efficacy and coping skills. The second factor refers to resources that are external to the individual and include parental support, adult mentoring, and organisation promoting positive development[8],[9].

According to the literature, the essential characteristics of resilient adolescents are such things as social competence, problem-solving skills, mastery, autonomy and a sense of purpose and future[10-13]. Furthermore, factors that promote resiliency have been described in relation to three primary systems in the adolescents' world: the family, the school and the community. In relation to the family, many of the protective factors identified by research clearly relate to the consistency and quality of care and support the individual experiences during infancy, childhood and adolescence. As for the role of the school as a protective factor, studies have shown that young people in disadvantaged homes are more likely to demonstrate resilient characteristics if they attend schools that have good academic records as well as attentive care takers and educators. In relation to the community, young people in disadvantaged areas are generally considered more 'at risk' than those in more prosperous areas. However, certain community characteristics seem to operate as protective factors. Those could be represented by the social support networks provided by social service agencies, or even by a political, social or religious party[14] as is the case of Lebanon, where such parties have been helping for some time now with the provision of food, shelter, and healthcare to individuals in need. This help places those political, social and religious parties in a position of power over the individuals that are being helped, as they are perceived as the saviours. Furthermore, it allows those individuals to feel more at ease and safe, knowing that they have a whole support network available at hand, which might help in increasing their sense of mastery, their trust in the other and decreasing their emotional reactivity allowing them to become more resilient and therefore have a more positive general well-being. Alternatively, such political help, and reliance upon such help, might reduce the sense of mastery for those who become dependent upon it, with the effect of powerlessness and lower self-worth leading to a more negative sense of well-being. This might be dependent upon the extent to which the individual or their family or friends affiliate with the political party. Rutter[15],[16] on the other hand describes four types of protective factors or processes: 1) factors that reduce risk impact or reduce a person's exposure to risk; 2) factors that reduce negative chain-reactions that follow bad events or experiences; 3) factors that promote self-esteem and self-efficacy through achievements and, finally, 4) positive relationships and new opportunities that provide needed resources or new directions in life.

According to some studies, adolescents living in poverty are at a higher risk of violent behaviours and poor academic achievement due to limited community resources and lack of parental monitoring[17-20]. Yet researchers and

practitioners working on resiliency acknowledge that despite all the risks that may accompany adolescents growing in poverty, still many of those adolescents display positive life outcomes. This is thought to be due to the possession of positive assets such as high self-esteem and positive coping skills[21],[22]. Therefore, the process of resiliency can be defined as the ability to use resources and assets in order to overcome risks and develop a positive well-being. Resiliency has also been defined as the process that an adolescent has gone through in order to overcome being exposed to a certain risk[23].

Research on war-related psychological distress among children has been conducted in Lebanon[4], Croatia[24], and Iraq[25]. In their study in Iraq, Dyregrov et al., (2002) found that 80% of the children they examined experienced traumatic stress. However a review of the trauma literature also revealed that a significant number of individuals who experienced a traumatic event, showed less vulnerability and were more able to continue living their lives in a positive way[26],[27]. Those individuals were either able to develop better coping skills and therefore affecting their well-being positively or had protective factors around them, allowing them to develop a more resilient self.

This ability to bounce back and function adaptively is known in the literature as resilience[28],[6],[29]. Recent studies of resilience suggest that the whole process of resilience can operate across multiple levels within the dynamic system[29]. Therefore, as much as disasters negatively impact individuals on different levels including environmental, physical and social, factors associated with these levels, it can also promote resilience in individuals.

Connor and his colleagues (2003) used the CD-RISC in a study of violent trauma survivors who were also assessed on their spirituality, anger, health PTSD and trauma related distress using an online computer survey. As predicted, resilience was associated with positive outcomes in terms of physical and psychological status and fewer PTSD symptoms. These results suggest that even though the relation between trauma and psychological problems is complex, resilience is strongly associated with positive outcomes, fewer PTSD symptoms and better health status[30].

Few studies have attempted to assess children and youth's exposure to the full range of war traumas from shelling to actual participation and involvement (e.g., damaging property, carrying weapons, stealing). In order to study those factors in the Lebanese context, some adaptations had to be made to the psychometric measures of psychological well-being utilised for the current study. Additionally a new scale was created to study the war experiences of adolescents in Lebanon.

Using a test with a population other than the one on which it was validated is not recommended, as a test is validated with respect to a certain population[31]. Therefore, it was considered important to specify the reliability of the scales in terms of the targeted population on whom it is to be administered[32]. As resiliency measure has not been

developed or validated for use with Lebanese youths, the first stage of the current research was to translate measure of resiliency and investigate its psychometric properties for both construct validity and reliability in a sample of Lebanese adolescents

## 2. Methodology

The measures of resiliency (the RSCA)[33] was translated and adapted using the guidelines of the International Test Commission[34] which addresses concerns about test context, development, adaptation, administration procedures and score interpretations. A combination of forward and backward translation designs were used and an experienced translator translated the three measures into Arabic. The original English and translated Arabic versions were both given to three educators to judge the equivalence of the translation. The translated Arabic version was given to a middle school Arabic teacher who has a Master's degree in Arabic language to check for the adequacy of the language used with the age group investigated. The Arabic version was given afterwards to another experienced translator in order to back translate it to English. The new English version was examined by an English middle school teacher whereby items were compared to the original versions of the measures to verify consistency in meaning. All items were considered to have retained the flavour of the original version of the scales.

The participants for the pilot study comprised an opportunity sample of 150 middle and high school students from the Lebanese capital Beirut, located 95.6 km away from the first city in North Israel. The participants were aged between 13 to 18 years, from grades 8 to 12. Participants were recruited from one public school (Dahiye area) and two private schools (Hay el Solom and Hamra areas). Data from one case with more than two incomplete responses were discarded. The final sample comprised 149 participants with a mean age of 14.71 years (SD=1.73). The sample included 81 males (M = 14.63 years, SD = 1.70) and 68 females (M = 14.81 years, SD = 1.78), 57 of these adolescents were Christian, 33 were Muslim Shii and 59 were Muslim Sunni.

Ethical approval was given from the University of York, Department of Psychology Ethics Committee. After contacting the schools administration for their approval, the researcher distributed and administered all measures, having first briefed the students about the purpose of the study and what was expected of them. The students were given a consent form stating the purpose of the study and were informed that the information collected would be anonymous, and that no individual participant could be identified from their data. The participants were also informed that their participation would be completely voluntary, and that if at any point they decided not to complete the questionnaire, they could withdraw from the study.

Students were given a unique identifier number by the researcher to maintain anonymity and were asked to provide

their age and gender. The participants were then told that there were no right or wrong answers and that their honesty in responding to the scales was important for the success of the study. Students were also asked to complete the questionnaires independently in silence without consulting with their peers. Clarification of item content was available through the researcher if needed. The students took on average 50 minutes to complete all scales.

The measures were examined for their factorial validity using exploratory factor analytic techniques on the basis that they previously had not been used in this context before; they were also examined for reliability.

### 2.1. Resiliency Scale for Children and Adolescents-Arabic

The newly translated Arabic version of the RSCA was first given to the sample of 149 students (81 males, 68 females) from Greater Beirut. The factor structure of the new RSCA-A was investigated using exploratory factor analysis by performing a principal component analysis with varimax rotation on scales and items. Exploratory factor analysis was used in order to study the factor structure of the scales in Lebanese adolescents to investigate if the same three-factor structure would emerge with a Lebanese sample. Principal components factor analysis with varimax rotation revealed three main factors similar to the initial factor structure of the RSCA. The correlations for the subscales between the original factor structure of the RSCA and the Arabic version were .84 for Sense of Mastery, .75 for Sense of Relatedness and .67 for Emotional Reactivity.

In addition, intercorrelations amongst the scales were computed. The intercorrelation of the RSCA-A scales provides additional support for the multidimensionality of the measure. Consistent with the suggestion that the RSCA-A measures distinct aspects of resiliency, moderate correlations were found among the three sub-scales ranging from .35 to .56 (see Table 1). The moderate intercorrelations amongst the sub-scales confirm the existence of three separate factors.

**Table 1.** Intercorrelations between the RSCA-A Sub-Scales in Lebanese Adolescents (N=149)

	Sense of Mastery	Sense of Relatedness	Emotional Reactivity
Sense of Mastery	1.00	.347*	.562**
Sense of Relatedness		1.00	.375*
Emotional Reactivity			1.00

\*  $p < 0.05$ ; \*\*  $p < 0.01$

The internal consistency of the scales was investigated using coefficient alpha. Table 2 presents the internal reliability coefficients as measured with Cronbach's alpha for the RSCA-A scales by gender. With respect to the total scale the internal consistency reliability was .87. This suggests that the newly translated Arabic version of the scales is factorally valid and is reliable for use with Lebanese adolescents.

**Table 2.** Internal Reliability Coefficients for RSCA-A in Lebanese Adolescents (N=149)

Resiliency Scale for Children and Adolescents	Total N=149	Female (n=68)	Male (n=81)
Sense of Mastery	.70	.71	.80
Sense of Relatedness	.79	.80	.78
Emotional Reactivity	.78	.82	.70
Total Scale	.87	.88	.86

### 2.2. War Experience Survey

In a study of Lebanese children post-war, Macksoud and Aber (1996) examined whether there is a single underlying "exposure to war" dimension or whether meaningful separate subtypes of exposure are present such as shelling, separation from parents and physical injuries. Their sample included 224 youth aged between 10 and 16 years from four different regions (East Beirut, West Beirut, South Beirut, and South of Lebanon) and different social status with an average age of 12.5 years. Their sample consisted of 51.8% girls and 47.7% boys. Forty-five traumas specific to Lebanese children who experienced war were extracted from previous published interviews that provided a contextualised portrait of Lebanese children during war[35],[4]. From these 45 traumas 10 trauma categories were defined by Macksoud and Aber (1996) after grouping together the traumas that were similar in nature. For example, both items "Home Bombarded" and "Exposure to Bomb explosion" were grouped under the item "Exposure to Shelling". These categories are: (1) Exposure to Shelling or Combat, (2) Separation from Parents, (3) Bereavement, (4) Witnessing Violent Acts, (5) Suffering Physical Injuries, (6) Victim of Violent Acts, (7) Emigration, (8) Displacement, (9) Involvement in the Hostilities, and (10) Extreme Deprivation. According to Macksoud and Aber (1996), the number of war trauma categories experienced by Lebanese children during the civil war 1975-1991 ranged from 0 to 10. Table 3.10 shows the distribution (%) for their sample according to Macksoud and Aber's (1996) 10 war trauma categories experienced during the civil war[4].

**Table 3.** Percentage Distribution of the Sample by the 10 War Trauma Categories (N=224)

War Trauma Categories	Percentage %
Exposure to Shelling	93.6
Exposure to Combat	40.0
Bereavement	70.0
Displacement	67.7
Witnessing/Victim of Violent Acts	45.0
Emigration	19.1
Separation from Parents	16.8
Extreme Deprivation	11.8
Physical Injuries	4.5
Involvement in Hostilities	2.7

Macksoud and Aber (1996)

For the current study, the War Experience Survey included the 10 war trauma categories first identified by Macksoud and Aber (1996). The War Experience Survey

was administered to the same sample of 149 adolescents from Beirut.

Participants were asked to rate how affected they currently were on a 3-point Likert scale (1 Mildly Affected, 2 Affected and 3 Extremely Affected). The items were written in Arabic, designed for a 3rd grade reading level. All items were checked for reading level by a 3rd grade and 4th grade Arabic teachers. Students were asked to only rate war traumas they experienced during the July war 2006 with Israel (the data for this study was collected in 2008, only a year and a half after the July 2006 war with Israel). Along with the 10 war traumas the survey also asked details of the students' age, gender and religious affiliation.

For the purpose of the current study, and in order to determine whether adolescents' war experience fell into theoretically meaningful patterns of experiences, a principal components analysis with varimax rotation was used to determine the factor structure of the 10 war trauma categories suggested by Macksoud and Aber (1996). Using the responses from the same sample of 149 adolescents from Beirut, three factors were extracted using the Kaiser criteria of 1.0. The results are presented in Table 4.

The three factors accounted for 73% of the variance in the correlation matrix. Factor 1 describes exposure to bereavement, displacement, separation from parents and emigration. This factor seems to depict the experience of "loss". Factor 2 describes exposure to shelling, witnessed violence and deprivation. Factor 2 seems to tap "passive involvement" in war. Finally, Factor 3 included injuries, involvement in hostilities (such as carrying weapons and destroying properties) and finally taking part in combat. This factor seems to tap "active involvement" in war.

**Table 4.** Factor Structure of the War Experience Survey (N=149)

	Factor 1	Factor2	Factor 3
Bereavement	.897		
Displacement	.819		
Separation from parents	.611		
Emigration	.434		
Witnessing violence		.926	
Exposure to shelling		.863	
Deprivation		.838	
Injuries			.923
Involvement in hostilities			.904
Combat			.644
Factor % Variance	39.9%	19%	14.1%

Intercorrelations among the War Experience Survey factors were computed and low to moderate correlations were found among the three factors. Factor correlations ranged from .33 to .55 (see Table 5). The low intercorrelations confirm the existence of three separate factors.

**Table 5.** Intercorrelations of the War Experience Survey Factors

	Active Involvement	Passive Involvement	Loss
Active Involvement	1.00	.495**	.332**
Passive Involvement		1.00	.549**
Loss			1.00

\* p < 0.05 \*\* p < 0.01

Internal consistency of the War Experience Survey was measured with Cronbach's alpha. Table 6 presents the internal reliability coefficient for the War Experience Survey by gender. The internal consistency of the whole sample ranged between .67 to .85.

**Table 6.** Internal Reliability Coefficients for the War Experience Survey (N=149)

War Experience Survey	Total (N=149)	Female (n =68)	Male (n =81)
Active Involvement	.79	.82	.76
Passive Involvement	.67	.69	.66
Loss	.69	.51	.87
Total Score	.85	.87	.82

While it is noted that the alpha coefficients for the scales by gender are somewhat lower than the minimum reliability coefficient of .70 recommended by Kline[36], this is not surprising given that there are only three or four items in each subscale. Furthermore, the total score for the WES demonstrated substantial alpha coefficients for both males and females.

### 3. Main Study

Having undergone 30 days of armed conflict, the Lebanese context offered an opportunity to investigate the effects of armed conflict on adolescents' psychosocial well-being. Furthermore, due to the importance of religion and politics in Lebanon and to the integration of these two factors in the daily life of all Lebanese, war is perceived differently by different people in Lebanon depending on their religion and political affiliation. Therefore Lebanon presented a unique and interesting case to look at.

The first hypothesis tested was that older adolescents are more likely to be exposed to more war traumas than younger adolescents as the latter are more easily controlled by parents and therefore are more protected. It was also predicted that males would have experienced a greater number of war traumas during the July 2006 war, as they were more likely to take part in the conflict themselves and/or not to be displaced, as it was seen that it is more important to protect the female adolescents who are perceived by parents and society as more 'fragile' and less able to handle the conflict. It was also predicted that the type of war trauma male adolescents suffered will reflect their direct involvement in the war, while females' war experiences would be more related to separation and loss as it is expected that they will

have less of an active role in the war. Specifically, it is therefore hypothesised that males will score higher on the War Experience Survey (WES) subscale of Active Involvement, and females will score higher than males on WES Loss. Furthermore, differences in the number and type of war traumas experienced between the four regions of Lebanon analysed in this study were also expected as different regions were affected differently due to their geographical location, as well as their political affiliation (some regions such as the south of Lebanon are known to be under the observant eye of Hezbollah, and therefore experienced more intensive bombings than other regions).

Psychologically, Maslow's [37] hierarchy of needs suggests that in order to reach self-satisfaction and therefore feel good about oneself, it is important to have basic needs met such as shelter and security. It is expected that a change in meeting those basic needs will have an effect on personality characteristics such as agreeableness as researchers have found a positive relation between agreeableness and satisfaction at work/school, in the family, and in regards to the self [38], [39].

Therefore it was expected that deprived adolescents would be less agreeable than non-deprived adolescents. Furthermore emotional instability is often associated with PTSD symptom development [40]. In a study by Lauterbach and Vrana (2001), the level of neuroticism directly correlated with the intensity of subsequent stress symptomology. Therefore it was hypothesised that high levels of war trauma may lead to higher level of emotional instability, while low number of war traumas would lead to greater sociability and a more open and extraverted personality [41]. Finally it was predicted that high number of war traumas and direct exposure to conflict would lead to a higher Sense of Mastery and Emotional Reactivity, however experiencing the loss of family members, family home and property would lead to a low Sense of Relatedness as those adolescents would have lost the main factors that allow them to feel secure and trustful.

In order to confirm or refute the above hypotheses this study is looking to answer the following research questions: (1) How are Lebanese youth's war trauma organised, what is the number and type of the war events experienced by Lebanese adolescents during the July 2006 war? (2) Does exposure to war vary by factors such as gender, age, religion and region of residence? Is adolescents' war experience in Lebanon associated with their geographical and/or religious position? (3) What is the relationship between adolescents' exposure to war trauma and psychological factors such as resiliency, personality and emotional intelligence? Are some forms of war exposure associated with positive psychological outcomes such as resiliency? (4) Does the relation between war experience and adolescents' psychological development vary by such factors as adolescents' gender, age, religious affiliation and place of residence? In order to answer these questions, questionnaires were administered to a sample of 549 Lebanese adolescents from four major geographical regions and religious groups.

### 3.1. Participants

Different regions in Lebanon have been affected differently by the July 2006 war either due to their geographical position (i.e. closeness to the border with Israel) or their political affiliation (presence of Hezbollah in the region). Therefore it is important to see how Lebanese adolescents, in all the different regions, have been affected by the war experience.

#### 3.1.1. Beirut

The participants from Beirut comprised the same sample of 149 Lebanese adolescents ( $M=14.71$  years,  $SD= 1.73$ ) reported in section 2.

#### 3.1.2. South of Lebanon

The participants from the South of Lebanon comprised an opportunity sample of 140 middle and high school students from the South of Lebanon 20.5 km away from the border between Lebanon and Israel and aged between 13 to 18 years old, from grades 8 to 12. Participants were recruited from two public schools (from Tyre and Nabatieh areas) and one private school (from Nabatieh). No data were discarded as there were no missing data. The participants had a mean age of 15.35 years ( $SD=1.24$ ). The sample included 62 males ( $M = 15.26$  years,  $SD = 1.21$ ) and 78 females ( $M = 15.42$  years,  $SD = 1.25$ ). Seven of the participants were Christian, 95 were Muslim Shii and 38 were Muslim Sunni.

#### 3.1.3. North of Lebanon

The participants from the North of Lebanon comprised an opportunity sample of 124 middle and high school students from the North of Lebanon 196 km away from the border between Lebanon and Israel and aged between 13 to 18 years drawn from grades 8 to 12. Participants were recruited from two public schools from Tripoli. No data were discarded as there were no missing data. The participants had a mean age of 14.84 years ( $SD=1.32$ ). The sample included 65 males ( $M = 15.02$  years,  $SD = 1.452$ ) and 59 females ( $M = 14.64$  years,  $SD = 1.141$ ). These participants comprised 30 Christian, 31 Muslim Shii and 62 Muslim Sunni.

#### 3.1.4. Bekaa Valley

The participants from the Bekaa Valley comprised an opportunity sample of 136 middle and high school students from Baalbek, 85 km away from the border between Lebanon and Israel who were aged between 13 to 18 years drawn from grades 8 to 12. Participants were recruited from one public school and one private school from Baalbek. No data were discarded as there were no missing data. The participants had a mean age of 14.99 years ( $SD=1.13$ ). The sample included 69 males ( $M = 15.23$  years,  $SD = 1.190$ ) and 67 females ( $M = 14.75$  years,  $SD = 1.01$ ). These participants comprised nine Christian, 48 Muslim Shii and 79 Muslim Sunni.

### 3.2. Procedure

Students were administered the War Experience Survey followed by the RSCA-A. They were given a unique identifier number by the researcher to maintain anonymity and were asked to provide their age and gender. The students were then told that there were no right or wrong answers and that their honesty in responding to the scales was important for the success of the study. Students were also asked to complete the questionnaires independently in silence without consulting with their peers. Clarification of item content was available through the researcher if needed. The students took on average 50 minutes to complete all scales.

Signed copies of the consent forms were collected by the researcher, except for those given to the sample from South of Lebanon, as those consent forms were taken from the researcher by members of the Hezbollah political party stating that this has to be done in order to protect the names of these adolescents as well as to prevent any "information trafficking", especially in the sensitive case of Lebanon, where espionage has been a problem and the reason behind many internal as well as external conflicts.

### 3.3. Data Analyses

The assumption that a heterogeneous sample of adolescents would experience similar number and/or types of war traumas should not be made and hence an examination of the relation between age, gender, region and religion with the number and type of war traumas was undertaken. Data were normally distributed and met the assumptions for parametric statistics. Multiple regression equations were used to determine the relative independence of each relationship with the number of war traumas experienced by adolescents in Lebanon as well as the type of war traumas experienced.

One-way analyses of variance were conducted to determine differences in the number and type of war traumas as related to the four regions of residence (Beirut, South of Lebanon, North of Lebanon and Bekaa Valley) as different areas were affected differently due to their geographical location and/or political affiliation. In order to test the remaining hypotheses, regression equations were used to investigate the relation between number and type of war traumas and resiliency, emotional intelligence, personality, and PTSD.

## 4. Results

The results reported below are presented in four stages. The analysis included an investigation of the relation between adolescents' war traumas and resiliency. Followed by an examination on whether the relationship between war traumas and resiliency varied as a function of demographic factors.

### 4.1. War Traumas and Resiliency

Before examining whether the number or type of war traumas were related to resiliency, logistic regression

analyses were performed to determine the relation among the demographic variables of age, gender, religion and region and resiliency.

#### 4.1.1. The Effect of Age on Resiliency

Age accounted for 1% of the variance ( $p < .05$ ) in Conscientiousness as measured by the BFI-A, with older adolescents aged between 16 and 18 reporting more conscientious behaviours than younger adolescents aged between 13 and 15 years.

#### 4.1.2. The Effect of Gender on Resiliency

Gender accounted for 2% of the variance ( $p < .01$ ) in Agreeableness as measured by the BFI-A, with females more likely to report more agreeable behaviours than males ( $\beta = .15$ ). Furthermore, gender accounted for 1.5% of the variance in PTSD as measured by the Trauma Screening Questionnaire-Arabic ( $p < .01$ ) as females were more likely to report higher PTSD relevant behaviours than males.

#### 4.1.3. The Effect of Religion on Resiliency

Religion accounted for 1% of the variance ( $p < .01$ ) for Agreeableness and also 1% of the variance ( $p < .05$ ) for Conscientiousness. For both of these personality variables Muslim adolescents were more likely to report more agreeable and conscientious behaviours than Christians ( $\beta = .13$  and  $.26$  respectively).

#### 4.1.4. The Effect of Region on Resiliency

Region accounted for 2.5% of the variance ( $p < .01$ ) in the Sense of Mastery subscale and 4.5% ( $p < .01$ ) of the Sense of Relatedness subscale of the RSCA-A, as adolescents from Beirut and the South of Lebanon were more likely to report a better Sense of Mastery and Relatedness than adolescents from the North and the Bekaa Valley ( $\beta = .15$  and  $.21$  respectively). Also, region accounted for 2% of the variance ( $p < .01$ ) in the Emotional Reactivity subscale of the RSCA-A, with adolescents from Beirut reporting higher emotional reactivity scores than adolescents from the North and the Bekaa Valley ( $\beta = .14$ ). Given the above findings and the finding that adolescents' age, gender, religion and region of living were able to explain some variance for the different types and number of war traumas, these variables were controlled for in further analyses involving the measure of resiliency.

### 4.2. Number of War Traumas and Resiliency

Three regression equations were next used to determine the relation between the number of war traumas and the three resiliency subscales (Sense of Mastery, Sense of Relatedness and Emotional Reactivity) controlling for age, gender, religion and region. Results showed that the number of war traumas experienced did not significantly predict resiliency.

### 4.3. Types of War Traumas and Resiliency

Several multiple regression analyses were performed to determine whether the types of war traumas (i.e., separation, bereavement, displacement, etc.) were related to resiliency, when controlling for age, gender, religion and region. Three multiple regression equations were performed to look at the relation between types of war traumas and resiliency as measured by the Sense of Mastery, Sense of Relatedness and Emotional Reactivity subscales of the RSCA. For each of the three equations, the demographic variables were entered first, followed by the ten types of war traumas. As mentioned earlier, the ten types of war traumas were entered in three blocks (in groups guided by the three factor analysis). For step 2, Bereavement, Displacement, Separation and Emigration were entered; for step 3, Deprivation, Shelling and Witnessing Combat; and for step 4, Injuries, Involvement in Hostilities and Taking part in Combat. The results of these analyses are presented in Table 7-9

#### 4.3.1. Sense of Mastery

**Table 7.** Relationship Between Types of War Traumas and Sense of Mastery

Variables		Sense of Mastery		
Demographics		Beta	SE	Sig
	Age	.02	.19	.73
	Gender	-.05	.01	.73
	Religion	-.06	.03	.31
	Region	-.15**	.02	.00
	R2	.031	.01	
	F(4,544)	4.41**		.00
Loss				
	Bereavement	-.10*	.035	.04
	Displacement	-.05	.022	.07
	Separation	.07	.030	.19
	Emigration	-.02	.053	.81
	R2	.00	.40	
	F(8,540)	3.14		.01
Passive Involvement				
	Deprivation	-.03	.04	.15
	Shelling	-.04	.01	.06
	Witnessing Violence	.12**	.03	.00
	R2	.06	.40	
	F(11, 537)	2.94**		.00
Active Involvement				
	Injuries	.04	.05	.50
	Involvement in Hostilities	.03	.04	.56
	Combat	-.10*	.02	.01
	R2	.06	.40	
	F(14,534)	2.05**		.00

\* p < 0.05; \*\* p < 0.01

Table 4.7 reveals that for Sense of Mastery, the demographic variables of age, gender, religion and region accounted for 3% of the variance (p < .01); Loss accounted for an additional 4% (p < .01); Passive Involvement for 6% (p < .01) and finally Active Involvement for 7% (p < .01). More specifically, adolescents who witnessed violence were

more likely to report a higher Sense of Mastery than other adolescents who experienced other war traumas (beta = .12, p < .01). In contrast, adolescents who reported loss of a relative or took part in combat were less likely to report a Sense of Mastery than adolescents who experienced other kinds of war traumas (beta = -.10 and -.09, respectively with p < .05 - Table 7).

#### 4.3.2. Sense of Relatedness

The results of the regression analyses undertaken for Sense of Relatedness showed that the demographic variables accounted for 5% of the variance. Loss accounted for 7%, Passive Involvement for 8% and finally Active Involvement for 9% of the variance (p < .01). Adolescents who were displaced were less likely to report a Sense of Relatedness (beta = -.10, p < .01 - Table 8).

**Table 8.** Relationship Between Types of War Traumas and Sense of Relatedness

Variables		Sense of Relatedness		
Demographics		Beta	SE	Sig
	Age	-.03	.01	.32
	Gender	.07	.03	.13
	Religion	-.03	.02	.86
	Region	-.20**	.02	.00
	R2	.05	.40	
	F(4,544)	7.25**		.00
Loss				
	Bereavement	-.04	.03	.81
	Displacement	-.10**	.02	.00
	Separation	.09	.03	.10
	Emigration	.03	.05	.48
	R2	.073	.40	
	F(8,540)	5.33**		.00
Passive Involvement				
	Deprivation	-.02	.04	.71
	Shelling	-.08	.02	.07
	Witnessing Violence	.08	.03	.08
	R2	.08	.40	
	F(11, 537)	4.38**		.00
Active Involvement				
	Injuries	.03	.05	.30
	Involvement in Hostilities	.06	.04	.43
	Combat	-.05	.03	.08
	R2	.09	.40	
	F(14,534)	3.65**		.00

\* p < 0.05; \*\* p < 0.01

#### 4.3.3. Emotional Reactivity

Finally, for Emotional Reactivity (Table 9), demographic variables accounted for 2% of the variance (p < .01), Loss for 3% of the variance and Passive Involvement for 4% of the variance (p < .05). Active Involvement did not account for any significant level of variance; however, Injuries on its own, was significantly related to Emotional Reactivity. Adolescents who were injured were less likely to report high



emotional reactivity than adolescents who witnessed different war traumas ( $\beta = .09, p < .05$ ).

**Table 9.** Relationship Between Types of War Traumas and Emotional Reactivity

Variables		Sense of Mastery		
Demographics		Beta	SE	Sig
	Age	.03	.01	.87
	Gender	.07	.05	.13
	Religion	-.01	.03	.84
	Region	-.07**	.02	.00
	R2	.03	.52	
	F(4,544)	3.72**		.00
Loss				
	Bereavement	-.03	.05	.63
	Displacement	-.02	.03	.66
	Separation	.02	.04	.57
	Emigration	.05	.07	.45
	R2	.03	.40	
	F(8,540)	5.61		.49
Passive Involvement				
	Deprivation	.01	.06	.24
	Shelling	-.03	.02	.31
	Witnessing Violence	-.06	.05	.24
	R2	.08	.40	
	F(11, 537)	3.88		.23
Active Involvement				
	Injuries	-.09*	.05	.03
	Involvement in Hostilities	-.04	.06	.52
	Combat	-.01	.03	.98
	R2	.09	.40	
	F(14,534)	-3.56		.56

\*  $p < 0.05$ ; \*\*  $p < 0.01$

With regards to the three equations, the demographic variable that was significantly related to Sense of Mastery, Relatedness and Emotional Reactivity is region of living as adolescents who were living in Beirut and the South of Lebanon were more likely to report resilient behaviours than adolescents living in the North of Lebanon and the Bekaa Valley.

## 5. Conclusions

The present study begins to identify the organisation of Lebanese adolescents' war experiences and the complex association between the histories of such experiences and the adolescents' psychosocial well-being.

Before examining the relationship between the number and types of war traumas and its effect on adolescents' psychosocial well-being, the relationship between the demographic factors and psychosocial outcomes was examined. The results showed that before controlling for the number and types of war experiences

It was interesting to note that the number of war traumas experienced did not have effects on resiliency. It was rather the type of war traumas that was related to resiliency traits

such as Sense of Mastery, Relatedness and Emotional Reactivity. Of the ten types of war traumas, five such traumas accounted for variance in the resiliency of Lebanese adolescents. Adolescents who witnessed violence or were injured were more likely to report a higher Sense of Mastery, while those who suffered the loss of a relative or a friend through separation or bereavement reported a lower Sense of Mastery and Relatedness due to their loss. Knowing that Sense of Relatedness and Mastery measure trust, support, comfort, adaptability and optimism, by taking away parental support in the time of crises those adolescents are losing the core variables that makes them able to positively relate to their environment and feel once more in control in order to cope and therefore be more resilient.

Paradoxically, some overwhelming experiences with violence seem to also positively impact adolescents. In this study, adolescents who were injured showed a decrease in emotional reactivity, they seemed to be more sensitive to altruistic issues, less impaired and to be better at recovering from their traumas, in total they felt more "well" than other adolescents. One explanation for this could be the tendency for those that have been injured to become avid advocates of humanitarian causes as a way to hide their own pain[42]. Furthermore adolescents who witnessed violence also showed an increase in their Sense of Mastery. Those adolescents seemed to be able to adapt more easily after such trauma and to be able to see things in a more positive light. These finding supports those of Klasen and colleagues (2010), after examining post-traumatic resiliency in 330 extremely exposed former children and adolescents soldiers from Uganda (age = 11–17, female = 48.5%). Klasen et al. found that despite the severe traumas those children were exposed to, 27.6% showed post-traumatic resiliency indicated by absence of PTSD, and clinically significant behavioural and/or emotional problems[43].

In summary, armed conflict seems to require adjustment from adolescents. Some experiences such as personal loss, being a victim of violent acts, taking part of the combat and separation from parents seem to have strong negative impact on adolescents' well-being and more specifically, their ability to adjust adaptively. Yet, some of these same traumas, namely separation and taking part in the conflict, seem to impose adaptive adjustment on adolescents in the form of resiliency. Some adolescents seem to be resilient even to adversities and are able to cope effectively after trauma exposure especially if they have their family's support. Those adolescents that were cared for by their parents reported to suffer fewer negative effects than those without that support.

The negative effects of political violence in war zones are obvious yet their extent, depth and duration vary considerably depending on the nature of the traumatic events, the outcome measures and the presence of protective factors. Finally, there is a great deal of individual variability in the capacity of adolescents to adapt despite adverse experiences with political violence. Being a country built on the presence

of different religions, sects and even cultures (the Arabic vs. Phoenician debate), Lebanese adolescents are not easy to categorise and label and therefore individual differences may be more evident in comparison to other countries.

In conclusion, despite experiencing atrocities due to war, Lebanese adolescents might have been able to maintain an adequate mental health infrastructure, based on underestimated strength and coping capacities. This is not surprising as according to Masten and Powell [7] adaptive functioning is normative and is not necessarily the exception to the rule even under extreme life circumstances.

The present study raises major issues regarding limitations and implications for future studies. One such issue is in regards to the method. Self-report measures carry some methodological problems including false report, inadequate memory and the desire for the adolescents to portray themselves in a favourable way. Future research should be complemented with observations as well as interviews with parents, teachers and peers in order to get a more global and valid assessment of adolescents' exposure to war and psychosocial implications. Another issue might be the limited demographic variables studied and therefore a crucial next step would be assessing other factors such as parents social status, family structure, parents educational level, and community support.

Finally, this present study offers some suggestions for intervention as it presents to us how Lebanese war experience can be defined in terms of number and types of war experiences as well as how each of these parameters affects adolescents. These findings could be used to help create intervention programs for children and adolescents in Lebanon such as therapeutic interventions targeted to help adolescents at risk of severe PTSD.

---

## REFERENCES

- [1] Peek, L. A., & Mileti, D. S. (2002). The history and future of disaster research. In R. B. Bechetal, & Churchman, A. (Ed.), *Handbook of Environmental Psychology* (pp. 511-524). New York: Wiley.
- [2] Silverman, W. K., & La Greca, A. M. (2002). Children experiencing disasters: Definitions reactions, and predictors of outcomes. In A. M. La Greca, Silverman, W. K., Vernber, E. M. & Roberts, M. C. (Ed.), *Helping children cope with disasters and terrorism* (pp. 11-34). Washington, DC: American Psychological Association.
- [3] Tajfel, H., & Turner, J. C. (1986). The social identity theory of inter-group behavior. In S. A. Worchel, W. (Ed.), *Psychology of Intergroup Relations*. Chicago: Nelson-Hall.
- [4] Macksoud, M. S., & Aber, J. L. (1996). The war experiences and psychosocial development of children in Lebanon. *Child Development*, 67(1), 70-88.
- [5] Garmezy, N. (1991). Resilience in Children Adaptation to Negative Life Events and Stressed Environments. *Pediatric Annals*, 20(9), 459
- [6] Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: a critical evaluation and guidelines for future work. *Child Development*, 71(3), 543-562.
- [7] Masten, A. S., & Powell, J. L. (2003). Resilience and vulnerability: Adaptation in the context of childhood adversities (In S. S. Luthar (Ed.), *A resilience framework for research, policy, and practice*. (pp. 1-25). New York: Cambridge University Press.
- [8] Beauvais, F., & Oetting, E. R. (1999). Drug use, resilience, and the myth of the golden child. In M. D. Glantz, & Johnson, J. L. (Ed.), *Resilience and Development: Positive Life Adaptations* (pp. 101-108). New York: Kluwer Acad. / Plenum.
- [9] Sandler, I., Wolchik, S., Davis, C., Haine R., & Ayers T. (2003). Correlational and experimental study of resilience in children of divorce and parentally bereaved children In L. S. S. (Ed.), *Resilience and Vulnerability: Adaptation in the Context of Childhood Adversities*. (pp. 213-243). New York: Cambridge Univ. Press.
- [10] Garmezy, N. (1985) Stress resistant children: The search for protective factors. In J. Stevenson (Ed.) *Recent Research in Developmental Psychology, Journal of Child Psychology and Psychiatry* (Book supplement number 4).
- [11] Werner, E. E., & Smith, R. S. (1987). *Vulnerable but Invincible: A Longitudinal Study of Resilient Children and Youth*. New York: Adams, Bannister and Cox
- [12] Masten, A. S., Best, K. and Garmezy, N. (1990) 'Resilience and development: Contributions from the study of children who overcome adversity', *Development and Psychopathology*, 2, 425-444.
- [13] Gore, S. and Eckenrode, J. (1994) Context and process in research on risk and resilience. In R. Haggerty et al. (Eds.) *Stress, Risk and Resilience in Children and Adolescents: Processes, Mechanisms and Interventions*. New York: Cambridge University Press
- [14] Pence, A. (1988) (Ed.) *Ecological Research with Children and Families: From Concepts to Methodology*. New York: Teachers College Press.
- [15] Rutter, M. (1985). *Aggression and the family*. *Ser Paedopsychiatry* (6), 11-25.
- [16] Rutter, M. (1999) 'Resilience Concepts and Findings: Implications for Family Therapy', *Journal of Family Therapy*, Vol. 21, pp. 119-144
- [17] Arnold, D. H., & Doctoroff, G. L. (2003). The early education of socioeconomically disadvantaged children. *Annual Review of Psychology*, 54, 517-545.
- [18] Shumow, L., Vandell, D. L., & Posner, J. (1999). Risk and resilience in the urban neighbourhood: predictors of academic performance among low-income elementary school children. *Developmental Psychology*, 45, 309-331.
- [19] Dornbusch, S. M., Erickson, K. G., Laird, J. & Wong, C. A. (2001). The relation of family and school attachment to adolescent deviance in diverse groups and communities. *Journal of Adolescence Resilience*, 16, 396-422.
- [20] Edari, R., & McManus, P. (1998). Risk and resiliency factors for violence. *Pediatric Clinic of North America*, 45, 293-305.

- [21] Buckner, J. C., Mezzacappa, E., & Beardslee, W. R. (2003). Characteristics of resilient youths living in poverty: the role of self-regulatory processes. *Developmental Psychopathology*, 15, 139-162.
- [22] Zimmerman, M. A., Bingenheimer, J. B., & Notaro, P. C. (2002). Natural mentors and adolescents resiliency: a study with urban youth. *American Journal of Community Psychology*, 30, 221-243.
- [23] Bernard, B. (1995). *Fostering resiliency in kids: Protective factors in the family, school and community*. San Francisco: Far West Laboratory for Educational Research and Development.
- [24] Kocijan-Hercigonja, D. (1999). Children in war. In E. U. W. Hilweg (Ed.), *Childhood trauma: Separation, abuse and war* (pp. 157-172). Aldershot: Ashgate.
- [25] Dyregrov, A., Gjestad, R., & Raundalen, M. (2002). Children exposed to warfare. A longitudinal study. *Journal of Traumatic Stress*, 15(1), 59-68.
- [26] Wapner, S., & Demick, J. (2005). Critical person in environment transitions across the life-span. In J. Valsiner (Ed.), *Heinz Werner and developmental science* (pp. 285-305). New York: Kluwer Academic/Plenum.
- [27] Werner, E. E., & Smith, R. S. (1992). *Vulnerable but invincible: A longitudinal study of resilient children and youth*. New York: McGraw-Hill.
- [28] Garmezy, N. (1996). Reflections and commentary on risk, resilience, and development. In L. S. R. Haggerty, N. Garmezy & M. Rutter (Ed.), *Stress, risk, and resilience in children and adolescents* (pp. 1-15). New York: Cambridge University Press.
- [29] Masten, A. S. (2007). *Multilevel dynamics in developmental psychopathology: pathways to the future*. Mahwah, N.J.: L. Erlbaum Associates.
- [30] Connor, K. M., Davidson, J. R., & Lee, L. C. (2003). Spirituality, resilience, and anger in survivors of violent trauma: a community survey. *Journal of Trauma Stress*, 16(5), 487-494
- [31] Cronbach, L. S., & Drenth, P. J. D. (1972). *Mental tests and cultural adaptation*. Hague, The Netherlands: Mouton.
- [32] Anastasi, A., & Urbina, S. (1997). *Psychological testing*. Upper Saddle River, NJ: Prentice-Hall.
- [33] Prince-Embury, S. (2006). *Resiliency Scales for Adolescents: Profiles of personal strengths*. San Antonio, TX: Harcourt Assessments.
- [34] International Test Commission (2009). *A test-takers guide to Technology based testing*. <http://www.intestcom.org>
- [35] Bryce, J. W. (1986). *Cries of children in Lebanon as voiced by their mothers*: UNICEF: Regional Office for the Middle East and North.
- [36] Kline, P. (2000). *Handbook of Psychological Testing*. London: Routledge.
- [37] Maslow, A. H. (1943). Conflict, frustration and the theory of threat. *Journal of Abnormal and Social Psychology*, 38(1), 81-86.
- [38] Erdle, S., Gosling, S. D., & Potter, J. (2009). Does self-esteem account for the higher-order factors of the Big Five? *Journal of Research in Personality*, 43, 921-923.
- [39] Erdle, S., Irwing, P., Rushton, J. P., & Park, J. (2010). The general factor of personality and its relation to self-esteem in 628,640 Internet respondents. *Personality and Individual Differences*, 48(343-346).
- [40] Cox, B. J., MacPherson, P. S. R., Enns, M. W., & McWilliams, L. A. (2004). Neuroticism and self-criticism associated with post-traumatic stress disorder in a nationally representative sample. *Behavior Research and Therapy*, 42(1), 105-114.
- [41] Lauterbach, D., & Vrana, S. (2001). The relationship among personality variables, exposure to traumatic events, and severity of post-traumatic stress symptoms. *Journal of Traumatic Stress*, 14(1), 29-45.
- [42] Ayalon, O. (1982). Children as hostages. *The Practitioner*, 226, 1773-1781.
- [43] Klasen, F., Oettingen, G., Daniels, J., Post, M., Hoyer, C., & Adam, H. (2010). Post-traumatic resilience in former Ugandan child soldiers. *Child Development*, 81(4), 1096-1113.