Assessing the psychological distress and mental healthcare needs of unaccompanied refugee minors in the Netherlands

Bean, T.

Part II

Severity of Psychological Distress, Mental Healthcare Needs, and Psychological Adaptation Among URM in the Netherlands

Chapter 7

Comparing Psychological Distress, Traumatic Stress Reactions, and Experiences of Unaccompanied Refugee Minors with Other Parental Accompanied Adolescent Populations

Abstract

Comparisons are made of the severity of the psychological distress, behavioral problems and traumatic stress reactions, and experiences of Unaccompanied Refugee Minors (URM) with Immigrant/Refugee (I/R) and Dutch (Natives) adolescents with parental caregivers (N = 3273). Self-report questionnaires were administered. Most assessments took place at school. URM consistently reported significantly higher scores for internalizing problems, traumatic stress reactions, and stressful life events than all other groups. Gender appears to play an important role in the Native and I/R samples in reporting psychological distress, behavioral problems, and traumatic stress reactions. Older age was significantly related to higher scores only in the URM sample. Natives scored higher on externalizing problems than the other samples. URM reported to have experienced twice as many stressful life events than I/R and Natives. URM appear to be at significantly higher risk for the development of psychopathology than refugee adolescents living with a family member, immigrants or Dutch adolescents.

Introduction

Throughout the developmental psychopathology literature emerges an unambiguous finding; an absent or negative parental relationship is associated with maladaptive functioning and/or vulnerability to psychopathology in children and adolescents that have been exposed to

(multiple) traumatic experiences (e.g. Luthar, 2004; Masten, Best, & Garmezy, 1990; Rossman, Bingham, & Emde, 1997). An Unaccompanied Refugee Minor (URM) is any child under the age of 18 who is physically separated from both parents (by death or other reason) and is an asylum seeker, recognized refugee or other displaced person (United Nations High Commissioner for Refugees, 1995). Therefore unaccompanied minors who have been exposed to traumatic experiences and who are not being cared for by any adult that has the legal responsibility to do so are, per definition, at risk for the development of emotional distress and behavioral problems.

In the handful of studies reporting on the psychological well-being of URM, there are signs that these young people report high levels of psychological distress (Boothby, 1988; Derluyn, Broekaert, Schuyten, & De Temmerman 2004; Felsman, Leong, Johnson, & Felsman, 1990; Masser, 1992; Porte & Torney-Purta, 1987; Sourander, 1998). Furthermore, substantial evidence exists inferring that refugee children and adolescents that are accompanied by their parents and have been exposed to war-related trauma, report high levels of psychological distress, behavioral problems and are at a high risk of developing chronic psychopathology (Fazel & Stein, 2002; Macksoud & Aber, 1996; Miller, 1996; Mollica, Poole, Son , & Murray, 1997; Papageorgiou et al., 2000; Rousseau, Drapeau, & Corin, 1998; Sack, Him, & Dickason., 1999; Thabet & Vostanis, 1999). In most of these studies, a strong, positive relationship has been found between the number (type) of adverse life events and the severity level of psychological distress. However, other factors such as the poor mental health of parents (Ajdukovic & Ajdukovic 1993), older age (Realmuto et al., 1992), female gender (Smith et al., 2002), also were negatively associated with the mental health of refugee adolescents in host countries. Although pre-trauma psychopathology has been reported as being predictive (Engelhard, van den Hout, & Kindt, 2003) for the development of Post Traumatic Stress Disorder (American Psychiatric Association, 1994) , Felsman et al. (1990) pointed out, that there is no way of truly determining if the psychological distress that is experienced by refugees adolescents is caused by (a) pre-departure difficulties and experiences, (b) departure (flight) stress, (c) transitional stress (waiting period in refugee reception centers), and (d) post-arrival stress (adaptation to new life) or the accumulative effect of all these factors.

Young immigrants, although they have not been exposed to the atrocities of war, do have to deal with daily hassles and, (acculturation) stress that accompany adaptation to another country and/or culture. Sometimes they are also exposed to violence and discrimination. There are contrasting findings on the mental health of immigrant adolescents. Some reporting that newly immigrated adolescents also have been exposed to violence leading to high levels of emotional and behavioral problems (eg., Jaycox et al., 2002), while other studies have reported low levels of psychological distress among immigrant adolescents (e.g., Davies & McKelvey, 1998).

Refugee (accompanied and unaccompanied) and immigrant adolescents run a risk of developing (chronic) emotional problems or maladaptive behaviors in response to the demanding situations in which they live and can be in need of appropriate and effective psychosocial mental healthcare. However, mental health professionals in host countries are faced with adolescents from a wide variety of cultures and countries in their daily work leaving a gap between research findings and clinical practice. Many of the studies that have addressed the mental health of refugees and/or immigrants do so with convenience samples or samples from a few different countries of origin. The psychological well-being of the actual composition of refugee/immigrant adolescents living in a host country, for which mental healthcare professionals provide care for, is not usually investigated. Utilizing multiple (representative) reference samples (adolescents from many countries and cultures) enables comparison which can promote insight into the similarities and differences of the factors that protect mental health and which may lead to psychological distress across adolescent samples. This insight further facilitates the work of clinicians by allowing for within sample and between samples comparison when wanting to assess the mental health of non-native adolescents with standard (diagnostic) psychological measures.

The aim of the present study is to compare the psychological distress, behavioral problems and traumatic stress reactions and experiences of URM with two reference samples in order to place the severity of the psychological distress of the URM into a broader context. Since the objective of the study was to investigate the mental health of large samples that

would be representative of the total populations of URM, refugee and immigrants adolescents living in the Netherlands or Belgium, no attempt would be made to assess only certain cultural groups coming from specific countries. It is hypothesized in this study that (a) girls will report higher levels of emotional distress, while boys report more externalizing behavior irrespective of sample (b) older age will play a significant role in the self-report of psychological distress of URM due to older URM having experienced more stressful life events (c) URM will report more psychological distress than the other two samples due to their unaccompanied status, and (d) the number of negative stressful life events that an adolescent has experienced will determine the degree of severity of psychological distress irrespective of the sample.

Method

Context of the study

In the years preceding 2001, there was a dramatic increase in the number of unaccompanied refugee minors living in the Netherlands, peaking at 15,000 in 2001. Many practical problems in referring unaccompanied minors to mental healthcare services were reported by the Nidos Foundation (legal guardian of all of the URM living in the Netherlands). Because there was (and still is) a lack of research studies on the mental health and service utilization of URM, a national and longitudinal research project "Unaccompanied Refugee Minors and Dutch Mental Health Care Services" was started among unaccompanied refugee minors living in The Netherlands and their guardians, teachers and professional mental healthcare providers in 2001. The goal of the project was to determine the severity level of psychological distress of unaccompanied minors, their need for mental healthcare, and the availability of mental healthcare services for this group. A secondary goal of the project was to validate and standardize screening instruments that measure emotional distress and behavioral problems for this specific population group. In fulfilling this second goal, it was possible to collaborate with the Department of Orthopedagogics, Ghent University , Belgium which was conducting a large independent research project to examine whether being unaccompanied is a risk factor for refugee children and adolescents to develop emotional and behavioural problems

Ethical approval to conduct the Dutch URM research was given by the Medical Ethics Committee of the Leiden University Medical Center, Leiden University. Ethical approval was given by the Ethics Committee of the Faculty of Psychology and Educational Sciences, Ghent University for the Belgian research.

Participants

Dutch URM sample (n = 920). A national, longitudinal study was carried out with URM living in the Netherlands. Approximately 4,000 URM were randomly selected from the Central Registrar of Nidos. Demographic information on the URM in the Netherlands was supplied by the Nidos. Information about the study and permission waivers (available in translated versions) were sent to the guardians to discuss the study with the URM. Both the minor and his/her guardian gave written permission for the URM to participate. Roughly 2300 URM permission waivers were returned; 57% wished to participate, 15% refused, 12 % did not participate for a wide range of practical reasons, 9% were transferred to a new living situation in another part of the Netherlands, and 7% turned out to be untraceable. A total of 920 URM were present for participation. There was a large number of the URM from the original random sample that did not participate. However, there were no significant differences found between the URM that did participate and the URM that did not in gender, age, and country of origin. The final sample was statistically representative (data not shown) in all of the main characteristics (age, gender, country of origin, and type of residential setting) of the total URM population aged 12 to 18 year old in 2002 in the Netherlands. The URM came from 48 countries, predominantly Angola (43%), Sierra Leone (10%), and China (8%). Two-thirds of the sample had lived in the Netherlands for a period of 18 months or less. At least three research assistants administered questionnaires to groups of 10 URM during one hour mostly at schools. Approximately 20% of the URM were tested at the regional centers of Nidos, reception centers or their residential setting.

Dutch normative sample (n = 1059). Pupils from ten secondary and three trade schools throughout the Netherlands (schools had also taken part in the URM research project and therefore the students were peers of the URM) participated and functioned as a reference group for the URM sample. 10% of the normative sample was not born in the Netherlands and these adolescents were classified as immigrants/refugees in Table 1. Given that 10% of the Dutch population consists of immigrants, there was no attempt made to not assess immigrant or refugee adolescents that were following regular educational tracks. 97% of this population lived with one or both parents. Two weeks prior to administration of the instruments, informed consent letters were sent to the parents and adolescents asking for their voluntary and anonymous participation (27 students abstained from participation). The assessment of the Dutch sample took approximately 15 minutes per class.

Belgian immigrant/refugee adolescents sample (n = 1294). A large scale study was carried out with non-Dutch speaking immigrant adolescents in Flanders (Belgium) during November 2002 to May 2003. The adolescents came from 111 countries, predominantly Morocco (14%), Ghana (11%), and Turkey (9%). All schools received standard informed consent letters (translated versions were available) asking parents and students for voluntary and anonymous participation. In 2002, there were 42 secondary schools in Flanders which provided education for recently immigrated adolescents. Thirty-four schools were randomly chosen to participate in the study of which none declined. 65% of the recently (less than 1 year) immigrated adolescents (immigrants and refugees) in Flanders between 13-18 years of age, participated in the study. Only 1 student abstained from participation that was present on the day of assessment. There was a continuous steam of new students during the year, which renders it very difficult to test the entire population. No attempt was made to assess students who were not present on the day of assessment. 99% of the immigrants and refugee adolescents (that were not classified as URM in Table 1 which represented 14.7% of the sample) were living with one or both parents. The assessment took place (1 hour) under supervision of two research assistants.

Questionnaires

All three instruments that were used were developed/modified in the following ways; (a) the literal terms of the Likert scale was enhanced by using colored circles of increasing size, (b) items were simplified to adapt the questionnaire to the language abilities of this population, and (c) the questionnaires were translated and presented in a bilingual form (Dutch and foreign language). The HSCL-37A, SLE and RATS questionnaires (see below) were translated into the most prevalent languages of URM in the Netherlands: Albanian, Amharic, Arabic, Badini, Chinese, Dari, Dutch, English, Farsi, French, German, Mongolian, Portuguese, Russian, Servo-Croatian, Soerani, Somali, Spanish and Turkish. The cross-cultural validation process for the three questionnaires followed the five dimensions of equivalence for cross-cultural validation of an instrument proposed by Flahtery et al. (1988). The five dimensions are (a) content equivalence which determines whether each item is equally relevant for the culture(s), (b) semantic equivalence is an item-by-item analysis attempting to convey the original meaning of each item in the adapted version(s), (c) technical equivalence refers to whether the data collection method (e.g., self-report survey, interview) yield comparable results in each culture; (d) criterion equivalence is when the interpretation of the measurement remains the same when norms are compared in each culture, and (e) conceptual equivalence refers to whether the same theoretical construct is being measured in each culture.

All written forward translations were done by professionally employed translators. Every translation was controlled for grammatical and idiomatic errors on two different occasions by two different translators. The translated questionnaires were reviewed orally with professional interpreters who where regularly involved during treatment sessions of traumatized adult refugees to control for the quality of the translations, to ensure that the original meaning was conveyed in the items, and to attempt to achieve semantic equivalence.

The *Hopkins Symptom Checklist-37 for Adolescents* (HSCL-37A) (Bean, Derluyn, Eurelings-Bontekoe & Spinhoven, 2004a; Bean, Derluyn, Eurelings-Bontekoe, Brokaert & Spinhoven, submitted) The HSCL-25 (Winokur, Winokur, Rickles, & Cox, 1984) measures

internalizing symptoms of anxiety and depression. The scale for internalizing behavior consists of the original twenty- five items for anxiety (10 items) and depression 15 (items) together to yield a total score for internalizing problems. The additional 12-item subscale for measuring trauma-related "acting-out" (e.g. starting fights, intentionally hurting someone, drinking alcohol) can be used to attain a total score for externalizing behavior. The total score of the HSCL-37A consists of all of the 37 items. Internal reliability for the URM sample for the total scale and internalizing and externalizing behaviour subscales was respectively .91, .92, and .69. Twelve-month test-retest reliability for the total scale was .63 (*p* <. 001). Inter-measure correlations with the total scores of the RATS and SLE were respectively .77 (*p* < .001) and .38 (*p* < .001). Using a confirmatory factor analysis, the two-factor (internalizing and externalizing) structure was verified in the URM sample with a loss of only .4% of the explained variance (Bean, Derluyn, Eurelings-Bontekoe, Broekaert, & Spinhoven, submitted). For the other two research populations, similar psychometric findings were confirmed.

The *Stressful Life Events* (SLE) (Bean et al., 2004b; Bean, Derluyn, Eurelings-Bontekoe, Brokaert, & Spinhoven, in press) checklist was used to assess the number and type of stressful event(s) that was experienced. The SLE consists of 12 dichotomous (yes/no) questions and an open question on the occurrence of stressful life events of relevance for adolescent refugee minors (e.g. "Have you ever experienced a war or an armed military conflict going on around you in your country of birth?" or "Has someone ever hit, kicked, shot at or some other way tried to physically hurt you?"). Experiencing an traumatic event is the first criterion of cluster A1 of the DSM-IV for PTSD (American Psychiatric Association, 1994). The overall average total score of 6.5 of the SLE for URM has been replicated in 5 independent studies (Bean et al., 2004b).

The *Reactions of Adolescents to Traumatic Stress* (RATS) (Bean et al., 2004c; Bean et al., in press) is a self-report questionnaire developed to assess posttraumatic stress reactions defined in the DSM-IV (APA, 1994) with culturally diverse adolescents. The RATS consists of 22 items that correspond directly to the B (intrusion), C (numbing/avoidance), and D (hyperarousal) criteria of the DSM-IV for PTSD. Items were adapted to measure symptoms of intrusion, numbing/avoidance and hyper-arousal in adolescents, especially adolescent refugees.The psychometric properties have been validated and have been found to be satisfactory (Bean et al., 2004a). Internal reliability for the URM sample for the total scale, and intrusion, numbing/avoidance and hyper-arousal subscales was respectively .88, .85, .69, and .73. Twelve-month test-retest reliability for the total scale was .61 (*p* <.001). Using a confirmatory factor analysis, the three-factor structure was verified in the URM sample with a loss of only 3% of the explained variance (Bean et al., 2004c). For the other two research populations, similar psychometric findings were confirmed.

Data Analysis
Homogenous groups (URM, Immigrant/Refuge, Natives) were constructed from the three samples for comparison of the groups (Table 1). Therefore, the URM (14.7%) from the Belgium sample were placed in the URM group and the Immigrant/refugees (10%) from the Dutch normative sample were placed in the Immigrant/Refugee group. The compositions of the samples were examined for gender with the Chi -square statistic and age with an ANOVA. T-tests and multivariate analyses of (co)variance were used to study group differences on the HSCL-37A, SLE total and RATS total and subscale scores. Pearson's product-moment correlations (two-tailed) were used to study the association between age and total and subscale scores of the questionnaires. The Chi-square statistic was also used to measure the associations between sample group and individual stressful life event. Finally, to evaluate the best predictors for the combined total sample for internalizing and externalizing scores on the HSCL-37A and the total score on the RATS, three hierarchical regression analyses were used to measure the strength of associations between demographic variables and stressful life events as predictors and internalizing and externalizing problems and traumatic stress reactions as the dependent variables. Effect sizes were calculated using Cohen's *d*. A maximum of ten percent of the missing items was allowed to still be able to extrapolate the total or subscale scores of the RATS and HSCL-37A. The total SLE score was calculated by

counting the number of reported events regardless of the number of missing answers. Significance level was set at a conservative .001 due to the large numbers in the samples.

Results

Descriptives
The shared demographic background information (gender, age, URM, Immigrant/Refugee and Natives) of the groups are presented in Table 1.The mean scores and standard deviations for all the scales of the HSCL-37A, RATS and SLE total scores per sample are presented in Table 2 and per group and gender in Table 3. In Table 4, the endorsement percentages of individual stressful life events per group and gender are shown.

The distribution of gender across the different samples will be addressed first (Table 1). All three groups had more boys than girls. The distribution of boys and girls in the URM group deviated from that in the other samples (x^2 (2) = 72.48, p <.001) with a higher proportion of boys in the URM group. An ANOVA showed that the mean age was significantly lower for the (I/R) sample than the other two groups (F (2,3216) = 33.58, p <.001). The differences were nonetheless small (I/R vs. Native, d =.25; I/R vs. URM, d=.32) when examined for effect sizes.

Table 1.
Composition of groups.

	URM	Immigrant/Refugee	Native
Number	1110	1187	976
Females	329	543	419
(%)	(29.8%)	(46.6%)	(43.0%)
Age (M)	15.81	15.27	15.70
(SD)	(1.6)	(1.8)	(1.5)

Gender differences in emotional and behavioral problems, traumatic stress reactions and total number of experienced stressful life events per group
The univariate tests for gender revealed that girls obtained significantly (medium to large effect sizes) higher scores on the subscales measuring internalizing complaints (anxiety and depression), traumatic stress reactions, intrusion, and hyperarousal symptoms and also reported more stressful life events than boys in the Native sample (Table 2). However, Native boys reported significantly higher levels of externalizing behavior than girls. There were no differences between the scores of boys and girls on the numbing/avoidance and hyperarousal subscales of the RATS for the I/R group. All of the other scales showed significant gender differences (negligible to small effect sizes) among the I/R group, girls scoring higher than boys, except for externalizing behavior (boys scoring significantly higher than girls). Furthermore, among the URM group there were only a few scales where girls scored higher than boys (small effect sizes); Internalizing (HSCL-37A), depression (HSCL-37A), RATS total score and the SLE total score.

Correlations between age and emotional and behavioral problems, traumatic stress reactions and total number of experienced stressful life events per sample
Two-tailed correlations between age, emotional and behavioral problems, traumatic stress reactions and number of stressful life events were calculated per group (Table 2). The results revealed that among the URM group, age correlated positively and significantly with scores on all HSCL-37A subscales, (except the externalizing subscale), RATS scores, and the SLE total score. The older the adolescent, the more emotional problems and the more experienced stressful life events were reported. A significant, but small positive correlation (r =.12, p < .001) was found between externalizing behavior and age in the Native group (older adolescents displaying more externalizing behavior). There were no significant correlations between scale scores and age among the I/R group.

Semi-partial correlations

Semi-partial correlations between age and the total en subscales of the HSCL-37A and RATS (controlling for the total number of SLE's) were calculated to test the hypothesis that the positive and significant relationship between psychological distress and age can be explained by older URM having experienced more stressful life events. The semi-partial correlations between the total and subscales of the HSCL-37A and age were still significant (except Externalizing), however, weaker after controlling for the total number of experienced SLE's (Internalizing $r = .13$, $p < .001$; Externalizing $r = .03$, *ns* ; Anxiety $r = .12$, $p < .001$; Depression $r = .12$, $p < .001$; Total HSCL-37A $r = . 13$, $p < .001$). The same held true for the semi-partial correlations between the subscales and total scale of the RATS with age (Intrusion $r = .21$, $p < .001$; Avoidance/Numbing $r = .07$, $p < .05$; Hyperarousal $r = .14$, $p < .001$; Total RATS $r = .16$, $p < .001$). The results indicate that the relationship between the reported psychological distress and age of the URM group can only be partially explained by the total number of stressful life experiences.

Emotional distress and behavioral problems

Two-way MANCOVA's were performed to assess the main effects of group and gender and their interaction on all subscale scores of the HSCL-37A (see Table 3). Age was controlled for by including it as a covariate, as preliminary analyses had revealed significant correlations for URM between age and all of the subscales (except externalizing). There were significant main effects for gender and group after controlling for age. For all internalizing subscales (Internalizing, anxiety, depression), the post hoc comparisons revealed that girls scored higher than boys ($p < .001$). On the Externalizing scale, boys scored significantly higher than girls ($p < .001$). Groups differed significantly ($p < .001$) from each other on the post hoc comparisons. On the Internalizing and the anxiety subscales, URM reported more complaints than both the I/R and Native groups. However on the Externalizing scale, Native adolescents reported more complaints than both URM and I/R groups. Finally, on the depression subscale, URM reported more complaints than I/R and I/R reported more depressive complaints than Native. The interaction effect of group and gender remained significant after controlling for age on all subscale scores, indicating that the interaction effect is independent of age. The interaction effect for all the subscales of the HSCL-37A between group and gender was ordinal (no intersection in plot) (girls reporting more complaints for internalizing scales irrespective of group, boys reporting more externalizing behaviour irrespective of group) with by far the greatest differences between the girls and boys in the Native group and the smallest in the URM group (as has been reported earlier in the univariate analysis).

Traumatic stress reactions

Two-way MANCOVA's were performed to assess the main effects of group and gender on all the subscales of the RATS, controlling for age as a covariate, as preliminary analyses had revealed significant correlation between the RATS total and subscale scores for URM. The main effects for group (URM reporting more complaints than I/R and moreover, I/R reporting more complaints than Native) and gender (girls reporting more complaints than boys.) remained significant (all post hoc comparisons reached the .001 level of significance) for all the RATS scores after controlling for age (Table 3). There were no significant interaction effects for gender and group, implying that the gender differences in RATS scores were independent of group.

Total number of experienced stressful life events

Two-way MANCOVA's were performed to assess the main effects of group and gender on the total number of stressful life events, controlling for age as a covariate. There were both main effects of groups (URM reporting more experiences than I/R and moreover I/R reporting more life events than Native) and gender (boys reporting more experienced life events only for I/R group and URM) also after controlling for age (all post hoc comparisons reached the .001 significance level). There were no significant interaction effects between gender and group, implying that boys have experienced more stressful life events, irrespective of group.

Table 2.
Mean Comparisons of gender per group and age correlations with HSCL-37A scores, RATS scores and SLE scores.

| | Samples | | | | | | | | | | | | | | | | | |
| | URM | | | | Immigrants/Refugees | | | | Natives | | | |
Variable	Boys (n=751) M (SD)	Girls (n=322) M (SD)	t(df) d	Age r	Boys (n=605) M (SD)	Girls (n=525) M (SD)	t(df) d	Age r	Boys (n=555) M (SD)	Girls (n=419) M (SD)	t(df) d	Age r
Total score HSCL-37A	65.1 (14.2)	67.2 (14.8)	2.02(994) .14	.19***	55.3 (12.7)	57.5 (12.5)	2.92(1091) .18	.07	55.8 (9.6)	60.5 (11.6)	6.71***(796) .45	.05
internalizing HSCL-37A	49.6 (12.6)	51.7 (12.7)	2.42(983) .17	.20***	39.7 (10.5)	42.7 (10.8)	4.52***(1076) .28	.08	36.7 (7.5)	43.4 (9.7)	11.68***(758) .79	-.01
externalizing HSCL-37A	15.5 (3.2)	15.3 (3.2)	1.00(1022) .07	.05	15.5 (3.6)	15.0 (3.0)	2.50(1104) .15	.02	19.1 (4.9)	17.2 (3.7)	7.24***(972) .45	.12***
Anxiety HSCL-37A	18.9 (5.3)	19.5 (5.2)	1.75(1015) .12	.19***	15.6 (4.5)	16.7 (4.5)	3.93***(1096) .24	.06	14.8 (3.3)	17.1 (4.0)	9.43***(797) .63	-.02
Depression HSCL-37A	30.7 (8.1)	32.2 (8.4)	2.65(983) .19	.19***.	24.1 (6.7)	25.9 (7.1)	4.29***(1064) .26	.08	21.8 (4.9)	26.3 (6.5)	11.82***(749) .80	.00
Total score RATS	48.4 (11.7)	50.8 (11.2)	2.82(927) .20	.25***	36.6 (10.7)	38.7 (10.9)	2.85(849) .20	.07	30.0 (7.1)	34.2 (10.2)	7.27***(702) .50	-.06
Intrusion RATS	14.0 (4.5)	14.7 (4.2)	2.25(959) .16	.23***	9.4 (3.3)	10.4 (3.8)	4.14***(804) .29	.09	7.6 (2.2)	9.1 (3.3)	8.12***9676) .56	-.05
Avoidance/Numbing RATS	20.0 (5.0)	20.7 (5.0)	2.00(933) .14	.15***	15.5 (5.2)	16.3 (5.0)	2.08(855) .14	.06	11.7 (3.3)	13.2 (4.1)	5.92***(779) .40	-.03
Hyper arousal RATS	14.5 (4.2)	15.2 (4.1)	2.10(959) .15	.23***	11.9 (4.0)	12.0 (3.9)	1.29(861) .09	.02	10.6 (3.2)	11.9 (4.2)	5.08***(738) .34	-.01
Total score SLE	6.3 (2.6)	5.8 (2.8)	2.45(566) .17	.19***	3.6 (2.7)	2.9 (2.2)	3.60***(1126) .21	.08	3.0 (2.1)	2.9 (2.2)	1.14(972) .07	.05

Note. d = Cohen's d for effect sizes; *r* = two-tailed correlations. ***p <.001

Table 3.
Mean Comparisons of Groups for the total and sub-scale HSCL-37A scores, RATS scores and SLE scores.

Variable	Groups			ANCOVA Main effect Gender F (df)	ANCOVA Main effect Sample F (df)	URM vs. I/R d	URM vs. Native d
	URM (n=1078) M (SD)	Immigrants/Refugees (n=1152) M (SD)	Native (n=975) M (SD)				
Total score HSCL-37A	65.7 (14.4)	56.2 (12.7)	57.8 (10.7)	43.90*** (1,3013)	143.25*** (2,3013)	.70	.62
internalizing HSCL-37A	50.2 (12.6)	41.1 (10.8)	39.5 (9.1)	99.17*** (1,2987)	246.61*** (2,2987)	.78	.97
externalizing HSCL-37A	15.5 (3.2)	15.3 (3.3)	18.3 (4.5)	38.89*** (1,3057)	185.14*** (2,3057)	.05	.72
Anxiety HSCL-37A	19.1 (5.3)	16.1 (4.5)	15.8 (3.7)	66.57*** (1,3040)	142.32*** (2,3040)	.61	.72
Depression HSCL-37A	31.1 (8.2)	24.5 (7.0)	23.7 (6.1)	101.75*** (1,2973)	276.50*** (2,2973)	.82	1.02
Total score RATS	49.1 (11.6)	37.6 (10.8)	31.8 (8.7)	52.33*** (1,2710)	619.18*** (2,2710)	1.02	1.69
Intrusion RATS	14.2 (4.4)	9.9 (3.6)	8.3 (2.8)	63.42*** (1,2754)	616.33*** (2,2754)	1.07	1.61
Avoidance/Numbing RATS	20.2 (5.0)	15.9 (5.1)	12.4 (3.7)	28.77*** (1,2772)	616.98*** (2,2772)	.85	1.77
Hyper arousal RATS	14.7 (4.2)	11.8 (3.9)	11.2 (3.7)	23.24*** (1,2754)	197.67*** (2,2754)	.71	.93
Total score SLE	6.1 (2.7)	3.3 (2.5)	3.0 (2.1)	16.45*** (1,3125)	428.07*** (2,3125)	1.09	1.30

Note. d = Cohen's d for effect sizes. ***p<.001

Experienced individual stressful life events

On the basis of the univariate and multivariate analysis that have been performed, it appears that the URM reported a higher total number of stressful life events than the other samples. The percentages of endorsed individual stressful life events (per group and gender) are shown in Table 4 as well as the χ^2 value. As can be seen, across all of the samples the event "loss of loved one" was the most frequently reported stressful life event. It is also apparent from the table that URM reported significantly more stressful life events than both immigrant/refugee and Dutch adolescents, except for experiencing a "serious accident" which was just as often reported by the other two adolescents' samples. It is sobering to see that URM report exceptionally (statistically significant) high levels of exposure to physical and sexual maltreatment compared to the other groups

Hierarchical regression analyses on Internalizing and Externalizing scores of the HSCL-37A and total scores of the RATS

Finally, hierarchical regression analyses (presented stepwise in Table 5) were carried out to investigate whether the total number of experienced stressful life events was indeed the most important predictor of emotional and behavioural problems and traumatic stress reactions irrespective of group.

In addition to the total number of stressful life events, sample, gender (boy = 0, girls = 1), age and length of stay in the host country were used as independent predictors in the model. The categorical variable group was defined in two individual sets of "dummy variables (0 ,1)" which could indicate category membership (i.e., Native, I/R or URM), to give parameter estimates that were directly interpretable.

The Internalizing score of the HSCL-37A as the dependent variable was investigated first (Table 5). The total multiple correlation for the model was adj. $R^2 = .32$ implying that 32% of the total variance in Internalizing scores can be explained by the predictors that were not excluded because of non-significance. The total number of stressful life events appeared to be the only robust predictor, explaining 25% of the variance in HSCL-37A total scores.

Next, the Externalizing score on the HSCL-37A was used as the dependent variable, with sample (i.e., Native, I/R or URM), gender, age and the total number of SLE's, and length of stay in the host country used as independent predictors (Table 5). The overall multiple correlation was adj. $R^2 = .20$ or 20% of the total variance in Externalizing scores could be explained by the predictors that were not excluded because of non-significance. The best predictor being length of time in the (host) country (explaining 11.3% of the variance).

Table 5 presents the results of the regression analysis using the total score on the RATS as the dependent variable. Group (i.e., Native, I/R or URM), gender, age and the total number of SLE's, length of stay in the host country were used as independent predictors. The overall multiple correlation was adj. $R^2 = .50$ or 50% of the total variance in HSCL-37A mean scores could be explained by the predictors that were not excluded because of non-significance. The total number of stressful life events appeared to be the only robust predictor, explaining 40% of the variance in the RATS total scores.

Because this study is the first in which these groups are compared, the stepwise method was chosen to single out the most important predictors. However, after the hierarchical regression analyses were carried out (data not shown) all six predictors were entered simultaneously into each of the three regression models. The results of these analyses yielded almost exactly the same results as in the hierarchical analyses except that the standardized beta coefficients for the predictors age and length of stay in the country were found to be significant to the .01 level in the prediction model of the RATS when all six predictors are simultaneously entered.

Table 4.
Endorsement of Stressful Life Events.

Stressful Life Events	URM Girls n	URM Girls %	URM Boys N	URM Boys %	URM Total n	URM Total %	Imm/ref Girls n	Imm/ref Girls %	Imm/ref Boys n	Imm/ref Boys %	Imm/ref Total n	Imm/ref Total %	Native Girls n	Native Girls %	Native Boys n	Native Boys %	Native Total n	Native Total %	Group Comparison χ²
Drastic changes in the family	194	66.2	432	65.5	626	65.5	207	40.8	248	41.7	466	41.5	158	37.6	173	31.2	331	34.0	211.20***
Separation from parents	180	60.4	483	69.6	665	66.7	125	14.4	109	18.3	187	16.4	11	2.6	19	3.4	30	3.1	1107.79***
Loss of loved one	244	81.1	626	86.8	874	85.1	301	57.9	309	51.5	616	54.0	282	67.5	325	58.6	608	62.4	247.88***
Life threatening medical problem	92	31.1	254	36.6	348	35.0	65	12.7	113	19.1	182	16.1	18	4.3	39	7.0	57	5.8	281.57***
Serious accident	34	12.7	111	17.4	146	16.0	75	14.7	126	21.5	203	18.2	68	16.3	127	22.8	196	20.1	5.37
Disaster	71	24.4	215	31.1	287	29.1	108	20.8	162	27.1	274	24.1	38	9.1	65	11.7	103	10.6	102.20***
War or armed military conflict*	185	60.3	493	68.2	682	65.9	111	21.6	138	22.9	253	22.3	9	2.1	31	5.6	40	4.1	959.91***
Personally being physically maltreated	176	59.9	464	65.0	641	63.3	103	20.1	155	26.2	261	23.2	105	25.1	166	30.0	271	27.9	424.07***
Witnessing physical maltreatment	187	64.0	518	75.0	708	71.7	209	41.5	309	52.7	526	47.3	127	30.4	223	40.3	351	36.1	261.16***
Sexual maltreatment	118	39.3	84	12.1	202	20.3	40	7.9	53	8.9	93	8.3	58	13.9	15	2.7	73	7.5	98.38***
Other not mentioned event (self experienced)	201	68.8	511	73.4	713	71.9	122	23.8	173	29.1	302	26.7	126	30.1	215	38.8	342	35.1	480.74***
Other not mentioned event (witnessed)	158	56.4	244	63.9	592	61.7	143	28.4	225	38.4	375	33.8	166	39.6	247	44.6	414	42.5	166.26***

Note. *The native sample endorsed this item if they had seen a shooting; Girls and boys numbers do not always add up to Total because of unknown gender cases. ***$p < .001$

103

Table 5.
Hierarchical Regression Analysis for Variables Predicting HSCL-37A and RATS Scores.

Step	Variable	Total adj. R^2	df	Overall F	R^2 Change	F Change	Standardized β (for final step)
HSCL-37A internalizing							
Step 1	SLE Total Score	.252	1,2821	949.78***	.252		.406***
Step 2	Gender	.284	2,2820	561.15***	.033	129.32***	.203***
Step 3	URM	.320	3,2819	442.99***	.036	148.11***	.250***
Step 4	Age	.323	4,2818	337.62***	.004	14.95***	.063***
Step 5	Immigrant/refugee	.323	5,2817	270.82***	.001	2.75	.045
Step 6	Length of stay in country	.323	6,2816	225.72***	.000	.516	.018
HSCL-37A externalizing							
Step 1	Length of stay in country	.113	1,2881	366.62***	.113		.153***
Step 2	SLE Total Score	.146	2,2880	248.15***	.034	115.15***	.271***
Step 3	Native	.179	3,2879	210.45***	.033	115.38***	.241***
Step 4	URM	.188	4,2878	168.06***	.009	33.70***	-.140***
Step 5	Gender	.196	5,2877	141.85***	.008	30.22***	-.092***
Step 6	Age	.197	6,2876	118.88***	.001	3.43	.031
RATS Total score							
Step 1	SLE Total Score	.400	1,2621	1741.97***	.400		.457***
Step 2	URM	.463	2,2620	1129.80***	.063	307.33***	.353***
Step 3	Gender	.484	3,2619	822.30***	.022	111.77***	.143***
Step 4	Immigrant/Refugee	.502	4,2618	662.12***	.018	93.98***	.112***
Step 5	Age	.503	5,2617	532.42***	.001	7.272	.039
Step 6	Length of stay in country	.504	6,2616	445.64***	.001	6.329	-.057

***$p < .001$

Discussion

This study documents an extraordinary high severity level of internalizing complaints and especially, traumatic stress reactions among unaccompanied refugee minors in comparison with two other groups of adolescents with parental caregivers. Gender played an important role in internalizing emotional problems and externalizing behavior in the Native and I/R groups, but not among the URM. Age was positively related to emotional distress, behavioral problems, traumatic stress reactions and experiences only in the URM group. The URM group reported a higher number of average stressful life events in this study compared to the other two populations. Furthermore, the number of stressful life events was the most robust predictor of internalizing behavior and traumatic stress reactions across all samples.

The finding that unaccompanied refugee minors reported more psychological distress than accompanied peers is consistent with previous research findings (eg., Felsman et al.,

1990). In some studies it has been found that the psychological well-being of refugee children is protected by good maternal mental health helping the child to better regulate their own distress and emotional reactions. However, it is not clear from the findings of this study if the great differences found between the groups come from the fact the URM lack parental care or because they have been exposed to many adverse life events (inadvertently due to the absence of adult supervision) or an accumulative effect of both factors. This is an issue that will need to be further investigated.

The effect of cumulative risk of traumatic war experiences has been documented in child populations (eg., Macksoud & Aber, 1996; Wolffe & Fesseha, 1999). In addition the dose-effect relationship that has been replicated in this study is consistent with previous findings among refugee adolescents (eg., Papageogiou et al., 2000; Sack et al., 1999; Thabet & Vostanis, 1999). The gender differences that were reported in this study for the Native and I/R groups on all self-report measures confirm findings from other studies (eg., Smith et al., 2002). The URM group deviates from the norm which may be an indication that the inherent protective factors associated with gender have been surmounted due to the high levels of external stress experienced by this sample. Moreover, the URM group digresses from the other samples concerning the significant relationship between age and reporting of psychological distress. The positive association between age and psychological distress in the URM sample can only be partly explained because older URM have experienced more stressful life events. Realmuto et al. (1992) have postulated, it may be possible that younger children do not fully comprehend the full magnitude of war related experiences which functions as a protective factor for their emotional development.

It has been suggested that even though young refugee adolescents report high levels of psychological distress, this does not necessarily imply that social functioning has been compromised (Mollica et al., 1997). These young people may be quite resilient or "inoculated" against the adversity and levels of distress they experience. However, quality of life and awareness (not knowing that their symptoms are not "normal") of high distress levels among adolescents who have grown up under highly stressful conditions has not yet been addressed. Furthermore, it is not clear if the high levels of distress reported by URM change over time. Future research will need to examine if the high level of emotional and behavioral problems reported here among some URM is temporary or has a chronic nature.

Limitations

One limitation of this study was that no historical accounts or other source of information was utilized to confirm the stressful life events of the adolescents. This is necessary to control for reliability in the accounts. Only self- reports were utilized in this study, yielding a limited amount of information regarding mental health. It was not possible to separate accompanied immigrants from refugee adolescents in this study because no information was gathered on the residential permits of the adolescents. A separation of the two groups could have given more information regarding differences between the two groups. Furthermore, the URM and refugee/immigrant adolescents did not come from the same countries which could have indirectly influenced the type of (adverse) experiences that both groups were exposed to in the countries of origin.

In addition, this study was cross-sectional, limiting the ability to know if the differences that were documented here are stable across time. Finally, no other informants were consulted for this study than the adolescents themselves. It has been documented on several occasions that the consulting of several informants on the mental health of adolescents gives a broader and more informative assessment than when only utilizing one source.

Although it appears from the preliminary findings on the multiple language versions of the questionnaires used in this study that the cross-cultural equivalence has been verified, the fact that there was no written back-translations of the language can be considered as a limitation of the study, since this procedure deviates from standard protocol. Back-translation is the method that is usually used to verify semantic equivalence of translated measures (see Mallinckrodt & Wang, 2004 for a discussion). However, a back- translation alone does not implicitly guarantee that the content equivalence of the translated instrument has been established (Flahtery et al., 1988). A great amount of effort in this study was spent on ensuring the content equivalence of the items for different cultures.

Implications

Although, it is not surprising that URM report a high severity level of psychological distress due to the great of amount of adversity they have faced, it is important that mental healthcare professionals, organizations and schools that work with these young people are aware of their psychological suffering and take action to provide secure and predictable supporting environments for URM to be able to settle into (Wolffe & Fesseha, 1999), in spite of the fact that they might only remain temporarily in the host country. Preventing any further damage or harm to the emotional and cognitive development of these young people should be the first priority of governmental officials, school staff, host families, residential staff workers, and mental healthcare professionals. When basic (physical and emotional) stability has been obtained in the host country for URM, low-threshold, psychological interventions aimed at emotion regulation and improving cognitive information processing (i.e., stimulating self-reflection, journaling, learning relaxation techniques and learning about (traumatic) stress reactions, anxiety, and depression symptoms (psycho-education) should be started to enable these young people to manage their high levels of emotional distress. Periodic screening for emotional distress and maladaptive behaviors among URM can assist mental healthcare professionals in accurately evaluating if basic psychological interventions are sufficient in alleviating distress/ changing behavior or if more intensive psychiatric treatment is necessary.

Furthermore, it is crucial that governments that receive and host these young people are aware of the high severity of psychological distress among URM and undertake appropriate measures to provide appropriate living accommodations which are staffed with competent child care workers. As Yule (2000) formulated it so well, "While recognizing that the most of these reactions are 'normal' in the sense of being understandable, they still require that action be undertaken by those in authority to alleviate the children's distress."