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Educational experiences and mental health among war-zone immigrants in Toronto

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Previous research suggested that educational engagement may enhance posttraumatic and post-migration adjustment and contribute to overall wellbeing among war-zone immigrants (Stermac et al., 2008). This study examined this further and compared the educational experiences and the health outcomes of immigrant students and non-students who had resided in global war-zones or within areas of extreme civil unrest prior to emigration. Participants in the study ($N = 45$) were recent immigrants to Toronto, Canada from global war-zone regions in which they had experienced prolonged exposure to traumatic events and who reported many psychological symptoms in the pre-migration environment. Structured interviews and standardized questionnaires were used to obtain information about exposure to stressful events, educational experiences, psychological health and current functioning. Results indicated that while the majority of participants reported good mental health and life satisfaction, students' self reports of current functioning both in terms of coping with symptoms and in assessments of well-being provided some evidence that students were able to make positive adjustments within their post-migration environments that may be beyond those made by non-students. The results suggest that those engaged in educational programs have good coping abilities for dealing with trauma and posttraumatic symptoms. Results are discussed in terms of the role of educational and community-based interventions in coping with stress-related psychological sequelae and mental health among war-zone immigrants in Toronto.

Keyword: War-Zone, Education and Health

INTRODUCTION

Educational experiences and mental health among war-zone immigrants in Toronto

Individuals exposed to the traumatic events of war or other forms of violent conflict often face unique challenges entering the educational system which may need to be addressed by both educators and mental health practitioners. Current research suggests that war-zone refugee and immigrant students may experience various mental health issues that could affect their attitudes and achievements within the educational system as well as their overall post-migration adaptation (Beiser et al., 1995; Cole, 1998; Stermac and Dunlap, 2005).

While issues of immigration, acculturation and educational performance within a dominant culture have been addressed by many studies in academic settings (Alley, 1990), less attention has focused on the educational experiences of recent immigrants from war-afflicted areas and how these experiences may influence post-migration adjustment and adaptation. As educational programs are often an early contact point for many immigrants, examination of the interaction of educational experiences and mental health is important.

Educational experiences encountered by war-zone immigrants may be due to the influence of a number of insidious pre-migration and post-migration factors. The well-documented negative effects of traumatic events and posttraumatic stress on health and wellbeing (Brewin et al., 2000; McNally, 2003) may only partially explain the relationship between traumatic exposure and the learning

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environment. Existing research on the relationship between trauma and learning or educational experiences has focused largely on the often detrimental effects of traumatic stress on overall cognitive functioning and on academic performance (Berthold, 2000; Margolin and Gordis, 2000; Streeck-Fischer and Van der Kolk, 2000). Numerous studies support the relationship between posttraumatic stress symptoms and cognitive deficits such as impaired memory and attention as well as general learning difficulties (Johnsen et al., 2008; Kivlingboden and Sundbom, 2003). Among traumatized refugee immigrants specifically, McBrien (2005) reported that trauma impacted negatively both on the psychosocial adjustment and ability to acquire language among the students assessed.

While individuals exposed to traumatic events may experience states commonly associated with posttraumatic stress which could significantly interfere with optimal performance in the learning environment, recent research on posttraumatic adaptation also highlights some of the positive outcomes which could be experienced by individuals following exposure to adversarial events (Joseph and Linley, 2008). Positive adaptation and personal growth have been noted among some individuals following a variety of adverse traumatic events including those of war or extreme civil unrest (Powell et al., 2003; Stermac et al., 2005; Tedeschi and Calhoun, 2004; Weiss and Berger, 2008). Some of this work, referred to as posttraumatic growth or benefit-finding following adversity (Calhoun and Tedeschi, 2006; Frazier and Berman, 2008), suggests that processing of the traumatic events and specific coping strategies are key factors in the development of posttraumatic growth. Community and social factors, however, are also influential in promoting positive adaptation above and beyond that of the resulting social support through providing alternative or new pathways to an individual's cognitive-emotional processing and the resolution of traumatic events (Weiss and Berger, 2008). Our preliminary results of recent work with immigrants living in and exposed to war-zone traumatic events (Stermac et al., 2008) suggests that community and social factors such as engagement with educational or schooling programs are related to and may promote positive health outcomes. Examining the impact and interaction of traumatic stress related events on educational experiences and attitudes among recent immigrants from war-zone countries is important in understanding these relationships.

The purpose of the present study was to further address this issue and to examine whether academic or educational engagement may mediate positive health outcomes. Our previous research (Stermac et al., 2008) demonstrates the generally positive mental health and posttraumatic adjustment of recent war-zone immigrants to Toronto, Canada. Our results suggested that war-zone

immigrants who had prolonged exposure to traumatic events associated with war or severe civil unrest demonstrate generally positive mental and physical health within the post-migration environment. The preliminary results also suggested that war-zone immigrants who entered educational programs post-migration reported significant benefits to their health and wellbeing. While previous research has examined academic performance and outcomes among war-zone immigrant students, there is limited focus on war-zone immigrants' experiences and attitudes towards education.

This preliminary study examined the Canadian educational experiences and mental health of immigrants who had lived in global war-zone areas for extended periods of time and who we had reported on earlier (Stermac et al., 2008). The present research focused on the relationship between mental health outcomes and educational experiences among war-zone immigrants who had prolonged exposure to the traumatic events of war in their countries of origin. Specifically, this study addressed the question of whether participation in educational programs was related to positive adaptation and mental health among survivors of war-zones.

METHOD

Participants

Forty-five (45) recent immigrants from global regions experiencing extended war, military combat or severe social instability participated in the study (N = 26 women and N = 20 men). Volunteers were recruited from the Greater Toronto Area through community advertisements, internet sites and contacts with immigrant information and support centres. Participants completed study questionnaires and interviews at community centres or a university research office.

Measures

A semi-structured interview and standardized measures were used in the study to obtain information about the pre- and post-migration experiences and mental health of participants.

Semi-structured interview: A semi-structured interview focusing on educational and occupational involvement, life satisfaction and perceptions of functioning was carried out. Participants described their backgrounds, educational involvement, war-zone experiences and discussed their overall adaptation to their post-migration environment. Details of educational experiences and academic achievements in the pre and post-migration environment were obtained. Interview content was analyzed through identification of targeted themes within the above categories. Ratings of scaled responses were carried out where appropriate. Interviews were carried out by a clinically trained doctoral student in psychology and a psychologist.

Structured clinical interview for DSM-IV - Posttraumatic stress disorder module- research version (First et al., 1997): This clinician-administered semi-structured interview was used to measure the

Table 1. Demographic and Background Characteristics

	Current students N= 20		Not in program N= 25		Statistic <i>p</i>
	n	%	n	%	
Gender					0.345
Female	10	50	16	64	
Male	10	50	9	36	
Age – mean(sd)		22.95(4.43)		31.68 (7.8)	0.001
Years in Canada - mean(sd)		3.25(2.36)		3.36 (2.61)	0.165
Ethno-cultural Group (%)					0.121
Caucasian	2	10	1	4	
Visible minority	17	85	24	96	
Region of Origin					0.057
South Asia	9	45	20	80	
Middle East	5	25	0	0	
Africa	3	15	1	4	
Balkan regions	2	10	1	4	
Latin America	0	0	3	12	
Years in war zone area - mean(sd)		13.16(4.13)		15.36 (4.6)	0.097
Currently employed (%)	7	35	4	16	0.162
Current Relationship Status (%)					0.002
Single	15	75	7	28	
Partnered/married	2	10	16	64	
Other	3	1	2	8%	
Current Living Situation (%)					0.269
With Family/relatives/friends	12	60	17	68	
Educational residence	3	15	0	0	
On own	4	20	7	28	
Shelter	0	0	1	4	

presence, chronicity, and severity of posttraumatic stress symptoms (PTS) using DSM-IV criteria. The SCID-IV is the most widely used research measure of clinical symptomatology. The PTS symptom clusters (re-experiencing, avoidance and numbing, increased arousal) were coded as absent, subthreshold or present for the current time as well as retrospectively for the pre-migration period (within one year of experiencing any war-related traumatic events). The SCID was administered by trained senior level doctoral students or a psychologist.

Stressful life experiences screening (Stamm et al., 1996): This 20-item self-report measure was used to identify different stressful experiences throughout participants' lives. Examples of items include; "I have experienced or witnessed the death of my spouse or child"; "I or a close friend or family member have been the subject of a terrorist attack or torture". A total score (maximum 20) was calculated to indicate the number of different types of experiences an individual had had. The measure has alpha reliabilities for internal consistency of at least .70 with various populations.

Trauma symptom checklist -40 (Briere, 1996): Current trauma and related psychological symptoms were assessed using the 40-item TSC self-report measure. Answers are provided on a 4-point scale ranging from "never" to "very often". The measure has excel-

lent psychometric properties with full scale alpha coefficients ranging from 0.89 to 0.91 and predictive validity with a variety of traumatic experiences.

General health measure: A measure of general health was designed for this study. This consisted of eight questions about general health, e.g., how often have you been sick in the past year; how many days of work/school have you missed due to illness; how would you rate your overall health? Overall health problems were rated on a six-point likert-type rating scale ranging from 1 (very poor) to 6 (excellent).

RESULTS

Participant demographics

Volunteers for the study included 45 recent immigrants of whom twenty (N = 20; 44%) were attending educational or other schooling programs (Table 1). These included regular high school or post-secondary programs, academic upgrading, specific technology skills training, and general interest programs. No program sub-types ana-

Table 2. Background educational and language characteristics.

	Current Students N = 20		Not in program N = 25		Statistic P
	n	%	n	%	
Education Attained					.001
HS or less	5	25%	16	64%	
Some College or University	11	55%	8	32%	
Degree or Graduate Degree	3	15%	1	4%	
Pre-migration School Experiences					.101
Positive or Very Positive	19	95%	19	76%	
English Language Acquired					.003
Childhood	18	90%	10	40%	
Adulthood	2	10%	14	60%	
English Language Proficiency, Arrival – mean(sd)*		2.72(.96)		1.42(.72)	.001
English Language Proficiency, Current – mean(sd)*		3.39(.70)		2.04(.81)	.001

*Rating scale from 1 to 4, where 1 = very poor, 2 = adequate, 3 = quite good, and 4 = excellent.

analyses were conducted due to small sample size. Comparative results are presented for the current student group (50% female; 50% male) and the non-student group (64% female; 36% male). There were no statistically significant gender differences in educational attendance. Participants overall averaged 27 years of age with current students ($M = 23$ years) being somewhat younger than those not attending educational programs, $F(1, 43) = 21.21, p < .001$. Participants had immigrated to Canada within the past four years and a large percentage was from regions of South Asia (45% students; 80% non-students). A marginally higher number of students than non-students were from the Middle East, Africa and the Balkan regions (Table 1).

Participants in this study reported living in war-zones for extended periods of time, averaging over 14 years. Students and non-students did not differ in the length of time they resided in conflict zones. Many of the regions had experienced decades of conflict and severe civil unrest and all participants stated that their emigration resulted from the conditions within their homeland. One participant described the circumstances within their home country as:

“It was a way of life. After awhile, seeing guns, assaults on people and kidnapping were regular things. It was still very scary but it was life – our life.”

A majority of the students (75%) stated that they were single at the time of the study and this proportion differed significantly from the non-students who were more often partnered or married, (64%), $\chi^2(1, N = 45) = 16.45, p < .002$. At the time of the study, over 60% of the participants were living with others including family members, other relatives or friends. Students and non-students did not differ with respect to their current living situations.

Educational and language background

Student and non-student groups differed on pre-migration educational histories with current students having attained higher levels of completed education than non-students, $\chi^2(1, N = 44) = 23.35, p < .001$. As seen in Table 2, 70% of the students had attained college or university level education prior to leaving their countries of origin. Despite the greater length of time spent in educational systems, the pre-migration educational experiences of both the student and non-student groups were overwhelmingly positive and 95% of current students and 76% of the non-students stated that they were satisfied or very satisfied with their previous educational experience. The groups did not differ statistically in this respect. Current students reported having acquired English language skills in childhood more often than non-students, $\chi^2(1, N = 45) = 19.79, p < .003$. This was reflected in their higher ratings of language proficiency both at the time of arrival in Canada $F(1.40) = 25.55, p < .001$ and at the present time $F(1.40) = 32.14, p < .001$ (Table 2).

Current student educational experiences

Twenty participants (44%) in the study were currently or recently attended standard academic schooling or educational skills training, upgrading or general interest programs in Canada. Interview data regarding aspects of current educational experiences for the student group revealed overwhelmingly that students had positive attitudes towards their Canadian education as well as the educational supports they received ($N = 17$; 85%) and rated their experiences positively ($N = 17$; 85%). As one participant stated,
“One teacher asked me if I was from He was

Table 3. Mental and physical health variables

		Current Students		Not in program	
Mean Stressful Life Experiences Screening (sd)		6.15(2.78)		7.84(1.75)	.017
Negative Effects on Psychological Health					.006
Somewhat		70%		28%	
Very much		25%		72%	
Mean Trauma Symptoms Checklist – (sd)		15.11(10.83)		9.92(6.85)	.062
Traumatic Stress Symptoms					
Re-experiencing Symptoms (0-5)		.89(1.10)		1.61(1.11)	.044
Avoidance/numbing Symptoms (0-7)		1.26(1.59)		0.78 (.90)	.226
Arousal Symptoms (0-5)		.74(.87)		1.78(1.40)	.009
Dealing with Current Symptoms (0-2)		.50(.70)		.92(.62)	.049
Subjective Rating of Distress*		1.11(1.05)		1.60(.87)	.094
Subjective Rating of Functional Impairment*		0.32(.58)		0.76(.83)	.053
Mean General Health Rating**		4.35(.99)		4.48(.87)	.171
Satisfaction with Life at Present					.688
Yes		95%		92%	

No

5%

8%

* Rating scale from 0 to 4, where 0 = none, 1 = a little, 2 = some, 3 = quite a lot, 4 = very much.

**Rating scale from 1 to 6, where 1 = very poor, 2 = poor, 3 = fair, 4 = good, 5 = very good, 6 = excellent.

really helpful to me and it made me feel like I could participate.”

Another student stated,

“Everything is available here. There are so many opportunities and I want to try to do everything.”

Interview data also revealed the strong desire that many participants had to attend school. As one noted,

“Going to this program was really important to me. Getting out of there was good but this program made me feel welcome and important.”

The majority of the students stated that their educational placements in Canada were at appropriate levels ($N = 13$; 65%) with only seven students stating that their placements were marginally or significantly below what they thought was appropriate. Placements refer to the grade or level assigned to students within formal academic settings as well as assessment of appropriate level or degree of difficulty in training programs or general interest or upgrading courses. Fifteen (75%) of the students revealed that they had used educational supports including seeking advice and counselling from teachers, help with schoolwork, immigrant assistance

services, and speaking to other students who were able to assist them.

Health variables

As seen in Table 3, student and non-student groups were compared on a number of mental and physical health related measures. Study participants described extreme conditions of war or civil unrest within their original homelands during which all had experienced serious and life-threatening exposure to traumatic events. Analysis of the Stressful Life Experiences Screening revealed an overall average of six discrete types of traumatic events experienced by participants. Participants overall described chronic and extreme conditions of war or civil unrest during which they were perpetually under threat. In our previous research participants recalled developing many psychological symptoms during and proximate to the war events (Stermac et al., 2008). One participant stated,

“The threat was always there. There were sirens and ambulances all the time and you got used to it. Then there were bombings, high jacking and kidnapping.”

Another participant stated,

"I was threatened. I saw others get tortured. I heard them scream."

The student group reported experiencing fewer ($M = 6.15$) traumatic event types than non-students ($M = 7.84$), $F(1.43) = 6.21$, $p < .017$, however, both groups reported numerous incidents within the different types of trauma they lived through. When assessing the extent to which the traumatic events of the war experience had negative effects on their psychological health, students rated less negative impact on their health than did the non-students, $\chi^2(2, N = 45) = 10.25$, $p < .006$. Only one quarter (25%) of student respondents stated that their health was significantly affected by the war while a majority (72%) of the non-student group reported this. As one student stated,

"I was not going to give in. I wanted to keep on going and to not let this get to me and ruin my life. I had to try to stay healthy and to keep going."

There were a number of significant differences between student and non-student reports of mental health. When asked about existing symptoms related to posttraumatic stress, the student group reported current lower levels of re-experiencing symptoms, $F(1.40) = 4.03$, $p < .044$ and arousal symptoms, $F(1.40) = 7.64$, $p < .009$. The levels of avoidance and numbing symptoms reported by students although slightly elevated were not significantly different from the comparison group. The findings related to these specific symptoms were not supported in the analysis of scores on the Trauma Symptom Checklist. This measure revealed that the student and non-student groups did not differ significantly in the overall total number of general reported symptoms.

In the subjective ratings of their current feelings and abilities, however, immigrant students marginally differed from those not participating in educational programs. As seen in Table 3, students rated lower but not statistically significant levels of current subjective distress, $F(1.42) = 2.94$, $p < .094$, and marginally significant lower levels of functional impairment, $F(1.42) = 3.95$, $p < .053$. These findings were supported in ratings of the extent to which respondents believed they were still having problems dealing with their current symptoms (not at all, some, significantly). Students rated that they were less bothered by symptoms than the non-students, $F(1.41) = 4.13$, $p < .049$. As one student stated,

"Yes, it was horrible and I was very upset and depressed. I had to go on, however, and it helped me to get things done and not dwell on all the problems. It was my way of fighting it."

Overall these self reports of current functioning both in terms of coping with symptoms and in assessments of

well-being provide evidence that students were able to make positive adjustments within their post-migration environments that may be beyond those made by non-students. Although all participants reported good post-migration mental health, those engaged in educational programs appeared to have better coping abilities for dealing with trauma and reported posttraumatic symptoms.

Health and overall satisfaction with life ratings did not differ for students and non-students. General health self-ratings indicated that most participants stated that their physical health was good. As well, all participants stated overwhelmingly that they were currently very satisfied with their lives.

Associations among variables

Bivariate correlations were computed in order to examine the relationship between significant variables related to the background and health of participants. Participant age was significantly related to ratings of initial ($r = -.45$, $p < .01$) and current ($r = -.46$, $p < .01$) language proficiency and scores on the Trauma Symptom Checklist ($r = -.30$, $p < .05$). The total number of previous traumatic events (scores on the Stressful Life Experiences Screening Measure) was not significantly associated with any background or health variables at the bivariate levels.

To further examine the contribution of significant demographic and symptom variables in predicting ratings of current subjective distress and functional impairment, a regression analysis was performed. The variables chosen included age, relationship status, language proficiency, student status and level of education attained. The overall models of risk prediction were not significant.

DISCUSSION

This study examined the educational experiences and the health outcomes of immigrant students who had resided for extended periods of time in global war-zones or within areas of extreme civil unrest prior to emigration and who reported many psychological symptoms during exposure to war-related events. Previous research (Stermac et al., 2008) indicated that war-zone immigrants who participated in community-based educational programs noted the positive educational experiences they had and which may have contributed to their well-being. The present study investigated this further and compared a number of mental health outcomes for war-zone immigrants who enrolled in educational programs with those who had no extended contact with educational services following entry to Canada. We found overwhelmingly that immigrant students described very positive experiences within various types of Canadian educational programs. These

experiences reflected satisfaction with the academic, that is, curriculum aspects of programs as well as with the formal and informal supports students were able to access which led to feelings of greater community involvement. Further, this study revealed that while most participants described positive posttraumatic adjustment including good mental health and life satisfaction in the post-migration environment, some differences suggestive of posttraumatic benefit-finding among the student group were noted.

There were a number of significant differences between war-zone immigrant students and non-students in background variables that must be noted in considering the contribution of educational and community engagement in posttraumatic adjustment (Brewin et al., 2000). The students in this study were younger, had attained higher levels of education and language skills prior to emigration and were currently more often single in comparison to non-students. These interrelated factors may have influenced decisions about pursuing education as well as students' abilities to do so, however, these background variables were found to be only minimally related to current psychological health. While younger age and previous education have been shown to be related to benefit finding and growth following traumatic experiences (Helgeson et al., 2006), our preliminary results indicate that background variables could only partially explain the benefits seen in this study. The finding that students reported fewer discrete types but not total number of traumatic events within the war-zone environment than reported by non-students is also important to note. While number of trauma types was not predictive of current distress and functional impairment in this study, much work is needed investigating the unique characteristics and dimensions of traumatic events in war. Stressor characteristics have been associated with both posttraumatic stress and posttraumatic growth (Brewin et al., 2000) and further research must address the influence of chronic or continuous exposure to life threatening events such as those experienced in war or combat situations.

We asked the question of whether engagement with educational programs was related to positive adaptation and mental health among immigrant war-zone survivors. Several interesting findings emerged in examining reported symptoms and coping. Students and non-students reported similar numbers of symptoms on a standardized trauma symptom checklist while on specific stress symptom clusters, students reported lower levels of re-experiencing and arousal symptoms. While this may present a somewhat mixed picture, the ratings of the extent to which the traumatic events of the war experience had negative effects on psychological health showed that students rated less negative impact on their health and also their current functioning than did the non-students.

Several interpretations of these data are possible.

While caution must be exercised with a small sample such as in this study, the overall preliminary findings may suggest that specific symptom patterns may result from or be related to more positive processing of traumatic events or abilities to develop effective coping strategies.

Using several data sources, these results suggest that students may cope with posttraumatic events differently and more positively than non-students and that this may be reflected in some aspects of their mental health. The learning environment may have provided opportunities for various forms of cognitive and emotional processing that could relate to less re-experiencing of traumatic events and less arousal. Many of the students as well as non-student participants spoke of their recovery in growth terms. Students identified the connection to the community through schooling, above and beyond the immigrant community, as an important factor in their recovery and current mental health.

Studies examining posttraumatic growth with immigrant and other populations in general have identified the role of social context variables in the positive adjustment of various groups of immigrants (Weiss and Berger, 2008). While there is a body of research on social and community supports as important aspects of posttraumatic outcomes, there is little examination of the role of educational programs as social context in posttraumatic adjustment. Previous work has also identified perceived control over the recovery process in association with posttraumatic growth and benefit-finding (Frazier and Berman, 2008). This further raises the question of whether educational engagement may increase an individual's perceived control in this process. The mechanism through which educational engagement leads to positive mental health outcomes is in need of further investigation.

Previous research has identified also a number of demographic, personality and coping characteristics associated with growth or benefit finding following traumatic experiences (Helgeson et al., 2006). Positive coping approaches, as well as social supports and stressor characteristics (Park and Helgeson, 2006) are consistently related to posttraumatic adjustment and growth. We suggest that educational engagement may represent or encourage a positive coping response that facilitates posttraumatic adjustment.

This study has implications for posttraumatic adjustment and health promotion among war-zone immigrants. The role of educational engagement, academic performance and social engagement in posttraumatic outcomes needs further exploration. As well further research and investigation is needed in this area using specific measures of benefit finding and posttraumatic growth (Helgeson et al., 2006; Park and Helgeson et al., 2006; Weinrib et al., 2006).

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