Resilience as a Protective Factor Against the Development of Psychopathology Among Refugees

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Abstract: Refugee research, to date, has predominantly focused on factors that make refugees more vulnerable for developing posttraumatic stress disorder (PTSD) and/or psychological distress. Few articles have studied potential protective factors such as resilience. A targeted nonrandom sample of Iraqi refugees ($n = 75$) and a control group of non-Iraqi Arab immigrants ($n = 53$) were recruited from a number of Iraqi/Arab community institutions in Michigan to complete a questionnaire that included measures for psychological distress, PTSD symptoms, exposure to trauma, and resilience. The refugees reported significantly more PTSD symptoms (t-test, $p < 0.01$) and psychological distress ($p < 0.05$) compared with the immigrants. There was no difference in resilience between the two groups. In linear regression, premigration exposure to violence was a significant predictor of psychological distress ($p < 0.01$) and PTSD symptoms ($p < 0.01$). After controlling for migrant status and violence exposure, resilience was a significant inverse predictor of psychological distress ($p < 0.001$) but not of PTSD. Resilience is associated with less trauma-related psychological distress and should be considered in assessing risk and protective factors among victims of war-related violence.

Key Words: PTSD, psychological distress, immigrants

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R efugees are at a substantially increased risk for premigration exposure to violence, rendering them more vulnerable to war- and trauma-related mental health disorders, including psychological distress, posttraumatic stress disorder (PTSD), and other symptoms (Jamil et al., 2009; Momartin et al., 2004; Rousseau and Drapeau, 2004). Studying adverse outcomes of trauma was the predominant aim of related research for a long time (Mohaupt, 2008). However, the wide range of mental health outcomes after trauma (Isakson, 2008) and the observation that overwhelmingly traumatic experiences might result only in minimal negative impact on overall daily functioning (Bonanno et al., 2011) have generated more interest in the adaptive processes that help the survivors retain or resume adequate personal and social interactions (Agaibi and Wilson, 2005; Bonanno, 2004). Thus, the concept of resilience as a protective factor against the development of trauma-related psychological disorders has attracted increasing attention recently (Almedom, 2008; McLaughlin et al., 2009; Yehuda, 2004).

Within the framework of war and trauma, resilience is defined as personality traits that help protect against the psychological disorders resulting from exposure to terrifying incidents, such as mass violence or deportation under life-threatening circumstances; it encompasses bouncing back and positive adaptation in the face of safety-challenging experiences (Edward and Warelow, 2005; Hoge et al., 2007). In their review of resilience research among certain minority groups, McLaughlin et al. (2009) identified two characteristics that they considered fundamental to resilience: heightened vulnerability and adaptation to risk. Resilience can determine the capacity to face safety-threatening events and still perform adequately (Charney, 2004), and it explains how a survivor of violence can deal positively with past traumatic experiences (Lee et al., 2008; Sossou et al., 2008).

Previous studies concerned with resilience and refugees have focused on the associations between resilience as a discrete concept and psychological symptoms. However, most of those studies did not use a specific scale for resilience. Instead, they used surrogate measures and related, but not identical, constructs including social support (Hooberman et al., 2010), sense of coherence (Ghazinour, 2003), sense of control over one's life (Sundquist et al., 2000), and absence of mental symptoms (Aroian and Norris, 2000; Turner et al., 2003) to test the effect of resilience on mental health. None of these studies included a comparison group. Other studies that examined the association between traumatic exposure, resilience, and psychological distress did not target refugees but community survivors of acts of terrorism (Connor et al., 2003). We could not find any study that examined resilience and its association with psychological distress or PTSD among refugees from a war-afflicted country compared with a control group of immigrants from the same geographical regions that share similar cultural and social traditions, beliefs, and language. Such studies are important to better understand and define the role and mechanism of resilience among refugees.

The aim of this study was to examine resilience as a potential protective factor against psychological distress and PTSD among Iraqi refugees exposed to traumatic events. In addition, the Iraqi refugees were compared with a control group of non-Iraqi Arab immigrants with similar cultural, language, and social traditions. We hypothesized that resilience is a protective factor that moderates the effects of trauma and is protective of psychological distress.

METHODS

This study was part of a larger project examining mental health in Iraqi refugees in the United States compared with immigrants from non–war-exposed Arabic countries. This study focused specifically on resilience in refugees versus immigrants and the possible attenuating effect of resilience on psychological distress and PTSD in the entire study population. Ethical approval was obtained from the Human Investigation Committee at Wayne State University.

Participants and Procedures

Data were collected from a nonrandom targeted sample of Iraqi refugees ($n = 75$) and non–war-exposed Middle Eastern immigrants ($n = 53$) residing in the state of Michigan in the United States. The participants were recruited through several local community

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organizations in the metro Detroit tri-county area including three offices of the Arab and Chaldean Council; five offices of the Department of Human Services (DHS); the Egyptian Coptic church; the Islamic Center of Detroit; and a number of other churches, mosques, and cultural centers. The refugees and the immigrants participated from all those sites in comparable numbers. A total of 134 individuals were asked to participate; of these, 128 agreed, resulting in a response rate of 96%. A brief description of this study and inclusion criteria were provided to all prospective participants. The study descriptions were provided in both written and oral Arabic because some of the potential participants were functionally illiterate. The inclusion criteria included refugees from Iraq and non-Iraqi immigrants from four Arabic countries neighboring Iraq (Lebanon, Jordan, Egypt, and Yemen) who entered the United States after 1991 at 18 years or older. All participants were fluent in Arabic. Those who agreed to participate were scheduled for a meeting with representatives of the research team during which they received a detailed written and oral description of this study, were given the opportunity to pose questions, and gave their written consent. After translation of the original questionnaire by a bilingual psychiatrist, back translation was performed by a second bilingual language expert to check for any discrepancies with the original scales. In case of any discrepancies between the two, a joint meeting was arranged to agree on the proper translation. After the scales were finalized, the Arabic copies of the questionnaire were completed by the participants. Those who did not have formal education (five refugees and three immigrants) received support from two bilingual specially trained graduate research assistants. The participants with no formal education did not differ significantly from the educated participants on any of the main variables of interest including exposure to violence, psychological distress, PTSD, or resilience.

Measures

Sociodemographic data included age, sex, marital status, employment, migrant status (refugee or immigrant), and years of residing in the United States. Premigration exposure to violence was measured by a scale based on the Survey of Children's Exposure to Violence (Richters and Saltzman, 1990) and modified for adult use (Berthold, 1999). Each participant was asked to respond on a 4-point scale (1, not at all, to 4, several times) if he/she had experienced certain events, such as "being beaten up," before coming to the United States. The scale yielded good internal reliability in our study (Cronbach's $\alpha = 0.81$).

Resilience was measured using an eight-item version of the resilence scale (Wagnild and Young, 1993). A sample item from this scale is "My belief in myself helps me get through hard times." The respondents rated on a 7-point scale the extent to which they strongly disagree (1) to strongly agree (7) with each positively stated self-description. Internal reliability for the scale was good (Cronbach's $\alpha = 0.81$).

Psychological distress was measured using a nine-item scale that is a modified version of the General Health Questionnaire (GHQ; Goldberg and Williams, 1988). The GHQ's application in research settings as a screening tool is well documented and reliability estimates for the scale in our study were good (Cronbach's $\alpha = 0.88$). The respondents were asked to rate on a 4-point scale whether items such as "How often during the last month have you felt constantly under strain?" have happened not at all (1) up to much more than usual (4).

PTSD symptoms were assessed using the PTSD Checklist (PCL; Blanchard et al., 1996; Ruggiero et al., 2003). The PCL contains 17 items that measure the PTSD symptoms listed in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-IV*; American Psychiatric Association, 1994). A sample item from this scale is "How much have you been bothered in the last month by repeated disturbing dreams of a stressful experience from the past?" The respondents rated on a 5-point scale how frequently this occurred (0, not at all, to 4, extremely often). The total PCL score in our study demonstrated good internal consistency (Cronbach's $\alpha = 0.89$).

TABLE 1. Group Differences Between the Iraqi Refugees and the Arab Immigrants ($N = 128$)

χ^2 Tests

Variable	Refugees ($n = 75$) n (%)	Immigrants ($n = 53$) n (%)	χ^2 (df)	p
Sex			7.45 (1)	0.006
Male	23 (30.7)	29 (54.7)		
Female	52 (69.3)	24 (45.3)		
Marital status			3.12 (1)	0.077
Married	47 (62.7)	41 (77.4)		
Not married	28 (37.3)	12 (22.6)		
Employment			24.13 (1)	0.000
Employed	11 (15.1)	30 (56.6)		
Not employed	62 (84.9)	23 (43.4)		

t-Tests

Variable	Mean (SD)	Mean (SD)	t (df)	p
Age, yrs	40.86 (12.60)	40.10 (11.90)	−0.34 (122)	0.734
Years in the United States	2.69 (3.13)	3.85 (3.85)	1.86 (125)	0.000[a]
Premigration exposure to violence	18.12 (5.98)	13.34 (1.89)	−5.62 (126)	0.000[b]
Resilience score	41.56 (9.19)	40.38 (9.20)	−0.70 (123)	0.483
Psychological distress score (GHQ)	19.95 (5.97)	17.41 (5.71)	−2.37 (124)	0.019
PTSD Symptom score (PCL)	34.43 (10.32)	27.88 (9.61)	−3.57 (123)	0.001

[a]Based on Mann-Whitney's *U*-test (median refugees, 3.0; median immigrants, 2.0).
[b]Based on Mann-Whitney's *U*-test (median refugees, 16.0; median immigrants, 13.0).

TABLE 2. Hierarchical Linear Regression Predicting Symptoms of Psychological Distress in the Combined Sample (*N* = 128)

Variable	R^2	ΔR^2	B	SE B	β	p (95% CI)
Model 1	0.07	0.07				*p* = 0.24
Age			−0.05	0.05	−0.10	0.30 (−0.14 to 0.04)
Sex (0, male; 1, female)			−1.32	0.18	−0.11	0.26 (−3.65 to 1.01)
Marital status (0, married; 1, not married)			0.17	1.27	0.01	0.90 (−2.34 to 2.68)
Employment status (0, employed; 1, unemployed)			−0.37	1.38	−0.03	0.79 (−3.11 to 2.36)
Migrant status (0, immigrant; 1, refugee)			2.74	1.26	0.23	0.03 (0.24 to 5.24)
Years in the United States			−0.16	0.16	−0.10	0.32 (−0.49 to 0.16)
Model 2	0.10	0.04				*p* < 0.05
Age			−0.07	0.05	−0.14	0.16 (−0.16 to 0.03)
Sex (0, male; 1, female)			−0.90	1.18	−0.08	0.45 (−3.23 to 1.43)
Marital status (0, married; 1, not married)			0.04	1.25	0.003	0.97 (−2.43 to 2.51)
Employment status (0, employed; 1, unemployed)			−0.41	1.36	−0.03	0.76 (−3.10 to 2.28)
Migrant status (0, immigrant; 1, refugee)			1.57	1.36	0.13	0.25 (−1.13 to 4.26)
Years in the United States			−0.09	0.16	−0.05	0.56 (−0.41 to 0.24)
Premigration exposure to violence			0.25	0.12	0.23	0.04 (0.02 to 0.49)
Model 3	0.22	0.11				*p* < 0.001
Age			−0.04	0.06	−0.09	0.37 (−0.13 to 0.05)
Sex (0, male; 1, female)			−0.77	1.11	−0.06	0.50 (−2.96 to 1.42)
Marital status (0, married; 1, not married)			0.77	1.19	0.06	0.52 (−1.59 to 3.13)
Employment status (0, employed; 1, unemployed)			−0.90	1.28	−0.07	0.48 (−3.45 to 1.64)
Migrant status (0, immigrant; 1, refugee)			1.16	1.28	0.10	0.37 (1.38 to 3.71)
Years in the USA			−0.16	0.16	−0.10	0.31 (−0.47 to 0.15)
Premigration exposure to violence			0.35	0.11	0.32	0.003 (0.12 to 0.58)
Resilience			−0.23	0.06	−0.36	*p* < 0.001 (−0.36 to −0.11)

B indicates unstandardized beta; β, standardized beta; CI, confidence interval.

Data Analysis

Chi-square was used to compare the two groups regarding sex, marital status, and employment. All scales were examined for normality and were found to be normally distributed with the exception of premigration exposure to violence. Student's *t*-test was used to compare the two groups with respect to age, psychological distress, PTSD symptoms, and resilience. The Mann-Whitney's *U*-test was used to compare the groups' median values for premigration exposure to violence. A three-model linear regression was performed to identify predictors of psychological distress and PTSD symptoms. In model 1, we examined the association between the two outcome variables and five sociodemographic variables: age, sex, migrant status, employment status, and years of living in the United States. Premigration exposure to violence was entered in model 2, and resilience was added in the final model. Regression analyses were also conducted using the natural log of premigration violence exposure and were compared with regressions using the continuous variable. Significance was set to a two-tailed *p*-value of less than 0.05. All statistical analyses were conducted using IBM SPSS version 19.0.

RESULTS

Characteristics of the respondents are summarized in Table 1. The mean age of the study participants was 40.6 years (range, 20–67 years; SD, 12.3 years), with no significant difference between the refugees and the immigrants. The refugees had been living in the United States a significantly shorter time than the immigrants (*p* < 0.001). Fifty-nine percent of the total sample were women, with a significantly greater proportion of women in the refugee group (*p* < 0.01). There was no difference in marital status between the two groups. Unemployment was significantly higher among the refugees (*p* < 0.001). Reported exposure to violence was significantly higher among the refugees compared with the immigrants (*p* < 0.001), and the refugees also had significantly higher scores than the immigrants for PTSD symptoms (*p* < 0.01) and psychological distress (*p* < 0.05). No significant difference was demonstrated between the two groups for resilience.

The results of the linear regression predicting psychological distress are summarized in Table 2. Migrant status was significant in model 1, that is, being a refugee was associated with higher psychological distress than being an immigrant (*p* < 0.05). When history of exposure to violence was added to the analysis in model 2, migrant status was no longer significant, but violence exposure was a significant predictor of psychological distress (*p* < 0.05). In the final model (model 3), low resilience (*p* < 0.001) and history of exposure to violence (*p* < 0.01) were the only variables that remained as significant predictors of psychological distress. This model explained 22% of the overall variance in psychological distress.

The results of the linear regression predicting PTSD symptoms are presented in Table 3. In model 1, migrant status was a predictor of more PTSD symptoms, but, as with psychological distress, that relationship became nonsignificant when previous exposure to violence was added in model 2. Trauma exposure was a significant predictor of PTSD symptoms in model 2, along with female sex. When resilience was added to the regression in model 3, it did not show a significant association with PTSD symptoms, although female sex and previous violence exposure remained significant predictors. This final model predicted 20% of the overall variance in PTSD symptoms. Regression analyses using the log-transformed variable for premigration violence exposure did not

TABLE 3. Hierarchical Linear Regression Predicting PTSD Symptoms in the Combined Sample ($N = 128$)

Variable	R^2	ΔR^2	B	SE B	β	p (95% CI)
Model 1	0.15	0.15				$p < 0.005$
Age			−0.01	0.08	−0.01	0.89 (−0.17 to 0.15)
Sex (0, male; 1, female)			3.35	2.01	0.16	0.10 (−0.64 to 7.34)
Marital status (0, married; 1, not married)			0.76	2.17	0.03	0.73 (−2.34 to 2.68)
Employment status (0, employed; 1, unemployed)			1.14	2.36	0.05	0.79 (−3.54 to 5.81)
Migrant status (0, immigrant; 1, refugee)			5.09	2.16	0.24	0.02 (0.81 to 9.37)
Years in the United States			0.26	−0.26	−0.09	0.35 (−0.82 to 0.29)
Model 2	0.20	0.05				$p < 0.05$
Age			−0.05	0.08	−0.06	0.54 (−0.21 to 0.11)
Sex (0, male; 1, female)			4.23	1.99	0.20	0.04 (0.29 to 8.18)
Marital status (0, married; 1, not married)			0.49	2.11	0.02	0.82 (−3.70 to 4.68)
Employment status (0, employed; 1, unemployed)			1.05	2.29	0.05	0.65 (−3.50 to 5.61)
Migrant status (0, immigrant; 1, refugee)			2.62	2.30	0.12	0.26 (−1.94 to 7.18)
Years in the United States			−0.10	0.28	−0.03	0.72 (−0.65 to 0.45)
Premigration exposure to violence			0.53	0.20	0.27	0.01 (0.13 to 0.39)
Model 3	0.20	0.01				$p = 0.35$
Age			−0.04	0.08	−0.05	0.64 (−0.20 to 0.12)
Sex (0, male; 1, female)			4.29	1.99	0.20	0.03 (0.34 to 8.24)
Marital status (0, married; 1, not married)			0.80	2.14	0.04	0.71 (−3.45 to 5.04)
Employment status (0, employed; 1, unemployed)			0.84	2.31	0.04	0.72 (−3.74 to 5.42)
Migrant status (0, immigrant; 1, refugee)			2.44	2.31	0.11	0.29 (−2.14 to 7.03)
Years in the United States			−0.13	0.28	−0.05	0.64 (−0.69 to 0.42)
Premigration exposure to violence			0.57	0.21	0.29	0.007 (0.16 to 0.98)
Resilience			−0.10	0.11	−0.09	0.35 (−0.31 to 0.11)

B indicates unstandardized beta; β, standardized beta; CI, confidence interval.

alter the results for predictors of psychological distress or PTSD symptoms.

DISCUSSION

This study examined a cross-sectional sample of Iraqi refugees and Arab immigrants in the United States to determine whether resilience is a protective factor for psychological distress, a well-known mental health outcome among individuals exposed to violence (Schweitzer et al., 2007). We found that the refugees, as compared with the immigrants from a similar culture, reported more psychological distress and PTSD symptoms. Regardless of migrant status, premigration exposure to violence was a significant predictor of both psychological distress and PTSD symptoms. Resilience was a significant inverse predictor of psychological distress but not of PTSD symptoms. Thus, our hypothesis that resilience would be a protective factor against both psychological distress and PTSD symptoms was only partially confirmed.

Few previous studies have compared mental health outcomes among refugees and immigrants with similar cultural backgrounds. In line with our findings, Silove et al. (1998) reported a higher level of anxiety and depression among Sri Lankan asylum seekers compared with Sri Lankan immigrants resettling in Australia. Although the refugees and the immigrants in the current study differed significantly with regard to psychological distress and PTSD symptoms, migrant status became nonsignificant when previous exposure to violence was included in the model. This supports previous studies that reported trauma exposure as a risk factor of psychological distress (Pine and Cohen, 2002). Notably, time since entry into the United States was not a significant predictor of either mental health outcome, even after adjusting for premigration trauma. This suggests that the effect of premigration trauma was not mitigated by the time

elapsed since the event. These results are in line with findings by Marshall et al (2005), who reported high levels of psychopathology among Cambodian refugees 2 decades after migration. However, they contradict other previous research (Ehlers and Clark, 2003) suggesting that symptoms of PTSD would diminish with time.

In the final regression models, premigration trauma was a significant positive predictor of both psychological distress and PTSD symptoms. However, resilience was only a significant inverse predictor of psychological distress, not of PTSD. The items of the resilience scale reflect the positive and nonpassive responses to traumatic events and participants' high resilience was associated with lower psychological distress. The fact that we did not find a significant difference in the resilience score between the two study groups may be explained by the fact that resilience is shaped through factors and events that are fostered in the individuals' minds during upbringing and through social norms and beliefs, many of which are mutually shared by the two study groups. Holtz (1998) compared Tibetan refugees exposed to torture with a control group of Tibetans without a history of torture and found significantly higher anxiety scores among the torture-exposed group. Holtz (1998) concluded that a number of factors such as commitment, spirituality, and preparedness foster resilience against psychological distress. Unlike our study, Holtz (1998) did not use a standardized resilience scale but inferred resilience from responses to open-ended questions.

Among the sociodemographic variables, unemployment—which has been reported to be significantly associated with psychological distress (Jackson et al., 1983; Kokko and Pulkkinen, 1998)—was more prevalent among the refugees in our study but was not a significant predictor of either psychological distress or PTSD symptoms. Sex was a significant predictor of PTSD, with the women at increased risk in models 2 and 3. Several previous studies have

reported a higher prevalence of PTSD in women. Breslau et al. (1997) studied a random sample of 1,007 young adults drawn from a 400,000-member health maintenance organization in Southeast Michigan and reported a higher prevalence of PTSD among women than men despite the fact that exposure to traumatic events did not vary between the two sexes. In a convenience sample of 325 refugees from all over the world enrolled in a program for survivors of torture, women also reported significantly higher levels of PTSD (Keller et al., 2006). However, neither of these studies controlled for resilience, as was the case in our study. The sex difference in our study might be explained by the submissive social role assumed by many women in Iraq and other Arab countries, leading to a higher exposure to trauma in the form of physical and psychological abuse (Barkho et al., 2011; Douki et al., 2003). Intimate partner abuse has been associated with higher rates of PTSD among women (Dutton et al., 2006; Golding, 1999).

Limitations

One of the limitations of this study was that the recruitment process targeted specific social service institutions, such as the DHS. This might result in a selection bias between the study groups. However, the large number of different sites for recruitment would tend to limit any systematic bias. Every refugee is instructed by the resettlement agencies to visit the DHS offices to apply for the services provided by those agencies, although only a small percentage of the immigrants would be eligible for the DHS services. Immigrants are expected to be supported by relative sponsors, and those immigrants attending the DHS offices, especially in the early years of coming to the United States, would only be those with low income caused by unemployment. However, the regression analyses controlled for the sociodemographic variables, including employment status.

Another possible selection bias would result from recruiting participants through churches and mosques, thus increasing the chance of recruiting the more religious individuals in both study groups. However, the participants were also recruited from nonreligious organizations, and the refugees and the immigrants were recruited in equal numbers from all institutions.

One of the limitations in attempting to associate PTSD symptoms with the history of exposure to violence is that the premigration violence scale does not inquire about the period that had elapsed between exposure and the interview. Symptoms of PTSD might improve over time, with a steep decline in the first year after the exposure (Ehlers and Clark, 2003). In our study, 64% of the refugees had been in the United States 2 years or longer. The retrospective recall of traumas and symptoms might be subject to event reconstruction. However, time in the United States was not a significant predictor of either PTSD or psychological distress, whereas premigration exposure to violence was a predictor of both.

Because of unavailability of an alternative, our study used a Western resilience scale that might not be culturally sensitive to Iraqis and Arabs because it had not been tested previously on Arabic-speaking subjects. This might emphasize the need for standardizing the scales used to study non–English-speaking ethnic groups instead of depending solely on expert translation. However, this cannot explain the findings of no differences between the refugees and the immigrants and the overall finding that resilience was protective.

Another important consideration is that certain questions in the trauma scale (specifically the questions about being raped or forced to engage in sexual activities to survive) are considered taboo; even if the participants were exposed to such traumas, they might not be willing to admit them. Only one refugee and one immigrant admitted being raped before coming to the United States. This would bias the score of the trauma scale toward lower exposure.

Finally, this study compared groups that differ on two variables, that is, migrant status (refugee versus immigrant) and nationality (Iraqi versus non-Iraqi), which might confound the results. However, migrant status was not a significant predictor of either mental health outcome once exposure to trauma was entered into the respective equations. Moreover, many cultural and social traditions and health beliefs are similar between these nationalities. This indicates that violence and trauma exposure played a more significant role in mental health outcomes than did either migrant status or nationality.

CONCLUSIONS

To the best of our knowledge, this is the first study that compared the protective effect of resilience against psychological distress between refugees and culturally similar immigrants in the same postsettlement country. Our findings supported the hypothesis that resilience is a protective factor against psychological distress but not preferentially so in refugees as compared with immigrants. More research is needed to study factors related to resilience and different variables that augment an individual's potential to rebound after trauma. A resilience-oriented rather than a symptom-oriented approach, putting more emphasis on studying the protective and recovery-fostering individual assets rather than focusing on illness expectancy, is what is needed with the large numbers of resettlers arriving from conflict and unstable zones. We recommend studying resilience in prospective research of refugees and immigrant populations who are also likely to face a large number of postmigration traumas. Such studies would minimize recall bias that is encountered in retrospective research.

DISCLOSURES

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