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Tammy Marie Bean

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Assessing the Psychological Distress and Mental Healthcare Needs of Unaccompanied Refugee Minors in the Netherlands

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Hope deferred makes the heart sick.

-Proverbs 13:12 NIV The Bible

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Foreword

United Nations' Convention on the Rights of the Child (CRC)
(http://www.unhchr.ch/html/menu3/b/k2crc.htm)
Article 22

1. *States Parties shall take appropriate measures to ensure that a child who is seeking refugee status or who is considered a refugee in accordance with applicable international or domestic law and procedures shall, whether unaccompanied or accompanied by his or her parents or by any other person, receive appropriate protection and humanitarian assistance in the enjoyment of applicable rights set forth in the present Convention and in other international human rights or humanitarian instruments to which the said States are Parties.*

Article 24

1. *States Parties recognize the right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health. States Parties shall strive to ensure that no child is deprived of his or her right of access to such healthcare services.*

Article 25

States Parties recognize the right of a child who has been placed by the competent authorities for the purposes of care, protection or treatment of his or her physical or mental health, to a periodic review of the treatment provided to the child and all other circumstances relevant to his or her placement.

Article 39

States Parties shall take all appropriate measures to promote physical and psychological recovery and social reintegration of a child victim of: any form of neglect, exploitation, or abuse; torture or any other form of cruel, inhuman or degrading treatment or punishment; or armed conflicts. Such recovery and reintegration shall take place in an environment which fosters the health, self-respect and dignity of the child.

Refuge is defined by the Webster Ninth Collegiate Dictionary as "s*helter or protection from danger or distress"*. In addition, the word refugee is defined *as "to take refuge; one that flees to a foreign country or power to escape danger or persecution*". This definition of a refugee is implied whenever the term "refugee" is used throughout this dissertation instead of the "legal" term defined by Article 1 of the Geneva Convention relating to the Status of Refugees (1951) and to avoid the negative connotations associated with the term "asylum seeker". Using this broader definition, approximately 9.1 million children and adolescents (United Nations High Commissioner for Refugees ([UNCHR], 2003) can be defined as refugees; children and adolescents that have fled their home communities (with or without a parent) for their very protection and/or survival. In 2003, approximately 13000 unaccompanied children requested asylum in European states (UNCHR, 2004). Under the Convention of the Rights of the Child (1991) which has been ratified by every country except the United States of America and Somalia, children who are victims of armed conflicts have the right to receive appropriate care that will promote their physical and psychological recovery. However, as has been recently noted, the practical application of the CRC for

refugee children in the Netherlands has been made subordinate (without legal jurisdiction to do so) to immigration and asylum laws (see Cardol, 2005, p. 398 for a discussion).

Unaccompanied Refugees Minors (URM) make up a very special and vulnerable population of young people that are younger than 18 years of age and have been separated from their parents or primary caregivers for a wide range of reasons. In the Guidelines on Policies and Procedures in dealing with Unaccompanied Children Seeking Asylum (1997), the UNHCR explains that "notwithstanding any of the (reasons for not being accompanied), unaccompanied children have often had little or no choice in the decisions that have led to their predicament and vulnerability. Irrespective of the immigration status, they have special needs that must be met" (p. 1). Under the Articles 25 and 39 of the CRC, URM have the right to receive appropriate mental healthcare services for their rehabilitation into the social community. This dissertation will provide data that suggest that this high risk population for the development of psychopathology does not receive the mental healthcare services in the Netherlands that they need and are entitled to for treatment of their psychological distress. This finding is disconcerting because many of these young people experience severe emotional distress and exhibit maladaptive behaviors. In addition, once they turn 18 years of age URM "age out"of care and lose all of their (social and governmental) assistance in the Netherlands. In principal, they are repatriated to their country of origin (or go underground) without having received the mental healthcare that they need and are entitled to.

Many of the countries to which these young people return, are just starting to rebuild after years of internal conflict and/or war and do not have the facilities or the (financial) capabilities to provide adequate mental healthcare to URM to promote their successful reintegration into their community. Furthermore, the well-being of repatriated URM is not monitored by the Dutch government or the government of their country of origin leaving these young people extremely vulnerable for maltreatment and exploitation.

All European member states have been recently urged in Article 9,3a, Recommendation 1703, Protection and assistance for separated children seeking asylum, issued by the Committee on Migration, Refugee and Population of the European Parliamentary Assembly (2005) "to recognize the primacy of the principle of the best interest of the child (Article 3 UNCRC) in all asylum or immigration decisions, procedures, practices or legislative measures affecting minors". This recommendation implies that the mental healthcare needs of unaccompanied refugee minors in the Netherlands and other European host countries, can only be adequately protected and appropriately met when URM are recognized by the state as being "first and foremost children (which) should benefit from the same protection and assistance which is afforded to national children who are in a similar situation of separation from caregivers (Van Thijn, 2005)". When states do not observe this guiding non-discriminating principle, URM can be (and are being) denied their right to adequate and effective mental healthcare services which is imperative for their growth into socially and emotionally competent adults who are self-sufficient.

Chapter 1

Introduction

Around the world, children and adolescents are exposed (directly or indirectly) to continuing organized violence and/or political unrest which affect their lives and development in a multitude of ways. In recent years, research in the behavioral sciences has attempted to unravel the intricate (biological, psychological, social, and cultural) pathways which lead to mental health or illness among refugee adolescents that have been exposed to organized violence in an array of different cultures. In this attempt, a limited amount of knowledge has been accumulated which has contributed to the development of interventions and treatments to strengthen emotional and social competencies of these young people who have experienced so much adversity.

Fortunately in the Netherlands, there have been numerous studies conducted among URM concerning their physical health (Van Willigen & Janssen, 2002; Broecheler & Raadgers, 2001), safety in reception centers (Dutch Inspection of Children and Youth Welfare Services, 2002), integration (Radstake & Dekovic, 2002; Smit, 1998; Snijders & van Wel, 1995) and legal rights (Kindercollectief, 2002; Cardol, 2005). However, epidemiological research regarding the mental health and/or mental healthcare needs of URM living in the Netherlands has not been conducted until now.

There are a few quantitative international studies that have addressed the mental well-being of this population (e.g., Derluyn, 2005, Felsman, Leong, Johnson, & Felsman, 1990, Masser, 1992; Sourander, 1998). From these studies and studies which have addressed both accompanied and unaccompanied minors, the conclusion can be drawn that URM experience high levels of emotional distress and are, per definition, a risk group for the development of psychological problems (Macksoud & Aber, 1996; Miller, 1996). From qualitative research that has been conducted among URM, it appears that the degree of psychological adaptation of refugee adolescents is negatively associated with having experienced many adverse life events (Halcon et al., 2004; Goodman, 2004; Rousseau, Said, Gagne, & Bibeau, 1998). Although there has been some progress made, there is still much work to be done among culturally diverse refugee adolescents in evaluating their well-being, fulfilling their emotional and mental healthcare needs, and charting the pathways that lead to resilience or vulnerability in their overall adjustment.

This dissertation addresses the assessment of psychological distress, mental healthcare needs and psychological adaptation of URM living in the Netherlands. This introduction will first depict how the methodological challenges that accompany conducting research with individual adolescents from many cultures were dealt with in this dissertation. In addition, the situation that the URM population was living in in the Netherlands during the years of the study, 2001-2004, will be briefly described as well as the design, objectives and research issues of this dissertation.

Methodological challenges in conducting research among a culturally diverse population

In countries that host refugee adolescents, there is often not one ethnic group or nationality represented, but many different countries and nationalities (UNHCR, 2004). This makes collecting scientific data for research among cultural and ethnic samples a very time-consuming process (Takeuchi et al., 1998). Obtaining a representative sample of refugee (or specific at-risk groups of) adolescents for research purposes has been repeatedly reported as being difficult due to factors such as the lack of trust/reluctance of the adolescents, lack of relevance for their (stress-filled) daily lives, and limited accurate information on the dimensions of the population (most studies are based on local or convenience samples) (Barenbaum, Ruchkin, & Schwab-Stone, 2004; Aptekar, 2004; U.S. Department of Health and Human Services, 2001). As there are often limited research funds, usually the most cost-effective means of attaining a target sample is used. This often results in researchers having to make a choice of assessing only specific populations (usually the largest) so that the results are unambiguous for one specific cultural group or they use convenience samples (Geltman et al., 2005). In this dissertation, it was possible to obtain a stratified large representative sample of the total population of URM living in the Netherlands through a known registration system, avoiding this common methodological limitation.

There are multiple methodological considerations surrounding the assessment of mental health of a population of heterogeneous refugee adolescents, particularly the way cultural factors may affect how an adolescent defines and seeks help for mental health problems. In the report of the Surgeon General on Mental Health: Culture, Race, and Ethnicity (2001) (p. 18) the methodological considerations that need to be evaluated in assessment in cross-cultural research can be broken down into at least three different types of equivalence; conceptual, scale, and norm. One of the methodological issues surrounding conceptual equivalence, is the question whether adolescents that come from different heritages think the same about concepts such as feeling sad, having arguments or experiencing nightmares? Scale equivalence evaluates if people from different cultural groups can similarly understand the standard formats and way items are presented on questionnaires. Finally, norm equivalence is important in being able to generalize what is normal or abnormal from one cultural group to another. The time-consuming process of the refinement of psychological assessment measures following these three overarching types of equivalence was carried out in this dissertation.

There are many other methodological issues which researchers are confronted with when conducting scientific research with culturally heterogeneous adolescent populations that can not all be addressed here. One can think of issues surrounding participation or attrition problems, collecting data from multiple culturally diverse informants, acculturation difficulties, amount of discrimination experienced by a certain ethnic group in comparison with other cultural groups, the number of adverse life events that a specific population has been exposed to etc., etc. However, no one single study, regardless of the quality and design, could possibly address all the known methodological issues that can be influenced by cultural factors. Furthermore, there is an substantial amount of information that has been collected indicating that cultural factors do not explain more variance in mental health than other known socio-demographic factors such as age, gender, socio-economic status, and living situation (European Commission, 2004; U.S. Department of Health and Human Services. 2001). Notwithstanding, it is essential when conducting cross-cultural studies (such as the present endeavor) an attempt is made to continually be aware of cultural factors and biases which might be hidden and to address them promptly and effectively in the design of the project. In doing so, the validity of the results can be enlarged. Consulting with multi-sectoral and multi-disciplinary experts and stakeholders who are involved with the study population at the macro, meso, and micro levels of society about the design of a cross-cultural study is essential to be able to not only detect cultural pitfalls and obstacles, but to find appropriate solutions to correct for cultural biases (Gielen, 2004). This culturally sensitive approach is the basis on which this dissertation has been assembled and how cultural similarities and differences were addressed throughout the study.

Background situation of Unaccompanied Refugee Minors living in the Netherlands

Taking care of foreign children and adolescents that were exposed to organized violence is not an unknown phenomenon in the Netherlands. After World War I (WWI), many Austrian and Hungarian children were temporarily cared for in the Netherlands (Sintemaartensdijk, 2002, p.11). Approximately 30,000 Dutch children after the Netherlands was liberated in WWII, were selected by Dutch general practitioners because they (1) had suffered more than other children, (2) were recovering from sickness, (3) were suffering from malnutrition and/or (4) had "nervous" symptoms (anxiety and sleeping problems) to be temporary transported to other European countries to recover from the direct or indirect effects of war (Sintemaartensdijk, 2002, p. 33). In the 1980's, the Netherlands again opened its doors to a small population of unaccompanied refugee children from Vietnam and since then, have received and cared for thousands of URM.

Since the mid 1980's until 2001, the Netherlands had a liberal policy regarding granting asylum to URM. Almost all of the URM that entered the Netherlands were allowed to stay and integrate into Dutch society (see Appendix 1 for an overview of the number of new arrivals per year and total number of legal guardianships for URM living in the Netherlands for the years 1988 to 2005). Around 1995, the numbers of URM entering the Netherlands began to exponentially increase due to numerous armed conflicts and civil wars throughout the world (UNCHR, 2004). In the years preceding 2001, there was a dramatic increase in the number of URM living in the Netherlands, peaking at approximately 15,000 in 2001. Traffickers escorted around 60% of URM to the Netherlands (Olde Monnikhof & Tillaart, 2003), sometimes to be misused as prostitutes, as an "anchor" to make it possible to bring the rest of the family to the Netherlands, or for cheap labor to repay family debits in the country of origin. Seventy-three percent of URM in the Netherlands were not involved in making the decision to come to the Netherlands (Olde Monnikhof & Tillaart, 2003). Smit (1997) had found that one third of the URM population had been maltreated in their country of origin and that half had no father and a third no mother. Due to the large increase in numbers of URM in 2001, the immigration services for URM in the Netherlands, the legal guardian system (Nidos Foundation) and the residential facilities which housed URM, all became strained in trying to adequately handle the demand for their services.

A new restrictive governmental policy was implemented in 2001 with the main objectives being facilitation of repatriation to country of origin and restricting the number of URM that live in the Netherlands (Tweede Kamer-Dutch Parliament, 1999-2000). The starting point of the policy is not to allow the majority (80%) of URM to stay in the Netherlands longer than their 18th birthday (earlier if "adequate" care can be found in the country of origin) and that repatriation to the country of origin is imminent which has been decided before the asylum procedure even begins.

According to Cardol (2005), this policy is intrinsically flawed and infringes on the rights of the minor for development that has been established under Article 6 of the CRC. Specific aspects of the Dutch governmental policy in regard to URM such as estimation of biological age, interviewing techniques during the asylum procedure, right to legal representation, and the policy concerning reunion of family, all fall short of fulfilling the rights of unaccompanied minors (Cardol, 2005; p. 392-399). For example, if there is doubt surrounding the minor status, a subjective "optical" assessment is made by an (untrained) immigration service agent to estimate the approximate age of the minor. If there is further doubt surrounding this optical estimation, a biological assessment is conducted (i.e., x-ray of their collarbones and wrist bones) to verify/reject the asylum claim on the basis of minor status. However, these procedures cannot be considered absolutely conclusive (UNHRC, 2004). Furthermore, URM older than 12 years of age can be legally interviewed by immigration services without having their legal guardian or other legal representation present (Human Rights Watch, 2003), a blatant violation of their inherent rights. URM that are younger than 12 years of age are interviewed following a special protocol. However, this protocol has also been found not to fully respect the rights of URM (poor proficiency of interviewers, not enough time to prepare for the hearing, no legal representation during hearing) (Cardol, 2005, p. 272-279). Finally, URM which will not be allowed to live in the Netherlands and arrived after April, 2001 were placed in a "semi-locked" residential detention facility which restricted their freedom to move freely in the Netherlands and limited contact with Dutch society. The facility was known in the Netherlands under the name "The Campus"

and was not opened due to controversy until the 11th of November 2002 and was closed on January 1st, 2005 because it was found to not facilitate repatriation, be detrimental to the mental health of URM (Reijnveld, Boer, Bean, & Korfker, 2005), and 40% of the URM that were placed there ran away (Klaasen & de Prez, 2004). The agency of these young people was the main reason why this facility was closed.

Amidst this background of violation of rights, upheaval and changing polices, there were in 2001 many practical problems reported in referring unaccompanied minors to mental healthcare services by the Nidos Foundation (legal guardian organization of all of the URM living in the Netherlands). The problems that the guardians reported concerning mental healthcare services ranged from not being able to find services to professionals refusing to treat URM because the practical circumstances surrounding the lives of URM would inhibit any effect from therapy (Bean, 2002a). The Dutch mental healthcare professionals have also reported that URM are often not faithful to their therapy and often do not come or prematurely terminate treatment (Bean, 2002a).

Because of a lack of research on the mental health and mental healthcare utilization of URM (on a national and international level), a epidemiological, national and longitudinal research project "Unaccompanied Refugee Minors and Dutch Mental Healthcare Services" was started among URM 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 of psychological distress of the URM population living in the Netherlands, their need for mental healthcare, and the availability of mental healthcare services for this population. The data collected during this project was used to write eight of the main chapters in this dissertation.

The infrastructure that exists in the Netherlands, one foundation - Nidos- which provides legal guardianship to all URM residing in the Netherlands, made it possible to draw a representative sample of the total population of URM between the ages of 11-17.5 years and to carry out such a large scale study among URM. In other countries, this infrastructure does not exist making it almost impossible to gather information on the mental health of URM on such a large scale and with the assistance from several informants. Finally, many organizations took part in this research project; 40 different regional offices of Nidos (± 400 guardians), more than 150 schools (± 470 teachers), and more than 20 different reception centers. Only through the flexible participation and active collaboration of so many organizations, could this project be successfully conducted.

Objectives of this dissertation

The ***first objective*** of this dissertation is to expound on the possibility to validly and reliably use standard psychological questionnaires in assessing the psychological distress of a culturally heterogeneous sample of Unaccompanied Refugee Minors. The ***second objective*** is to determine the prevalence, severity and course of the psychological distress of URM living in the Netherlands. The ***third objective*** was to establish the needs, unmet need, and use of mental healthcare services among URM in the Netherlands. Finally, the ***fourth objective*** was to evaluate to what extent the severity of psychological distress of URM is associated with their psychological adaptation in the Netherlands.

Design

The design of the main study was national, epidemiological, longitudinal, and used multiple informants. The study would consist of two assessment periods with an interval of twelve months in between. The written informed consent of the URM and their legal guardians was necessary for participation in the study. The project would take place throughout the Netherlands. Questionnaires (available in 19 bilingual [Dutch/ foreign] versions of the most prevalent languages of the URM in the Netherlands) would be administered to URM in groups (approximately 15 persons) at school or if necessary at reception centers. The mental health interviews would need to be conducted individually with URM. Master level (Dutch) students that had followed a short training would administer the questionnaires and mental health interviews. URM would need to be at least 11 years of age to be cognitively able to complete the questionnaires and not older than 17.5 years to be able

to locate them for the follow-up assessment. URM would need to have resided at least 4 months in the Netherlands to have some ability to communicate in Dutch. To be able to have an accurate representation of the total population of URM in the Netherlands, no attempt would be made to select URM for the study on any other socio-demographic factor. The legal guardians and teachers of URM would also receive questionnaires two times (interval of twelve months) by mail and return them by mail.

Pilot study

Great care was taken in designing the project. Prior to the start of the project, crisis intervention mental healthcare was arranged at mental healthcare facilities throughout the Netherlands for URM if they might experience psychological distress as a direct result of participation in this research project. Fortunately, it was not necessary to make use of the crisis care. Before the actual project started in May 2002, 183 URM and 10 guardians and teachers took part in a pilot study to (re-) test the research protocol and instruments (Bean, 2002b). The modifications to the lay-out and wording of the self-report questionnaires had been based on previous research (Bean, 2000). During the pilot study, 30% of the approximately 500 URM approached took part in the study. There was always a one week period between the introduction/explanation of the study and the assessment to allow URM sufficient time to consider taking part in the study. The pilot study was carried out with only URM who had been in the Netherlands for more than 4 months but less than one year. If there would have been severe language difficulties in filling in the questionnaires, it would have been with this group of URM. However, due to rapid transfers/re-location of URM it was very difficult to keep track of them. Most of the time, half or more of the URM that were present for the introduction of the pilot study, had moved before or on the assessment day. This situation was caused by the large numbers of URM that were still arriving in the Netherlands at that time (beginning of 2002). Five Master's level research assistants and the author conducted the assessments with small groups of URM (10-25). The assessments took place at two schools and 5 reception centers. One of the most important findings of the pilot study was that the size of the random sample that would need to be drawn for the main study would need to be 4 times as large as the final target sample size to be able to attain a large enough sample to validate the psychological instruments.

The Main Study

The original research proposal was to assess a sample of 1500 URM (minimum of 1000) for the first period and 500 URM for the second assessment period (follow-up) (Bean, 2002b). From the total population of approximately 12,000 URM under the age of 17.5 years (in 2002), approximately 4000 URM, ages ranging from 11 to 17.5 years were randomly selected from the Central Registrar of Nidos foundation. URM had to reside for at least 4 months in the Netherlands at the time of the selection to make sure that they could at least be able to communicate in very simple Dutch with the research assistants. Also, after 4-6 months in the Netherlands, the URM should have been placed from a temporary reception center into a more permanent residential setting, gotten used to their surroundings, should have been attending school, and have an guardian appointed to them. However, in actuality this was not always the case.

The research proposal was sent for approval to the Medical-Ethical commission of Leiden Univerity Medical Centre. The research proposal was officially approved on the 6th of May 2002 and the main study started immediately hereafter. General public information about the study was sent to stakeholders, guardians, schools, and receptions centers throughout the Netherlands to make sure that all the organizations and schools that would in some way take part in the study would be aware of the study, the reason for the study, the objectives of the study, and the contact person if they had questions or in the case of problems. After the general information was sent, specific information and permission waivers (Dutch and translated versions) were sent to the guardians to discuss with the URM. Both the minor and his/her guardian needed to give written permission before the URM would be allowed to participate in the study. They were also informed that participation was voluntary, the information that would be collected was confidential, and would in no way be used for or

against URM in their asylum procedure. The assessment period spanned an entire year, May 2002 tot May 2003.

After a period of 12 months had passed from the first letter, contact was again sought with the same URM that had participated in the first assessment period. Approximately every three months between May 2003 and May 2004, a sample of the URM that had taken part at the same time the year before was contacted to take part in the study again. In the second letter, the URM was informed over how many URM had taken place in the study, what the reason was for the second assessment, that the information that would be collected was confidential, that participation was voluntary and that this would be the last assessment.

Assessment procedures

URM

In principle, the adolescents were to complete the questionnaires in small groups of 15 during school hours. The school is a neutral environment providing a secure structure for the administration of questionnaires. However, it was also necessary to administer the instruments in small groups of adolescents at reception centers or at the regional offices of the Nidos Foundation. These adolescents did not attend school or were absent on the day the questionnaires were completed. For each URM, at least three attempts were made to test URM that had given permission (and their guardian) to take part in the study (for T1 and T2). The URM, guardians, and contact person at the assessment location were all informed of the assessment appointment with the URM at least one week before it took place.

In total, 36 Master's level research assistants from 6 universities spread across the Netherlands, that were predominantly Dutch from ethnic origin worked on this project. At least three of the trained research assistants per 10 URM were present to conduct the short interview on mental healthcare needs and to provide an explanation regarding filling-in questionnaires in general and specific questions about items on the questionnaires. This explanation occurred every time before the instruments were filled-in and followed a standard protocol even if an URM was individually tested. This explanation took approximately 15 minutes. First, an introduction was made by the lead researcher and research assistants to clarify who they were and that they were part of a university and professional mental healthcare center and not working for the government. It was also very important during these 15 minutes to again explain the voluntary participation and the strict confidentiality of the study to try to reassure the URM that no information would be used against them. In addition, the random nature of how the sample was drawn was explained so that URM would not think they were personally singled out because something was wrong with them.

Administration of all the three self-report instruments and mental health questionnaire took approximately an hour to be completed during the first assessment. The mental healthcare questionnaire was always individually administered. During the second assessment period, it was sometimes necessary to re-administer all the instruments individually because a great proportion of the URM had been transferred (repeatedly) throughout the period between the assessments. This made it sometimes difficult to form groups because of the great physical distance between locations. The second administration lasted between 15 minutes up to an hour depending on the individual reading abilities of URM, including filling in the added Adaptation and Attitude questionnaire. Refreshments and a gift certificate for the cinema (worth 7.50 euro) were given to the URM during or after the administration of the instruments as a token of appreciation for their participation.

Guardians and Teachers

General information concerning the start of the project was distributed to all Nidos Foundation regional offices and schools which provide educational opportunities to URM. Forty-two regional offices of the Nidos Foundation were spread throughout the Netherlands in 2002. After permission slips were returned, two information packages (one for guardian and one for teacher) were sent to the supervisors of each regional office for each guardian that was responsible for one or more of the unaccompanied minors that had taken part in the study. The guardians received a letter with the questionnaires informing them about the study and giving instructions concerning how the questionnaires should be filled in. The guardians were instructed in the letter and by their supervisors that they could fill in the questionnaire or ask a staff member of the living unit/foster parent of the unaccompanied minors to do so. However,

the guardian remained responsible for retuning the completed questionnaires to their supervisors which in turn sent all the completed questionnaires from the regional office back to the research center. The guardians were reminded 3 times each assessment period to return the questionnaires. Unfortunately, because of their heavy caseload and/or the rapid turnover of personnel at that time many guardians did not return the questionnaires.

The guardian was also responsible to send the information package to the teacher. Enclosed in the information package for the teacher, was a letter describing the project, questionnaires and a stamped and addressed enveloped in order to enable the teacher to return the completed questionnaires directly. The teachers received a letter with the questionnaires informing them about the study and giving instructions concerning how the questionnaires should be filled in. No list of teachers was supplied to the researcher, therefore making it impossible to remind the teacher to send the questionnaire back. Teachers could fill in the questionnaires anonymously.

The data that was collected during this research project is central in this dissertation and is used to make all "within" group comparisons. In chapters 2, 3, 4, and 6, other adolescents samples were also assessed to be able to make "between" population comparisons of psychological distress, maladaptive behaviors, stressful life events, and mental healthcare needs. In recent literature, within and between group comparisons have been called for to study differences in mental health and development (Fuligini, 2004). The characteristics of the other adolescent samples are described in the pertaining chapters.

Structure of the dissertation

Part 1: Assessment of psychological distress among a heterogeneous URM population

The first section of this dissertation presents 5 chapters (2-6) that deal with the development and validation of psychological measures that assess the psychological distress and stressful life events of Unaccompanied Refugee Minors (URM). In this section the first objective of the dissertation, to expound on the possibility to validly and reliably use standard psychological questionnaires in assessing the psychological distress of a culturally heterogeneous sample of URM, is addressed. The first three chapters concern self-report instruments. The three self-report instruments (Hopkins Symptom Checklist - 37A[HSCL-37A], Stressful Life Events Questionnaire [SLE], and Reactions of Adolescents to Traumatic Stress Questionnaire [RATS]) were developed/adapted because at the start of this project there were no questionnaires available which measured internalizing distress, externalizing behavior, traumatic stress reactions and stressful life events, which were validated for refugee adolescents, which were translated in the necessary languages, which the item content did not refer to parents which might have been a painful confrontation for URM, and did not follow the five levels of cross-cultural equivalence suggested by Flahtery et al.(1988). Therefore, the endeavor was undertaken to compose a basic screening battery that would fulfill the above mentioned criteria.

The last two questionnaires which are validated for URM are the well-known Dutch version of the Child Behavioral Checklist and Teacher Report Form for respectively the legal guardians and teachers of URM living in the Netherlands. Using multiple informants in research among adolescents has become the norm primarily because of the important information that can be lost through self-reports and secondarily, because of the "objective" nature of the reporting of psychological distress from another point of view. Furthermore, it was imperative to examine to what extent the Dutch guardians and teachers were able to perceive the psychological problems that URM experience.

These five chapters serve as the scientific foundation on which the second section of the dissertation is built. The significance which can be attached to the results of any study is of course predetermined by the degree of reliability and validity of the psychological instruments that have been utilized. Earlier in this Introduction, the importance of the validation of psychological instruments among culturally heterogeneous population has been mentioned and is the main reason why half of this dissertation is devoted to the validation of assessment instruments.

Part II: Severity of psychological distress, mental healthcare needs and psychological adaptation among URM in the Netherlands

The second section of the dissertation focuses on the prevalence, severity and course of psychological distress among URM and their mental healthcare needs. In chapter 7, the URM population is compared with two other adolescent populations to assess to what extent the psychological distress of URM diverge from other adolescents and to compare different populations in an attempt to measure norm equivalence of the self-report instruments that were utilized. Chapter 8 is the heart of this section, covering the prevalence, course and agreement of reports of psychological distress given by URM, their legal guardians and teachers during both assessment periods. This chapter looks at the temporal course of the distress URM experience and if the significant adults in their lives are aware of the severity of the distress they experience. These two chapters (7 and 8) address the second objective of the dissertation. The following chapter concentrates on specific questions regarding the mental healthcare use, needs and unmet needs of URM, particularly in comparison with a Dutch normative sample. In this chapter the third objective is to attend to, i.e. establish what the needs, unmet needs, and use of mental healthcare services among URM in the Netherlands. Associations between the expression of traumatic stress reactions and the psychological adaptation of URM to their current situation is the focus of chapter 10 and the last objective of the dissertation. This chapter also investigates whether especially the comorbidity of internalizing and externalizing psychological problems with traumatic stress reactions impairs the adaptation of URM in the Netherlands.

At the end of chapter 10, a discussion follows in which the results of the study will be, above all, interpreted into implications for the mental healthcare field. The dissertation concludes with specific policy recommendations presented for clarity in the form of a stepped-care model. Because chapters 2 through 10 of this dissertation were written as individual articles, some overlap in the chapters was unavoidable, particularly regarding the method sections of each chapter.

Part I

Assessment of Psychological Distress Among a Heterogeneous URM Population

Chapter 2

Effects of Traumatic Stress on the Mental Health of Immigrant and Refugee Adolescents: An Exploratory Study

Abstract

This study evaluated the practical feasibility of using self-report instruments in assessing the influence of traumatic stress on the mental health of a culturally heterogeneous group of adolescents. Five samples of adolescents were tested, Dutch native adolescents, second generation immigrants, first generation immigrants, refugees and unaccompanied refugee minors (URM). Reactions of Adolescents to Traumatic Stress questionnaire (RATS) was used to measure the severity of posttraumatic stress reactions and the Stressful Life Events checklist (SLE) to measure the number of self-reported traumatic events. Students participated in their school classes (N = 579). URM consistently reported significantly higher scores on the RATS and SLE than all other groups. Girls reported having more posttraumatic stress reactions than boys irrespective of the group they belonged to. The number of reported stressful life events was strongly related to the total score on the RATS. URM appear to be at significant higher risk for posttraumatic stress reactions than refugee adolescents living with a family member, immigrants or Dutch native adolescents.

Introduction

All kinds of immigrants (with or without family), enter foreign countries looking for a better future, a good home, economic security, safety, food, and care. “Voluntary immigrant” minors and their families have a host of obstacles they must overcome, such as: acquiring a

new language, entering into (a different) formal education, making new friends and adjusting to a new culture. Refugees face even more difficulties. They must learn to cope with the "forced" migration, the violence they have experienced or seen and a multitude of other possible traumatic events. The number of refugees in the European Union has increased during the last 20 years (Eurostat, 2002). Previous research that has been done with refugee minors suggests that this group is also at high risk for psychological dysfunction (Mollica, Poole, Son, & Murray, 1997; Papageorgiou et al., 2000) and learning difficulties (Rousseau, Drapeau, & Corin, 1996). Unaccompanied refugee minors (URM) have all of the obstacles that have been already mentioned plus the fact that they are alone in a foreign country at a very vulnerable developmental period in their lives. They do not have the protection or help from parents or family to assist them and shield them from the stress of the acculturation process, in coping with their grief, psychological distress or simply carrying out daily tasks that must be completed to survive. The number of Unaccompanied Refugee Minors (URM) in the Netherlands had increased dramatically until 2001 and is now rapidly decreasing due to new asylum policies (Nidos, 2004). There are approximately 5,000 URM currently living in the Netherlands. Although, there has been little research conducted regarding URM, they have been found to be an especially vulnerable group to develop psychopathology (Felsman, Leong, Johnson, & Felsman, 1990; Sourander, 1998).

Trying to provide adequate psychosocial treatment to young refugees is complex (Hodes & Goldberg 2002). Mental healthcare (MHC) providers and researchers in the Netherlands are often hindered in acquiring accurate information concerning the mental health status of culturally diverse adolescents, due in part to a lack of reliable and valid diagnostic instruments to be used with non-western cultural diverse populations. The complexity of providing adequate MHC is exacerbated due to limitations of refugee adolescents such as the inability to express their feelings in a foreign language and their cognitive inability to process what has happened to them/their families.

Many studies have addressed the prevalence of psychological distress and/or posttraumatic stress reactions in refugee minors all over the world; from Cambodia (Berthold, 1999; Mollica et al., 1997); from Lebanon (Macksoud & Aber, 1996); from Iran (Almquist & Broberg, 1999); from Croatia (Zivcic, 1993); from Bosnia (Becker, Weine, Vojvoda, & McGlashan, 1999); El Salvador (Walton, Nuttall, & Nuttall, 1997); from Tibet (Servan-Schreiber, Lin, & Birmaher, 1998); from Armenia (Miller, Kraus, Semyonova-Tatevosyan, & Kamenchenko, 1993) and from Guatemala (Miller, 1996). The type of violence that a child has experienced or seen, the reactions of the parents, psychological health of the parents and child, age, gender and developmental stage all seem to influence whether a refugee child or adolescent will develop posttraumatic stress reactions to highly stressful experiences (Green et al., 1991; Macksoud & Aber, 1996).

The symptomatology that is classified in the DSM-IV diagnosis of posttraumatic stress disorder (American Psychiatric Association [APA], 1994) does not seem to include all of the symptoms that refugee children and adolescents exhibit after experiencing traumatic events. Depressive symptoms, social problems, somatic complaints, and learning difficulties also seem to be problem areas. There is also high co-morbidity with syndromes such as depression, generalized anxiety, separation anxiety, ADHD, and dissociation (Papageorgiou et al., 2000; Sack & Clarke, 1996; Servan-Schreiber et al., 1998). The similarity in symptomatology of young refugees, suggests a universal bio-psychological reaction to psychological trauma (Ruhkin et al., 2005; Sack et al., 1993).

The present study is a sequel to a previous study done by Vervuurt & Kleijn (1997) with 100 refugee adolescents in The Hague, the Netherlands. Vervuurt and Kleijn found that 56% of the girls and 52% of the boys had scores above the clinical borderline on the Dutch version of the Youth Self Report (YSR) (Achenbach, 1991a) for internalizing problem behavior. These research findings are in sharp contrast to the 2% prevalence rates that have been established for the Dutch population (Verhulst, van der Ende, & Koot, 1997). However, the YSR does not measure posttraumatic reactions and is not validated for a heterogeneous refugee population. Another instrument, the UCLA PTSD Reaction Index for DSM-IV (Pynoos, Rodriguez, Steinberg, Stuber, & Frederick, 1998) is frequently used in American studies to assess traumatic stress reactions among children and adolescents. However, as far as known by the authors, this checklist has not been validated for culturally diverse adolescent populations following 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 which implies 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, in-person interview) yields 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. The first three types of equivalence were addressed in this study.

The main objective of this study was to explore the practical feasibility of using self-report instruments in assessing the influences of traumatic stress on the mental health of culturally diverse samples of adolescents such as immigrants, accompanied refugee minors and URM in comparison to a native Dutch adolescent population. For this purpose, several self-report instruments have been developed in order to be able to apply them to cross-cultural groups of adolescents rendering it possible to measure posttraumatic stress reactions of immigrants and refugee adolescents.

Method

Participants and Procedure

The sample was comprised of five different groups, (1) Native Dutch adolescents (n = 100), (2) Second generation immigrant adolescents (n = 82) born in the Netherlands, but having parents from other countries), (3) First generation immigrant adolescents (n = 186), (4) Parental accompanied refugee adolescents (n = 143), and (5) Unaccompanied refugee minors (n = 55).

The study took place within the context of the Project Newcomers 12-17 years old which is a project developed for the educational system in The Hague, the Netherlands. The Project has provided psychosocial and cognitive support to immigrant and refugee adolescents in international secondary education since 1989. Students were included in the study if they could read in their own language or in Dutch and if they had been enrolled at the school for longer than 8 weeks. The Dutch students were born in the Netherlands and came from a school with a limited number of culturally diverse students.

Letters of informed consent were sent to the parents/caretakers of the students to inform them about the research project. Parents could phone and talk to the school psychologist about the project, if they had questions or did not want their child to participate. The goal and reasons for the study were thoroughly explained to every class in Dutch and in translated letters. The school psychologist also introduced themselves to everyone and made themselves available to the students if the students wanted to talk to them about the feelings and thoughts about the project or in general. Each student was offered the opportunity to refrain from participation at any time. The instruments were filled in anonymously. No attempt was made to assess the students who were absent from a class on the day of the testing. The duration of the testing period was approximately 50 minutes. A school psychologist, teacher, or mentor and the researcher were always present in the classroom during testing to provide emotional assistance to the students if necessary. No students exhibited emotional distress during their participation in this research project.

Measures

Approaching traumatized individuals, from any country, with long psychological interviews can be ethically questionable and can be an obstacle in trying to give help (Saylor, Swenson, Reynolds, & Taylor, 1999). Two brief instruments were adapted for use in this study to try to prevent overburdening potentially traumatized youth. Most refugees and immigrants are apprehensive in divulging information about themselves. School psychologists were interested in having short instruments for psychological assessment purposes because of the limited time they have available for psychological testing. The school psychologists reviewed all items in the questionnaires for relevance and appropriateness before the study was conducted.

The instruments and the demographic questions were available to the students in a bilingual form (Dutch/foreign language) in the thirteen prevalent languages in the school

districts in The Hague; Dutch, English, French, Spanish, Portugese, Somalian, Servo-Croatian, Chinese, Russian, Farsi, Soerani, Arabic, and Turkish. No written back-translations were done in this study. Instead an oral item- by- item analysis took place with trained interpreters from mental health services. The level of difficulty of the vocabulary in the items was assessed using a vocabulary list developed for migrant adolescents. 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 in treatment sessions of traumatized adult refugees to control the quality of the translations, to ensure that the original meaning was conveyed in the items, and to attempt to achieve semantic equivalence of the RATS and SLE. Both instruments were tested in a pilot study to assess which visual aid was easiest to understand (question form sentences or statement form sentences; colored balls or building blocks). In addition, the adolescents also had the chance to comment on the content of the questions (if the meaning of the item was equivalent in Dutch and the other foreign language) and if they found the questions intrusive.

The following demographic information was gathered; gender, age, language, country of origin, duration at the new school in the Netherlands, year of departure from country of origin, year of arrival in the Netherlands, living arrangements.

The Stressful Life Events (SLE) checklist (Bean, 2000) was used to indicate (twelve) types of traumatic events to which adolescents might have been exposed to and one open question where an adolescent could specify a particular traumatic event. The thirteen questions were worded in the most unobtrusive way possible. There was also a blank for comments. This short checklist can be used to assess if an adolescent meets the criteria A1 (experienced a traumatic event) in the DSM-IV, (APA, 1994) for a diagnosis of Post-Traumatic Stress Disorder (PTSD). These events fall under the following sub-clusters: family, sickness and accidents, disasters, war experiences and other traumatic experiences. This instrument is scored by adding the number of experienced Stressful Life Events as endorsed by a yes/no answer.

Posttraumatic stress reactions were assessed with the Reactions of Adolescents to Traumatic Stress (RATS) (Bean, 2000) questionnaire. The 22 items are derived from the seventeen core symptoms of the B, C, and D clusters for the diagnosis of PTSD as defined by the DSM-IV (APA, 1994). The criteria B3, C1, C5, D1, and D2 have been divided into two items to better measure both symptoms of PTSD that appear in one criterion (for example; criterion D1 is “difficulty falling **or** staying asleep”). Great care was taken in formulating the items so that concepts would be comprehensible to adolescents of whom Dutch was not their first language. The questionnaire is scored using the three clusters of the DSM-IV criteria; intrusion, avoidance/numbing and hyperarousal.

Scores on the RATS can be calculated for severity of posttraumatic stress reactions in general and for the different symptom clusters. The lay-out of the rating scale used colored balls increasing in size, along with words to explain the concept of quantity on a 4-point Likert-scale: not = 1, little = 2, much = 3, very much = 4. Items 1-6 (scoring range; min. 6-max. 24) correspond to the intrusion symptom cluster, items 7-15 correspond to the avoidance/numbing symptom cluster (scoring range; min. 9 - max. 36) and items 16-22 (scoring range; min.7 -max. 28) correspond to the hyper-arousal symptom cluster. Separate sub-scores for PTS reactions can be calculated for each symptom cluster. The total score can be calculated adding the points of all of the 22 items.

Moreover, the combined use of the SLE and the RATS makes it possible to classify a probable PTSD diagnosis based on the A1, B, D, and C criteria of the DSM-IV. One needs to have experienced at least one stressful life event (A1; SLE), one intrusion item, three avoidance/numbing items and two hyper-arousal items (RATS; B, D, and C) to meet the criteria requirements. An item qualifies for scoring if it has been scored as “much” or “very much” and then receives a “1”. If the item is scored as “not” or “little” then the item receives a “0”.

Data Analysis

The purpose of this study was to evaluate the practical feasibility of using self-report instruments in assessing the influences of traumatic stress on the mental health of a very

diverse group of adolescents. The demographic background information of the adolescents samples are presented in Table 1. Differences in age and gender between groups were analyzed with one-way ANOVA's and Chi-Square tests. Gender, Age groups and Sample groups with mean scores and standard deviations for all the scales of the RATS and SLE total scores are presented in Table 2. The internal consistency has been measured with Cronbach's alpha. Analyses of co-variance were used to study group differences controlling for age and gender. Post hoc comparisons were performed using the Games-Howell test, which corrects for unequal group sizes and unequal variances. Pearson's product-moment coefficient correlations were used to assess the association between the total number of stressful life events and PTS reactions. The Chi-Square Test with the odds ratio statistic was utilized to calculate which groups within the total population group seem to be at a greater risk for developing PTS-reactions. Finally, to assess the best predictors of PTSD, a regression analysis (using the stepwise method) was used to measure the strength of associations between demographic variables and PTS reactions.

Results

Background Characteristics

Over 42 different countries were represented in this study. The countries most frequently represented were: the Netherlands (*n* = 182), Turkey (*n* = 84), Morocco (*n* = 73), Iraq (*n* = 27), Somalia (*n* = 25), Afghanistan (*n* = 17), Angola (*n* = 16), Kurdistan area (*n* = 14), Surinam (*n* = 14), China (*n* = 13) and Curacao (*n* = 10). The remaining countries were represented by 5 students or less. If students came from Turkey, Morocco, Curacao, and Surinam they were considered to be immigrants. Students from countries that were engaged in armed conflicts, political unrest and/or economic unstable were considered as being refugees. The mean age of the whole group was 15 (*SD* 1.46). There was just about an equal number of boys (*n* = 287) and girls (*n* = 278) that took part in the study. 43.4% of the 1st generation immigrant and refugee adolescents departed their country of origin in or after 1998. 47.3% arrived in the Netherlands in or after 1998. 63.9% of the students lived with both parents and 9.8% lived without any family member in the Netherlands. There were significant differences in gender and age between the different sample groups. Boys were overrepresented in both the URM and the native sample. Girls were overrepresented in the second generation group. Mean age was the highest in the URM group and the lowest in the native group; the age group 17-19 was lacking in the native group and the age group 11-13 was lacking in the URM group. The assessment took place between April and June, 2000.

Table 1.
Background characteristics of sample groups

	Native	2nd generation	1st generation	Refugee	URM	*p*-value *
Number	100	82	179	143	55	
Females (*n*, %)	43 (43.4)	51 (63.8)	91(50.8)	68(48.6)	21(38.2)	.027
Age (*M, SD*)	13.6 (0.8)	14.7 (1.3)	15.2(1.3)	15.5(1.3)	16.6(1.0)	<.001

* *Note*. *p*-value for differences between the groups (chi-square tests for gender and ANOVA for age).

Practical feasibility

The practical feasibility, using self-report questionnaires among a very culturally diverse population, was essential to the success of the study. Organizing a research project with students that come from over 40 different countries was very challenging. Several very common research steps became very complicated when working in a classical testing situation with classes of students that speak over 20 different languages. Knowing beforehand where the students came from and what languages they spoke, was imperative to conduct the testing efficiently. Each class was told at the beginning of the assessment period that participating in the study was voluntary. Approximately one student per class declined to take part in the research project. The majority of the students found it interesting to take part in such a study. Ten students found the questions too intrusive and did not wish to finish the screening. The students that did not want to participate still wanted to read the checklists, especially since it

was in their own language. Refugee students were often suspicious of the motives behind the assessment. Reassurance was given to them by emphasizing that the researcher alone would know the results and no one such as the parents, police, teachers, Immigration and Naturalization Agents would read the completed questionnaires. Most of the time reassurance, and the fact that the testing was anonymous, gave them the feeling of security they needed to take part in the study. The rating scale was explained orally (duration 20 minutes) before the class and sometimes needed to be clarified, individually.

It appeared to be practically feasible to carry out classical research using checklists with a culturally heterogeneous population. The greatest majority of the students did not experience the test as being intrusive or upsetting. With the exception of a few students (22), who declined to participate in the research project, most students (96.4%) took part without any difficulties.

Table 2.
Total sample characteristics and total and sub-scale scores

	RATS Total			Intrusion			Avoidance/ Numbing			Hyperarousal			SLE Total		
	n	*Mean*	*SD*	*n*	*Mean*	*SD*	*n*	*Mean*	*SD*	*n*	*Mean*	*SD*	*n*	*Mean*	*SD*
Gender															
Girls	218	41.40	10.97	257	9.85	3.75	236	17.28	4.30	250	12.50	4.14	234	2.90	2.74
Boys	220	38.23	11.28	261	9.13	3.93	244	16.56	4.11	256	11.34	4.11	223	3.22	2.25
Age group															
11-13 years	71	37.00	8.87	83	8.70	3.08	78	15.87	3.50	76	10.78	3.30	81	2.93	2.18
14-16 years	306	39.47	11.37	306	9.11	3.75	330	16.85	4.22	349	11.89	4.38	310	2.87	2.41
17-19+ years	67	45.16	11.81	67	11.86	4.24	79	18.58	4.48	89	13.20	3.75	73	4.16	2.92
Sample group															
Native	85	36.88	8.35	97	8.68	2.95	92	15.83	3.00	93	10.90	3.39	93	3.00	2.21
2nd generation	66	38.60	12.53	78	8.72	3.93	70	16.40	4.95	74	11.80	4.56	74	2.81	2.45
1st generation	150	40.17	12.49	175	9.36	3.95	160	17.19	4.72	167	11.80	4.54	159	2.38	2.27
Refugee	106	40.58	10.32	131	9.91	3.92	118	17.24	3.89	130	12.13	3.74	106	3.49	2.48
URM	33	48.48	9.13	41	12.63	3.84	43	19.28	3.35	45	14.50	3.92	28	6.46	2.53

Internal Consistency

The Cronbach's alpha values for the RATS (total score, and the subscales intrusion, avoidance/numbing and hyperarousal) are .89, .87, .62 and .76 respectively. Among boys, the alpha for the total score of the RATS was .90 and among girls it was .88. These high alphas show that the total scale of the RATS is very reliable and the sub-clusters are reasonably reliable given this exceptionally heterogeneous population. Alpha's for the total score of the RATS for the different groups ranged from .81 (URM) to .92 (Second generation). Furthermore, for the different language version, the alpha's for the total RATS score ranged from .74 (Spanish version) to .96 (Arabic version).

The relative low internal consistency of the avoidance-numbing subscale needs some comment. The avoidance/numbing cluster contains 3 positively worded items (12, 14, 15) Originally, these items contained a negative wording, so endorsing the item required negation thereof. We thought that double negations might be confusing for adolescents; therefore the negative wording was changed into a positive wording. Unfortunately, it appeared that a positive wording is not always equivalent to a double negation. For instance, not feeling bad does not automatically imply feeling good. So these items were frequently scored wrong by the students if they did not read the question carefully and accurately.

If these 3 positive worded items were answered no, this might result in an error in classifying a PTSD. Therefore, in classifying a possible PTSD diagnosis, (based on the A1, B, C, and D criteria established in the DSM-IV), we used four instead of three items from the avoidance/numbing cluster. So a student qualified for a PTSD diagnosis only if he or she had endorsed four instead of the recommended three avoidance/numbing items. This is a precautionary measure for this study that would not be necessary in an individual testing

situation. These three items will need to be changed back to negatively worded items in future studies.

Posttraumatic stress reactions: interaction of gender and age

Interactions of age and gender Using a 3 (age group) by 2 (gender) analysis of variance, the effect of gender and age on RATS total mean scores was examined. Gender did not have a significant main effect (F (1,435) = 3.67, p = .06), however age group did (F (2,435) = 9.26, p <.001). There was no significant interaction effect of age and gender on RATS mean scores (F (2,435) = 1.20, p =.30). These results imply that the older age groups (17-19 years) reported more PTS reactions than the younger age groups did, irrespective of gender.

Interaction between sample group and gender on RATS scores, controlling for age

An ANCOVA was performed to assess the main effects of sample group and gender and their interaction effect on the RATS total score. Age was controlled for by including it as a covariate, as the preliminary analysis had revealed significant age effects on the RATS scores. There was a main effect for group, (F (4,427) = 2.91, p < .05) and for gender (F (1,427) 6.12, p < .01). The URM group reported significantly (p <.01) higher scores than all of the other groups. Girls reported significantly higher mean RATS scores than boys (p <.01). The interaction between sample group and gender was not significant. It may be therefore concluded that the differences between sample groups and between gender regarding PTS reactions are independent from each other, remaining significant after controlling for age.

Stressful Life Events: interaction of gender and age

Interaction effects of age and gender on mean number of SLE. There was only a main effect of age on the mean number reported on the SLE (F (2,455) = 5.49, p < .01) older adolescents reported to have experienced more SLE's. Gender did not have a significant effect (F (1,455) = 2.46, p = .12). In addition there was a significant interaction effect of age and gender on mean number of SLE (F (2,455) = 3.32, p < .05) implying that older boys reported the highest number of stressful life events.

Interaction between sample group and gender on SLE scores, controlling for age

An ANCOVA was performed to assess the main effects of sample group and gender and their interaction effect on the SLE total score. Age was controlled for by including it as a covariate, as preliminary analyses had revealed significant age effects on the SLE scores. There was a main effect for group, (F (4, 447) = 16.34, p <.001) but not for gender (F (1,447) = 3.11, p = .08). The 1st generation of immigrants reported having experienced significantly less SLE's than the Native group (p <.05). In addition, the URM sample reported to have experienced significantly more SLE's than all other sample groups (p <.001) The Refugee group reported having experienced significantly more SLE's than the 1st and 2nd generation immigrants samples (p <.001). The interaction between sample group and gender was not significant. The difference between sample groups regarding the number of stressful life events remains significant after controlling for age.

Intermeasure correlations

The total score on the SLE correlated significantly and strongly with the total score on the RATS (r (n = 383) = .60, p <.01). The subscales; intrusion (r (n = 452) = .58, p <.01), avoidance/numbing (r (411) = .45, p <.01), and hyper-arousal (r (434) = .51, p <.01) also correlated significantly and strongly with the total SLE score. These correlations signify that the number of stressful events a student has experienced is strongly associated with PTS reactions.

Odds Ratio

The Chi-Square Test with the odds-ratio statistic was utilized to calculate which groups within the total population seem to be at a greater risk for being classified as receiving a PTSD diagnosis (see Measures section for a description of classifying a PTSD with the SLE and RATS). The risk estimate for a PTSD for different demographic variables can be found in Table 3. Girls have a 1.7 larger chance of being classified with a PTSD diagnosis than boys. URM seem to be at a greater risk for developing PTSD than any other group. The oldest age

group has a chance of being classified as having PTSD that is 2 times as large as that of the youngest age group. Dose-response relationship was evident between experiencing any of the stressful life events and being classified with a PTSD, meaning the more stressful life events reported, the higher the risk of a PTSD diagnosis.

Table 3.
Risk Estimate for a Possible PTSD Diagnosis

Chi-Square Test and Odds Ratio Statistic	X^2	Odds Ratio Value	95% Confidence Interval	
			Lower	Upper
Boy /Girl	4.24*	1.71	1.02	2.87
Test groups Native / 2nd Generation	4.68*	4.00	1.05	15.30
Test groups Native / 1st Generation	11.44***	6.40	1.90	21.51
Test groups Native / Refugee	6.52*	4.53	1.29	15.92
Test groups Native / URM #		8.00	2.09	30.61
Age groups; (11-15) / (16-19)	6.92**	1.94	1.18	3.19
Total Number of Stress Life Events; (1-3) / (4-12)	55.79***	7.33	4.12	13.04

Note. NS not significant , # 1cell (25%) has expected count less than 5; the Fisher's exact test was used.
* $p < .05$; ** $p < .01$; *** $p < .001$

Regression Analysis

Finally a regression analysis, (method stepwise) was carried out to select the best predictors of traumatic stress reactions. The total score on the RATS was the dependent variable, and gender, age and the total number of SLE's were used as independent predictors (Table 4). The overall multiple correlation was R=.63 or 39% of the total variance in RATS mean scores can be explained by the predictors. The total score on the SLE appeared to be the only robust predictor, explaining 36% of the variance alone in RATS total scores.

Table 4.
Regression Analysis; Predicting Posttraumatic Stress Reactions

Total RATS score Step 1	*B*	SE *B*	β	*Adj.* R^2	*F(df)*
Total Score Stressful Life Events	2.77	.19	.60***	.36	209.68 (1,373)***
Step 2					
Total Score Stressful Life Events	2.70	.19	.59***	.38	113.74 (2,373)***
Age	1.16	.34	.14***		
Step 3					
Total Score Stressful Life Events	2.68	.19	.58***	.39	81.40 (3,373)***
Age	1.17	.33	.14***		
Gender	3.07	.94	.13***		

Note. Potential predictors: gender, age, and total number of experienced stressful life events; Adj., Adjusted .
*** p <.001

Discussion

The objective of this study was to assess the practical feasibility of using self-report questionnaire with a very heterogeneous cultural population of adolescents. The findings of this study indicate that it is feasible to use self-report questionnaires that have been modified for a culturally diverse group of adolescents in a classical research setting. URM had consistently significant higher scores on the total scores of the RATS and the SLE than other study groups. This means that URM suffer the most from PTS reactions and have experienced the most stressful life events. Moreover, URM also had a 1.8 higher chance of meeting the

criteria of the DSM-IV for PTSD than the Refugee group. Findings in this study support the supposition that URM's are at great risk for developing emotional problems (Sourander, 1998).

Refugee adolescents living with at least one family member in the Netherlands had significantly lower total scores on the RATS and SLE than the URM group. This finding was unexpected since all of the adolescents came from politically unstable countries and have all been at risk for experiencing traumatic events. It seems, however, that the presence of at least one family member living in the Netherlands has a protective effect on the mental health of adolescents. This finding supports the suggestion that reunification of the family should be a primary directive in alleviating the psychological distress of URM, if possible (UNHCR, 1995). If reunification is impossible, a personal guardian should be appointed to an URM in host countries to protect their emotional development.

Girls seem to be at a greater risk of psychological distress than boys because they reported significantly more PTS reactions. A girl, in this study, had a 1.7 higher chance of being classified with a PTSD diagnosis than a boy. This is not an uncommon finding. It has been repeatedly documented that girls report more symptoms of psychological distress and PTSD than boys (Green et al., 1991). Foreign (immigrant and refugee) students had a higher chance of meeting the criteria for a possible PTSD diagnosis than Dutch native adolescents. The negative stressful reactions to immigrating such as; acculturation stress, language difficulties, loss of a social network should lessen over time as a young person is able to adjust to the new situation. However, the effect of time can only be properly assessed in a longitudinal study.

This study provides useful information for clinicians who treat URM. It is very clear that from all of the immigrant adolescents groups, URM can be considered as the group with the highest risk of experiencing psychological distress. PTS reactions seem to be predominant in this population. The period of time that a student had been living in the Netherlands was found to be a protective factor, along with being a boy and being in the age group of 11-13 years. Becker et al. (1999) found that PTS symptoms decreased over time with 10 Bosnian adolescents that were relocated in the United States. Other researchers suggest that the environment and lack of familial support of the adolescents played a crucial role in the development of PTSD symptoms (Beckham, Braxton, Kulder, Feldman, Lytle, & Palmer, 1997; Green et al., 1991; Macksoud & Aber, 1996).

Preventive and curative measures should be taken to provide a broad range of intervention programs and psychosocial support in low-threshold MHC services (in schools, community activities) so that the coping skills and personal resources of the adolescent could be strengthened. Adequate guidance and supervision that is culturally sensitive would be of the utmost importance in relieving some of the acculturation stress, which Sack et al. (1996) found to be strongly related to PTSD symptomatology and other forms of stress, which could have adverse effects on the mental health of adolescents.

The uncertainty and the chaotic environment in which all refugees live can contribute to high stress levels and lead to the high amounts of psychological distress that has been recorded in this study. Further investigation is needed to evaluate if the instruments that were used in this study will be able to help MHC professionals screen culturally heterogeneous adolescent populations for psychological dysfunction. It is crucial that groups of adolescents that are at high risk for the development of psychopathology are detected in an early stage, so that psychological distress is minimized and appropriate therapeutic interventions can be made. The psychosocial needs of immigrant and refugee adolescent populations should be accurately and adequately addressed to promote healthy integration into the community of host countries.

This study was conducted using newly developed psychological instruments. Although the initial evaluation of the instruments shows that they appear to be reliable with multicultural adolescents, further investigation into their psychometric properties is necessary. There was no translated and reliable standardized diagnostic interview available in the languages of the students to assess the criterion validity of the RATS and the reporting of trauma on the SLE was retrospective with no independent corroboration of the alleged traumatic event(s). The only available source of information in determining the severity of psychopathology of the adolescents was the adolescents themselves. In addition to standardized interviews, information about the behavior and mental health status of the

adolescents from parents, caregivers, teachers and other sources could be useful in the validation process.

Furthermore, the results have not been compared to scores of clinical populations. Such a comparison could have provided insight into the question whether the URM were experiencing equally severe or even more severe symptoms than native adolescents that have been or are currently under treatment for severe trauma-related psychopathology. The groups were not of equivalent size. The 1st generation immigrant group was almost 3 times as large as the URM group. The Dutch population group, having a mean age of 13, was also very young in comparison to the URM group and the other groups, having a mean age of 15. Therefore, results dealing with age should be interpreted with caution. Finally, this study was cross-sectional. Only a longitudinal study can provide more insight into the effect of time, treatment or interventions on the mental health and posttraumatic stress reactions of refugee adolescents.

Chapter 3

Validation of the Multiple Language Versions of the Hopkins Symptom Checklist-37 for Refugee Adolescents

Abstract

The objective of this study is to provide preliminary psychometric properties of the Hopkins Symptom Checklist-37 (HSCL-37A) for refugee adolescents. The HSCL-37A is a modification of the well-known HSCL-25 and assesses symptoms of internalizing and externalizing problems that have been associated with reactions to trauma. Four independent heterogeneous samples (N = 3890) of unaccompanied refugee minors, immigrants and native Dutch and Belgian adolescents were assessed at school. The confirmative factor analyses, per language version, support the two-factor structure of internalizing and externalizing behavior. The total and subscales show good internal consistency and acceptable test-retest reliability in spite of the heterogeneous sample populations. The construct, content and criterion validity of the HSCL-37A were also examined and found to be good. The findings of this study suggest that the HSCL-37A is a reliable and valid instrument to be used among culturally diverse refugee adolescents to assess emotional distress and maladaptive behaviors.

Introduction

During the last 20 years, there has been a substantial influx of immigrants and refugees migrating to Europe (Eurostat, 2002). This has led to more and more schools in Dutch and Belgian metropolitan areas that provide education for children and adolescents who do not

fluently speak the language of the host country. The transition from one country to another implies changes and difficulties such as the loss of social networks, changes in work status as well as encountering discrimination what can be very distressing (Vinokurov, Trickett, & Birman, 2002).

The traditional higher - order latent structure of internalizing (over controlling) and externalizing (under controlling) problems have for many years been a useful framework for emotional distress and maladaptive behaviors of children and adolescents (e.g., Achenbach & Edelbrock, 1978; Southam-Gerow & Kendall, 2002). In recent years, Krueger and colleagues (2001) confirmed the usefulness of this dichotomy in explaining the covariance among adult mental health and personality disorders. Moreover, Miller and colleagues (2003) have proceeded to put forward an internalizing/externalizing model to explain the reactions of traumatic stress among adult combat veterans. The internalizing/externalizing model seems to give an adequate framework in which traumatic stress reactions and/or (comorbid) psychopathology can be understood.

The literature on the mental health of refugee adolescent provides a depiction of high prevalence rates of psychosocial symptoms reported by refugee adolescents (Felsman, Leong, Johnson, & Felsman, 1990; Sack et al., 1993; Sourander, 1998; Smith, Perrin, Yule, Hacam, & Stuvland, 2002). The most frequently reported symptoms are somatic complaints, anxiety, depression, and (post)traumatic stress reactions. Unaccompanied refugee minors (URM) run an especially high risk for developing psychopathology due to separation from primary caregivers, exposure to sequential stressful events, limited educational opportunities, and conditions in asylum centers during a very vulnerable developmental period (Felsman et al., 1990; Sourander, 1998). High comorbidity has been documented between reactions to traumatic stress and other disorders such as depression (Sack et al., 1993) and anxiety (Warshaw et al., 1993). Significant adults in the lives of adolescents (i.e., caregivers, teachers) often report a lower prevalence of internalizing problems than the adolescents themselves having difficulty determining to what extent the adolescents suffer from psychological distress.

On the other hand, perceiving the disturbing nature of externalizing problems is not difficult. Adolescents with conduct problems have been found to be referred much sooner/often to professional mental healthcare services than adolescents with internalizing problems (Wu et al., 1999). The literature concerning conduct problems of refugee adolescents is very limited. Allwood, Bell-Dolan, & Husain (2002) found a strong association between witnessing of organized violence and exhibiting aggressive behavior. Jensen and Shaw (1993) suggest that adolescents who have witnessed or taken part in a war are more likely to show delinquent or anti-social behavior. This opinion is, however, not supported in four studies which evaluated the delinquent and aggressive behaviors of refugee adolescents (Raboteg-Saric, Zuzul, & Kerestes, 1994; Mollica et al., 1997; Rousseau, Drapeau, & Corin, 1998; Sourander, 1998). Different authors (i.e., Pynoos & Nader, 1993) report that adolescents may temporarily show increased risk behavior following the witnessing/experiencing of a traumatic event. Moreover, several studies have found high levels of comorbidity between externalizing behavior and experiencing traumatic stress reactions among American adolescents (Deykin & Buka, 1997; Wozniak et al., 1999)

The “pathway” to professional mental healthcare for refugee adolescents has more barriers than for native adolescents in host countries (e.g., Howard & Hodes, 2000). There is sufficient evidence in the literature suggesting that young people in general that are in need of psychological support or treatment do not receive it (i.e., US Department of Health and Human Services, 1999; Cuffe, Waller, Cuccaro, Pumareiga, & Garrison, 1995) or only when the symptoms have progressed and are perceived by significant adults in their lives (e.g., Wu et al., 1999). The psychological suffering of Unaccompanied Refugee Minors (URM) can go completely unnoticed due to the absence of parents or permanent caregivers, language difficulties and living in minimally adult supervised residential settings.

Mental healthcare professionals in host countries are often hindered in acquiring accurate information concerning the mental health status of refugee adolescents due, in part, to language difficulties, no medical/psychological background information and to a lack of translated reliable and valid diagnostic instruments. Approaching refugee youth with long psychological questionnaires/interviews can be very overwhelming (Barenbaum, Ruchkin, & Schwab-Stone, 2004). Brief, translated psychological instruments that measures, reliably and

validly, the broader reactions associated with the traumatic stress that refugee adolescents have experienced could be of great assistance to mental healthcare professional in the process of screening, diagnosing and monitoring the mental health status of this specific high-risk population.

There is a limited number of diagnostic instruments that can be used with immigrant adolescents to measure psychosocial distress and maladaptive behaviors such as the Youth Self Report (Achenbach, 1991a) and Strengths and Difficulties questionnaire (Goodman, 1997). These two instruments have been used with refugee adolescents from specific countries to measures emotional and behavior problems (Fazel & Stein, 2002; Mollica et al., 1997) However, as far as known by the authors, these checklists (as well as others used with refugee children (i.e., Smith et al., 2002) have not been validated for culturally diverse adolescent populations following the five dimensions of equivalence for cross-cultural validation of an instrument proposed by Flahtery et al. (1988).

An increasing number of studies have been conducted with refugee culturally homogeneous samples (Papageorgiu et al., 2000; Thabet & Vostanis, 1999) or samples from two different countries of origin (Rousseau & Drapeau, 1998). Smith and colleagues (2003) have validated the Revised-Impact of Events Scale with older children from Bosnia. However, the same instrument yielded less reliable results with older children and adolescents from Rwanda (Dyregrov, Gupya, Gjestad, & Mukanoheli, 2000) which clearly illustrates that when a measure has been validated for one immigrant or refugee population, it does not implicitly infer that the measure is valid and reliable for all refugee and immigrant populations.

Because no validated questionnaire was available, modifications were made to one of the well-known instruments that has been used with refugees/non-western populations of adults over the last 15 years, the Hopkins-Symptom Checklist-25 (Lie, 2002; Mollica et al., 1987). The objective of this study was to provide preliminary information concerning the psychometric properties of the modified version of the HSCL-25 (Winokur, Winokur, Rickels, & Cox, 1984), the HSCL-37 for adolescents. Twelve externalizing items have been added to the 25 original items to measure problematic behavior in adolescents, which may be trauma-related.

Methods

Context of the validation study

In the years preceding 2001, there was a dramatic increase in the number of URM living in the Netherlands, peaking at 15,000 in 2001. 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 Healthcare Services" was started among unaccompanied refugee minors living in the Netherlands and their guardians, teachers and professional mental healthcare providers. A secondary aim of the project was to validate and standardize screening instruments for this specific population group. It was also possible to administer the HSCL-37A in an independent research project conducted by the Department of Orthopedagogics, Ghent University, Belgium that examined whether being unaccompanied is a risk factor for refugee children and adolescents to develop emotional and behavioral problems.

Samples

Dutch URM sample (n = 920). A national, longitudinal study was carried out with URM living in the Netherlands. Approximately 4000 URM were randomly selected from the Central Registrar of Nidos. Information about the study and permission waivers (available in translated versions) were sent to the guardians to discuss 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 different residential setting, and 7% turned out to be untraceable. A total of 920 URM were present for participation. The final sample was statistically representative (data not shown) in all of the main characteristics (age, gender, country of origin 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. 45% of the URM sample had received 5 years or less of formal education in their country of origin. A follow-up (63% of the original sample participated) was conducted one year after the first assessment. An interview regarding mental healthcare was individually administered. At least three research assistants administered the questionnaires during one hour to groups of 10 URM.

Dutch normative sample (*n* = 1059*)*. Pupils from ten secondary and three tertiary trade schools throughout the Netherlands (schools had also taken part in the URM study) participated and functioned as a control group for the URM sample. Two weeks prior to administration of the instruments, informed consent letters were sent to the parents and adolescents asking for the voluntary and anonymous participation (27 students abstained from participation). The assessment of the Dutch sample took approximately 15 minutes.

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 number of 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 which was present on the day of assessment. There was a continuous stream of new students during the year, which render it very difficult to test the entire population. No attempt was made to test adolescents that were not present on assessment day. The assessment took place (1 hour) under supervision of two research assistants.

Belgian normative sample (*n* = 617). A control group of Belgian adolescents participated between January, 2003 and May, 2003 for the Belgium immigrant/refugee study. From the six Flemish provinces, 17 secondary schools were randomly selected to participate in the study. All schools received standard informed consent letters asking parents and students for voluntary and anonymous participation. To assemble a well-balanced normative sample of the Flanders adolescent population, the same percentage of Belgian adolescents and Immigrant/Refugee (I/R) adolescents per province took part in the study. In this way, there would not be an overrepresentation of Belgian adolescents living in urban or rural areas. Furthermore, the proportions for the different age and gender groups of the Belgian adolescents were carefully matched with those of the I/R sample so that the two groups were similar on these variables. Finally, per province the secondary schools that were chosen had students that were following all three educational track levels (trade, occupational and preparatory for university). No Flemish student refrained from participating.

Table 1.
Summary of Sample Characteristics

		Gender**		Age in years			Group**			Type of caregiver**	
	N	Boys	Girls	Mean	SD	Range	Natives	Immigrants Refugees	URM	Parental	Other
Total sample	3890	59.3	40.7	15.72	1.74	8-26	40.7	30.7	28.6	70	30
Dutch URM	920	72.8	27.2	15.68	1.49	8-20	0	0	100	0	100
Belgian immigrant/refugee adolescents	1294	53.9	46.1	15.41	1.88	10-26	1	89.1	9.9	84.3	15.7
Dutch adolescents	1059	56.8	43.2	15.72	1.54	13-21	90.1	9.9	0	97.3	2.7
Belgian adolescents	617	54.6	45.4	16.46	1.92	13-21	97.9	2.1	0	97.6	2.4

Note. ** percentages

Measures

The HSCL-37A (Bean, Eurelings-Bontekoe, Derluyn, & Spinhoven, 2004a) was modified to render the instrument multi-cultural and adolescent friendly. A 4-point rating scale in literal terms (*not/never* = 1, *sometimes* = 2, *often* = 3, *always* = 4) was used to indicate the severity of symptoms, feelings or behaviors. The literal terms of the Likert scale was improved by placing different colored balls increasing in size above the literal rating scale to clarify "quantity" of feelings. Secondly, items were (if needed) simplified to adapt the questionnaire to the (Dutch) language abilities of this population based on a vocabulary lists developed for immigrant adolescents to the Netherlands, and thirdly, the questionnaires were translated and presented in a bilingual form (Dutch-foreign language). It was necessary to have the questionnaires in bilingual form because many of the refugee adolescents had limited written knowledge of their own language and learned the Dutch language quickly allowing them to use both languages to be able to better comprehend the item.

The HSCL-37A, SLE and RATS questionnaires 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. 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 in treatment sessions of traumatized adult refugees to control the quality of the translations, to ensure that the original meaning was conveyed in the items, and to attempt to achieve semantic equivalence of the HSCL-37A. No written back-translations were done in this study. Instead an oral item-by-item analysis took place with trained interpreters from mental health services. All of the instruments were tested in a pilot study. If an adolescent filled in a bilingual version of the instruments, the bilingual version of the questionnaire was recorded. If an adolescent completed the Dutch version only, Dutch was recorded as language of the questionnaire(s).

The internalizing scale of the HSCL-37A can be divided into ten anxiety questions (items 1, 2, 5, 9, 12, 16, 19, 22, 26, 29) and fifteen depression questions (items 6, 10, 13, 15, 17, 20, 23, 24, 27, 30, 31, 32, 33, 35, 36). The scale for externalizing behavior (items 3, 7, 11, 14, 18, 21, 34, 4, 8, 25, 28, 37; min = 12, max = 48) can be used to attain a total score for externalizing behavior. The externalzing items *bullies*, *steal things*, *intentionally hurting someone*, *starts fights*, *destroying others property* correspond with five criteria from the diagnosis for a Conduct Disorder. The item *easily angered* and *argues often* correspond with two criteria from the diagnosis for an Oppositional Defiant Disorder according to the DSM-IV (American Psychiatric Association, 1994). The other five items are related to substance abuse (*use of alcohol in the weekend*, *use of alcohol through the week*, *smoking cigarettes*, *use of sedatives*, and *use of drugs*). The total score of the HSCL-37A consists of all of the 37 items (min. = 37, max. = 148). Percentile scores and severity classifications are available in the user's manual (Bean et al., 2004a).

The *Stressful Live Events questionnaire* (SLE) (Bean, Derluyn, Eurelings-Bontekoe, Broekart & Spinhoven, in press; Bean et al., 2004b) 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 a traumatic event is the first criterion of the A cluster of the DSM-IV for PTSD (APA, 1994). The overall average total score of 6.5 of the SLE has been validated in 5 independent studies (Bean et al., 2004b).

The *Reactions of Adolescents to Traumatic Stress* (RATS) (Bean et al., in press; Bean et al., 2004c) is a self-report questionnaire developed to assess posttraumatic stress reactions defined in the DSM-IV (APA, 1994) with culturally diverse adolescents. The twenty-two item scale can be divided into three subscales: intrusion (six items), avoidance (nine items) and hyper-arousal (seven items) which correspond to the 17 criteria in a PTSD diagnosis. Internal reliability for the URM sample for the total score, intrusion, numbing/avoidance and hyperarousal was correspondingly, .88, .85, .69, and .73. Twelve-month test-retest reliability was for total score .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. Similar results were found confirmed in the other 3 samples.

The self-report version for 11- to 16-year olds of the *Strengths and Difficulties Questionnaire* (SDQ) (Goodman, 1997) is a screening questionnaire that measures twenty-five attributes divided into five subscales: emotional symptoms, conduct problems, inattention-hyperactivity, peer problems, and pro-social behavior. Research shows that the SDQ has an acceptable reliability and validity (Goodman, 2001). The SDQ was also available in the languages of the immigrant/refugee adolescents in Belgium. In this study, the internal reliability (Cronbach's alpha) of the total score of the multiple language versions of the SDQ ranged from .62 - .79, with an average value of .63. Average sub-scales reliability was low-to-unacceptable .68, emotion symptoms .42, peer problems for the total population.

Indicators of Psychopathology

The criteria "referral" and "utilization of MHC" have been documented as being important in the evaluation of psychopathology in children and adolescents (i.e., Verhulst & Van der Ende, 1997). For this reason, (a) self-reported need for mental healthcare (MHC); (b) need for professional MHC for the URM; evaluated by the legal guardian; (c) need for professional MHC for the URM; evaluated by the teacher; (d) self-reported utilization of MHC by URM; and (e) referral to MHC services by a legal guardian were utilized as external criteria of psychopathology. The URM were individually interviewed in Dutch about their needs and mental health use. They were also able to read the questions in one of the language that have been mentioned above. Guardians and teachers received short questionnaires on need for professional MHC and referral to MHC services by URM which they filled-in and returned by mail.

A strong, significant, and positive relationship should exist between the HSCL-37A total and the SDQ total scores because these two scales measure the same construct. There should also be a strong association between the HSCL-37A internalizing scale and the RATS because as reported earlier high co-morbidity has been found between PTSD on the one hand and general anxiety/depression on the other. The correlation between the externalizing score (measuring trauma-associated acting out behaviour) of the HSCL-37A and the RATS scores should be present but weak. The total SLE score should be positively related to the total score of the HSCL-37A and subscales, since trauma is related to psychopathology (Allwood et al., 2002; Tiet et al.,1998).

Procedures

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

Testing of the Belgian and Dutch normative samples took place in small groups (10-25 young people) during school time. The URM were assessed at schools, if possible. Approximately 20% of the URM were not tested at schools. URM were also assessed (in groups of 10) at the regional offices of Nidos, reception centers for refugees, and residential settings. Demographic information on the URM in the Netherlands was supplied by the Nidos Foundation (legal guardian of all of the URM living in the Netherlands). The rest took part anonymously and answered written questions that provided demographic characteristics about themselves.

Data Analysis

Descriptive statistics were used to give summary descriptions of the socio-demographic characteristics of the sample. Confirmatory factor analyses, per language version, were calculated using the Multiple Group Method (MGM) procedure of the Simultaneous Components Analysis (SCA) (Kiers, 1990) to verify the factorial validity of the HSCL-37A (all cases with missing data were removed). MGM is closely related to the rotation of component weights to perfect congruence and the cross-validation of components weights (Ten Berge, 1986). SCA is based on the *same* set of weights for the variables in all populations enabling conclusions on the common components found across the samples. It is not a formal statistical test, such as the Maximum Likelihood estimation method. However,

this is not a serious objection because the null hypothesis of a factor model based on a small number of factors is invariably false as has been known since Browne (1969, p. 385). Failure to reject it merely means that the sample size has been too small (see McCrae, Zonderman, Costa, Bond, & Paunonen, 1996 for a discussion). Internal consistency of the total scale and subscales of the HSCL-37A was calculated with Cronbach's α. Test-retest reliability was calculated for a twelve month interval for the URM sample only (n = 519). Pearson's product-moment correlations (two-tailed) were used to study the association between total and subscale scores of the HSCL-37A and the scores on the remaining questionnaires. Differences between groups were determined by using ANOVA's and effect sizes Cohen's d (Cohen, 1988). A maximum of ten percent of missing items was allowed to still be able to extrapolate the total or subscale scores of all scales.

Results

Factorial Validity

The factor structure of the HSCL-37A was tested with the Simultaneous Components Analysis (SCA). The scale consisting of internalizing items was established based on the results of a previous factor analysis on a large item pool and opinions of several experienced clinicians (Derogatis et al., 1974). The externalizing items made up the second scale. For the total sample, a principal component analysis (PCA) was used with Varimax rotation (oblique) to simple structure which allowed for correlation between the two factors (Kiers, 1990) which yielded a model that explained 33.1% of the total variance. The SCA-MGM analysis based on the two a priori factors showed that the multiple group components explained 32.7% of the variance, implying a small acceptable discrepancy of only .4%.

Separate MGM analyses were conducted on the Portuguese, French, Chinese, English, Arabic, Dutch, and Russian language versions. The amount of variance that was lost in enforcing the a priori factor structure in comparison to the results of an explorative PCA in the separate language versions was very limited, ranging from 2.2 % in the Chinese version to .4% in the Dutch version. Due to the limited number of completed questionnaires (n < 100) in Badini, Servo-Croatian, Albanese, Turkish, Soerani, Dari, Farsi, Amharic, Somali, and Mongolian, no individual MGM's could be conducted for these languages. The two-factor model is confirmed in all the separate MGM analyses per language (Table 2).

Internal consistency

The internal consistency (Cronbach's alpha) of the HSCL-37A indicates a high degree of homogeneity among items comprising the total and subscales in the separate language versions. The internal consistency of the total scale of the HSCL-37A in the total sample was .90 and of the individual language versions ranged from .95 to .84. This is an exceptionally high alpha, despite the high degree of heterogeneity in the samples. The alpha's for the subscales and apart language versions can be found in Table 2.

Temporal Stability

The test-retest scores are utilised to provide an indication of scale stability and consistency over time. The coefficients show that the HSCL-37A scales are reasonably stable ($r > .50$) over time in measuring internalizing and externalizing behavior (Table 2) not deviating from findings of other studies with the same time interval (see Cheng & Nicholas, 1998 for a discussion).

Content validity

Content validity is a measure of the relevance of the items with regard to that behavior which they aim to measure. The HSCL-37A claims to measure internalizing (anxiety and depression symptoms) and externalizing behavior. The choice of items to measure anxiety and depression was based on the expertise of clinicians with experience in the treatment of patients with anxiety and depression (Derogatis et al., 1974). All items of the HSCL-37A correspond with the DSM-IV criteria for anxiety, depression, and behavior symptoms. The 12 externalizing items correspond with the five criteria of conduct disorder and the two criteria of the oppositional-defiant disorder, as defined in the DSM-IV (APA, 1994). The content validity of the HSCL-37A is good.

Table 2.

Summary of Confirmatory Factor Analyses and Reliability Analyses per language version

	Two factor				Total scale			internalizing					externalizing				
Language	*n*	*EV*	*LV*	α	r_{ii}	r_{it}	r_{ab*}	*n*	α	r_{ii}	r_{it}	r_{ab*}	*n*	α	r_{ii}	r_{it}	r_{ab*}
Total sample	3019	33.1%	.4%	.90	.18	.05-.59	.63	3126	.92	.30	.36-.66	.64	3524	.75	.20	.13-.45	.53
Dutch	1640	31.4%	.4%	.88	.17	.13-.55		1670	.90	.27	.30-.63		1771	.75	.22	.15-.50	
Portuguese	326	29.5%	.6%	.90	.18	.01-.62		342	.91	.28	.22-.64		374	.62	.12	.10-.42	
English	215	32.6%	.8%	.91	.20	.17-.63		230	.91	.29	.19-.68		298	.72	.18	.14-.51	
French	163	33.0%	.5%	.91	.21	.05-.63		166	.91	.30	.34-.68		220	.71	.20	.24-.57	
Arabic	127	34.9%	1.3%	.92	.22	-.04-.70		141	.92	.31	.23-.75		184	.67	.16	.16-.50	
Turkish	118	NA	NA	.92	.24	.00-.70		123	.92	.33	.33-.70		151	.66	.16	.15-.50	
Russian	111	43.6%	.7%	.95	.29	.01-.80		119	.95	.46	.41-.79		137	.58	.12	.11-.42	
Chinese	95	47%	2.2%	.92	.24	.13-.69		96	.93	.37	.43-.71		106	.74	.24	.24-.59	
Spanish	47	NA	NA	.84	.13	-.04-.62		47	.78	.12	.05-.51		53	.76	.25	.21-.69	
Farsi		NA	NA	NA	NA	NA		44	.89	.25	.17-.67		NA	NA	NA	NA	
Albanese		NA	NA	NA	NA	NA		29	.88	.23	.07-.75		NA	NA	NA	NA	
Servo-Croatian		NA	NA	NA	NA	NA		22	.93	.33	-.14-.77		NA	NA	NA	NA	
Dari	23	NA	NA	.91	.21	.10-.74		24	.90	.28	.11-.68		30	.67	.17	.07-.61	
Amharic	18	NA	NA	.91	.20	-.04-.70		21	.92	.32	.37-.70		26	.61	.19	.02-.73	
Somali		NA	NA	NA	NA	NA		16	.94	.37	-.03-.85		NA	NA	NA	NA	
German		NA	NA	NA	NA	NA		17	.91	.30	.09-.77		NA	NA	NA	NA	
Mongolian	11	NA	NA	.86	.14	-.34-.90		11	.86	.17	-.34.89		12	.60	.18	-.28-.76	

Note. EV = Explained Variance with PCA; LV = Loss of Explained Variance with MGM; α = Alpha coefficient; r_{ii} = Mean inter-item correlation; r_{it} = Range item-total correlations; r_{ab*}=Test- re-test reliability calculated for 12 month interval for URM sample only, *n* =519; NA = not able to analyze, more than one item with zero variance.

Table 3.
Intermeasure correlations

	Total RATS		Total SLE		Total SDQ	
URM	*(n)*	r	*(n)*	r	*(n)*	r
Total HSCL-37A	(771)	.74	(819)	.39		
internalizing	(761)	.79	(812)	.41		
externalizing	(780)	.32	(835)	.12		
Dutch natives						
Total HSCL-37A	(1058)	.75	(1057)	.48		
internalizing	(1058)	.76	(1057)	.36		
externalizing	(1058)	.23	(1057)	.39		
Belgian immigrants/refugees						
Total HSCL-37A	(870)	.66	(1167)	.38	(1117)	.65
internalizing	(854)	.68	(1149)	.38	(1101)	.64
externalizing	(886)	.33	(1192)	.22	(1141)	.43
Belgian natives						
Total HSCL-37A	(596)	.67	(615)	.38	(612)	.70
internalizing	(596)	.67	(614)	.30	(611)	.64
externalizing	(597)	.31	(616)	.34	(613)	.42

Note. All correlations are significant at the .001 level and two-tailed.

Construct validity

Construct validity is a measure of the relationship between the instrument and variables that, on theoretical grounds, are expected to correlate with the measured variable. In construct validation, three processes are used to establish construct validity; (1) convergent validity: high correlations between a particular scale and others that in theory measure the same construct, (2) discriminant validity: low associations between the scale under study and other measures that should theoretically not be related, and (3) factorial validity: supports the theory-based grouping of items when a particular construct is complex. Table 3 shows the intercorrelations (two-tailed) between the HSCL-37A total and subscale scores, the RATS total score and the SLE total score for the URM sample and native Dutch sample. In Table 3, the intercorrelations are presented between the SDQ total score (the SDQ was only administered in the Belgian studies), the RATS total score and the SLE total score for the immigrant/refugee sample and native Belgian sample.

As hypothesized, the HSCL-37A total scores and internalizing scale scores show significant and positive correlations with the RATS total scores, SLE total scale scores and SDQ total scores. The significant and positive relationship between the externalizing scale scores and the other scale scores is weaker, but still present. The relationship between the total, internalizing, and externalizing scores on the HSCL-37A and the total number of experienced events on the SLE is significant and positive. These findings are applicable to all samples.

The mean scores of girls are expected to be significantly higher than that of boys. Girls reported significantly higher internalizing ($F(1,3646) = 74.96$, $p < .001$, $d = .29$) and externalizing mean scores ($F(1,3718) = 25.03$, $p < .001$, $d = .17$) than boys. There are contradictory findings in the literature concerning age and emotional distress. Age, in this study, seemed to play a small role with respect to total mean scores, with older adolescents ($\leq$ 17 years) scoring significantly higher than younger ($\geq$ 14, 15 years) for internalizing ($F(3,3597) = 30.50$, $p < .001$, $d = .39$-$.23$) and externalizing problems ($F(3,3668) = 16.96$, $p < .001$, $d = .31$-$.10$). Because of the numerous risk factors overshadowing the lives of URM, it was expected that URM would score significantly higher than immigrant/refugee and native adolescents living with at least one parent. This expectation is partly confirmed. URM reported significantly higher internalizing mean scores ($F(2,3661) = 269.24$, $p < .001$, $d = .87$-$.78$) on the HSCL-37A than the immigrants/refugees and natives, but significantly lower externalizing mean scores than native adolescents ($F(2,3733) = 273.37$, $p < .001$, $d = .72$) .

Table 4.
External criteria influencing HSCL-37A internalizing and externalizing scores

	internalizing						externalizing				
	n	*M*	*SD*	*t (df)*	*p*	*d*	*n*	*M*	*SD*	*t (df)*	*p*	*d*
URM: Need for MHC												
Need for MHC	438	54.33	12.75	8.84 (592)	<.001	.83	448	15.63	3.22	1.92 (605)	ns	.18
No need for MHC	156	44.03	11.79			.	159	15.06	3.09			
Guardian: Need for MHC												
Need for MHC	95	57.47	12.07	6.03 (492)	<.001	.69	97	16.52	3.69	3.38 (506)	<.001	.38
No need for MHC	399	49.05	12.28				411	15.28	3.13			
Teacher: Need for MHC												
Need for MHC	115	54.63	14.22	4.06 (401)	<.001	.45	120	15.96	2.93	3.17 (413)	<.01	.34
No need for MHC	288	48.62	13.09				295	14.94	2.99			
URM: MHC Utilization												
Utilization of MHC	96	54.79	14.14	2.68 (682)	<.01	.30	95	15.97	3.09	1.40 (697)	ns	.16
No utilization of MHC	588	50.98	12.70				604	15.47	3.22			
Referral: MHC by guardian												
Referred to MHC	59	59.28	13.54	5.73 (496)	<.001	.80	59	16.56	2.97	2.79 (511)	<.01	.39
Not referred MHC	439	49.53	12.09				454	15.36	3.14			

Criterion validity

Criterion validity refers to the association between the instrument with some form of external or outside criterion that is supposed to measure the same construct. Criterion validity can be further divided into two types; predictive and concurrent. Only the concurrent validity of the HSCL-37A was addressed in this study. Five indicators of psychopathology were utilized as external criteria (see Indicators of Psychopathology description in Questionnaires section). The results shown in Table 4 suggest that the HSCL-37A discriminated well, consistently, and significantly between URM that report having a need for psychosocial help and URM that did not report having a need for psychosocial help.

Discussion

The results indicate that the HSCL-37A is a psychometrically sound screening measure of internalizing and externalizing problems experienced by a heterogeneous population of refugee adolescents. The data has been collected among four independent sample stretched across the Netherlands and Flemish Belgium. The psychometric properties of the HSCL-37A demonstrate invariance of factor structure in a heterogeneous sample, strong reliability, and good validity which is remarkable considering the diversity of the populations.

The layout modifications (bilingual and visual/literal rating scale) of the instrument made the HSCL-37A comprehensible for adolescents from a variety of cultures. In a small number of individual cases, lengthy explanations of the meaning/nuances of the items were necessary, especially with "almost" illiterate adolescents (1 per group of 25 refugees/immigrants). It is not clear if errors in understanding the questions might not be visible in the data. Only the Spanish version of the HSCL-37A had obvious less internal consistency on all subscales. This could be due to the fact that the translation was in European Spanish and adolescents came from South American countries which speak a different dialect of Spanish. European Spanish was used because of the wide differences in dialects in all Spanish speaking countries (the same holds for American English and European French which did not show lower reliability levels).

The two factors showed strong reliability and good validity considering the diversity of the sample populations (for example; adolescent from 35 different counties filled in the French version, adolescents from 57 countries filled in the English version and adolescents from 20 different countries filled in the Arabic version). The preliminary validity findings suggest that the HSCL-37A can discriminate consistently and significantly between refugee adolescents that do need to utilize MHC services and those who do not.

The brevity of the HSCL-37A takes into account the importance of not overburdening apprehensive adolescents and allows for quick, repeated measurements to assist with determining initial and enduring refugee adolescent symptomatology. When the HSCL-37A is used in juncture with the SLE and RATS questionnaires a preliminary assessment of the global mental health of refugee adolescents can be reliably and validly assessed. In all settings, one must be aware that the instrument may trigger emotional distress. Therefore, adequate crisis and/or follow-up MHC should be arranged prior to administration to protect the integrity of the adolescents. The HSCL-37A is not meant to be used alone as a diagnostic instrument for internalizing distress or behavioral problems. Clinical observations and additional assessment are important in establishing a valid diagnosis and making treatment recommendations.

Methodological challenges

There were several methodological challenges of this study. Written back-translations of the language versions were not done, deviating from standard protocol which can be seen as a limitation of the study. Back-translation is the method that is used to verify semantic equivalence of translated measures (see Mallinckrodt & Wang, 2004 for a discussion). However, a back-translation 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 of the HSCL-37A for different cultures.

The number of instruments that were used were limited to a minimum for a number of reasons; (a) short attention spans of the refugee adolescents, (b) the amount of time needed to

explain and administer the three instruments took around 15 minutes of the testing time, (c) the substantial amount of time and effort used by the refugee adolescents to complete only three questionnaires, and (d) the ethical issues related to the administration of long instruments with severely traumatized individuals which might induce emotional distress. Additional measures would have enhanced the quality of the study and would have been useful in determining the divergent validity of the HSCL-37A which will need to be evaluated in future studies.

The stability (test-retest) of the HSCL-37A was calculated over a longer interval (12 months) than the usual 8-week interval resulting in a lower temporal stability then is desired. However, it could be expected after one year that many changes (due to developmental changes, stressful life events, transfers, change in residential status, and therapeutic interventions) would have taken place in the constantly changing lives of URM which could have led to even lower stability levels.

Because no standardized diagnostic interview was utilized in this study, the sensitivity and specificity of the HSCL-37A could not be evaluated. Preferably, a standardized diagnostic interview is used in combination with questionnaires to determine the presence and severity of psychopathology. However, referral of children and adolescents to psychiatric services has been used as a "golden standard" instead of a diagnostic interview (e.g., Nolan et al., 1996). It was not feasible in the URM study to administer a diagnostic interview for the reasons that have been listed above and that there is no validated psychiatric diagnostic interview available in all of the languages of (refugee) the adolescents who took part in this study. Furthermore, the use of diagnostic interviews invokes itself a host of methodological issues such as classifying culture-specific disorders and ensuring "the semantic and psycholinguistic equivalence of psychiatric symptoms across cultures" (Cheng, 2001). Even so, the preliminary validity findings suggest that the HSCL-37A is able to discriminate between adolescents that do and do not need to utilize mental health services.

Self-report questionnaires such as the HSCL-37A yield less diagnostic information than extensive structured interviews and therefore should be used only to indicate clinically elevated levels of internalizing and externalizing problems and not to diagnosis anxiety, depression or conduct disorder. Additional information should be collected regarding the mental health of the adolescent from the viewpoint of significant adults (caregivers/teachers) in the environment of the adolescent. This information is crucial in assessing the degree of impairment in daily functioning and the severity of the symptoms of adolescents.

Chapter 4

Validation of the Multiple Language Versions of the Reactions of Adolescents to Traumatic Stress Questionnaire

Abstract

The objective of this study was to provide the preliminary psychometric properties of the Reaction of Adolescents to Traumatic Stress questionnaire (RATS) for refugee adolescents. Four independent heterogeneous adolescent population samples (N = 3535) of unaccompanied refugee minors, immigrants and native Dutch and Belgian adolescents were assessed at school. The confirmatory factor analyses, per language version, support the three-factor structure of intrusion, avoidance/numbing and hyperarsoual. The total and subscales of the RATS show good internal consistency, and good (content, construct and criterion) validity. The RATS, in this study, was found to be a reliable and valid instrument for assessing posttraumatic stress reactions of cultural diverse adolescents.

Introduction

After experiencing a terrifying event, it is “normal” for adolescents to exhibit stress reactions or problem behavior. Experiencing one or more stressful life event(s) such as a catastrophic disaster (Sack et al., 1993; Pynoos et al., 1993, Green, 1991), physical trauma

(Terr, 1983; Briggs & Joyce, 1997; Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1997) or a combination of daily stressors, relational and financial problems (Kendler, Karkowski, & Prescott , 1999) can lead to severe psychological distress. After experiencing traumatic events, adolescents can become aware that they are vulnerable to death and injury. Caregivers are not always able or choose not to shield them during threatening situations. In addition, refugee and immigrant adolescents must also adapt their former lifestyle and culture to their new surroundings. The adaptation or acculturation process can be emotionally draining and disturbing which might exacerbate traumatic stress reactions (Berry & Sam, 1997).

The symptom clusters of the DSM-IV's Posttraumatic Stress Disorder (PTSD) (American Psychiatric Association, 1994) intrusion, numbing/avoidance and hyperarousal, can affect the biochemical, physiological, psychological and social systems of an adolescent which may compromise resiliency and increase system breakdowns later in life (Charney, 2004). The effects of trauma can be damaging to the dynamic developmental process of adolescence where high performance at school/work and healthy social relations are key. If left unabated, the effects of traumatic stress can severely disrupt or delay the fulfillment of important developmental tasks.

Two epidemiological studies among general populations which assessed the lifetime prevalence rate for PTSD in adolescents documented 3 to 6.3% in the American population (Cuffe et al., 1998; Giacona et al., 1995). This means that the prevalence rate of PTSD among adolescents from western countries at any given time should be very low. However, much higher prevalence rates between 35 to 75% have been established with refugee adolescent populations (see Lustig et al., 2004, for a review). All studies among adolescents in general that have investigated gender as a risk factor have found that females are more likely than males to develop PTSD (Deykin, 1999; Green et al., 1991). There are contradictory findings in the literature concerning age and PTSD reactions. A high comorbidity has been documented between PTSD and other disorders such as depression (Sack et al., 1993; Sack & Clarke, 1996), anxiety (Warshaw et al., 1993), substance abuse (Deykin & Buka, 1997) and ADHD (Famularo, Fenton, Augustyn, & Zuckerman, 1996; Wozniak et al., 1999).

The “pathway” to professional mental healthcare for refugee adolescents, found to be a high risk population (Lustig et al., 2004), has more barriers than for native adolescents in host countries (e.g., Howard & Hodes, 2000). There is sufficient evidence in the literature suggesting that young people in general that are in need of psychological support or treatment do not receive it (US Department of Health and Human Services, 1999; Cuffe, Waller, Cuccaro, Pumareiga, & Garrison, 1995) or only when the symptoms have progressed and are perceived by significant adults in their lives (e.g., Wu et al., 1999). Significant adults (parents, teachers, guardians) in the lives of adolescents are not always adept in detecting early emotional distress signs of adolescents (Yeh & Weisz, 2001) which has been found to have an adverse effect on the developmental process (Ferdinand, Van der Ende, & Verhulst, 2004). The psychological suffering of URM can go completely unnoticed due to the absence of parents or permanent caregivers, language difficulties and living in minimally adult supervised residential settings.

Mental healthcare professionals in host countries are often hindered in acquiring accurate information concerning the mental health status of refugee adolescents due, in part, to language difficulties, no medical/psychological background information and to a lack of translated reliable and valid diagnostic instruments. A brief translated psychological instrument that measures, reliably and validly, the reactions of traumatic stress among culturally heterogeneous refugee adolescents could be of great assistance to mental healthcare professional in the process of screening, diagnosing and monitoring the mental health status of this specific high- risk population.

The first step in providing such an instrument to professionals is making an inventory of the accessible and obtainable instruments in the field. This was done in an earlier study (Bean, 2000). The most well known and frequently used self-report measure that has been developed for adolescents is the UCLA PTSD Reaction Index for DSM-IV (Pynoos, Rodriguez, Steinberg, Stuber, & Frederick, 1998). However, as far as known by the authors, this checklist has not been validated for culturally diverse adolescent populations following 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, in-person 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. There are also some conceptual problems that would not make the instrument easily understood by non-western adolescents who (a) are not familiar with western questionnaires and (b) may have very short attention spans, possibly due to hyperarousal associated problems and limited access to formal educational where the attention span has been trained and lengthened. The PTSD Reaction Index (Pynoos et al., 1998) does not order its items following the DSM-IV criteria which would provide more clarity of the concepts that the items are trying to measure for non-western adolescents. Furthermore, the layout of the instrument is very "busy" (lots of numbers and letters, difficult terms- "rating sheet" , two pages), is not bilingual and has no visual aids in the rating scale to help non-western adolescents understand how they need to fill in this kind of form. Although, there are other English PTSD measures available for children and adolescents, these instruments have similar limitations (items which fall outside the criteria of the DSM-IV or have a specific emphasis such as measuring the reactions of children/adolescents to sexual trauma). No validated (and translated) PTSD questionnaire which was conceptually and visually appropriate for culturally diverse adolescents was available. Due to the above outlined reasons, the Reactions of Adolescents to Traumatic Stress (RATS) questionnaire was developed (Bean, 2000; Bean, Eurelings-Bontekoe, Derluyn, & Spinhoven, 2004a). The objective of this article is to provide preliminary information concerning the psychometric properties of the RATS for (refugee) adolescents from many different cultural backgrounds.

Method

Context of the validation study

In the years preceding 2001, there was a dramatic increase in the number of URM 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 Healthcare 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 also possible to utilize the three screening instruments that were developed/modified for the URM sample with additional samples; (a) a Dutch adolescent population that had parental caregivers, (b) accompanied and unaccompanied migrants and refugee adolescents and (c) Flemish adolescents. The mental health of the last two samples was examined in an independent research project by the Department of Orthopedagogics, Ghent University, Belgium. The aim of the Ghent project was to examine whether being unaccompanied is a risk factor for refugee children and adolescents to develop emotional and behavioral problems.

Samples

Dutch URM sample (n = 920)

A national, longitudinal study was carried out with URM living in the Netherlands. Approximately 4000 URM were randomly selected from the 12,000 (total population) URM in the Central Registrar of Nidos. Information about the study and permission waivers (available in translated versions) were both sent to the guardians to discuss 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; 1300 (57%) wished to participate, 15% refused, 12% did not participate for a wide range of practical reasons, 9% were

transferred to a different residential setting, 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 in gender, age, and country of origin between the URM that did participate and the URM that did not. The final sample was representative 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. 45% of the URM sample has received 5 years or less of formal education in their country of origin. A follow-up (63% of the original sample participated) was conducted one year after the first assessment. In addition to the questionnaires mentioned above, an interview regarding mental healthcare was individually administered. Three research assistants administered the questionnaires during one hour.

Dutch normative sample (n = 1059)

Pupils from ten secondary and three tertiary trade schools throughout the Netherlands (schools had also taken part in the URM study) participated and functioned as a control group for the URM sample (comparison was based on age). Two weeks prior to administration of the instruments, informed consent letters were sent to the parents and adolescents asking for the voluntary and anonymous participation (27 students abstained from participation). The assessment of the Dutch sample took approximately 15 minutes.

Belgian immigrant /refugee adolescents sample (n = 939)

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 number of 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 stream of new students during the year, which render it very difficult to test the entire population. No attempt was made to test adolescents that were not present on assessment day. The assessment took place (1 hour) under supervision of two research assistants.

Belgian normative sample (n = 617)

A control group of Belgian adolescents participated between January, 2003 and May, 2003 for the Belgium immigrant/refugee study. From the six Flemish provinces, 17 secondary schools were randomly selected to participate in the study. All schools received standard informed consent letters asking parents and students for voluntary and anonymous participation. To assemble a well-balanced normative sample of the Flanders adolescent population, the same percentage of Belgian adolescents and Immigrant/Refugee adolescents per province took part in the study. In this way, there would not be an overrepresentation of Belgian adolescents living in urban or rural areas. Furthermore, the proportions for the different age and gender groups of the Belgian adolescents were carefully matched with those of the Immigrant/Refugee sample so that the two groups were similar on these variables. Finally, per province the secondary schools that were chosen had students that were following all three educational track levels (trade, occupational and preparatory for university). No Flemish student refrained from participating.

Table 1.
Summary of Sample Characteristics

		Gender		Age in years			Group			Type of caregiver	
	n	% *Boys*	% *Girls*	*M*	*SD*	*Range*	% *Natives*	% *I/R*	% *URM*	% *Parental*	% *Other*
Total sample	3535	59.3	40.7	15.72	1.74	8-26	40.7	30.7	28.6	70	30
Dutch URM	920	72.8	27.2	15.68	1.49	8-20	0	0	100	0	100
Belgian immigrant/refugee adolescents	939	52.4	45.3	15.47	1.86	10-26	1	84.2	14.8	87.9	12.1
Dutch adolescents	1059	56.8	43.2	15.72	1.54	13-21	90.1	9.9	0	97.3	2.7
Belgian adolescents	617	54.6	45.4	16.46	1.92	13-21	97.9	2.1	0	97.6	2.4

Note. N= Number. M = Mean. SD = Standard deviation. I/R = Immigrants/ Refugees. URM = Unaccompanied Refugee Minor.

Procedures

Four independent studies were conducted, two in the Netherlands and two in Belgium, between 2002 and 2003. The adolescents in each sample were asked to complete at least three short self-report questionnaires, the RATS (Bean et al., 2004a), the Stressful Life Events (Bean et al., 2004b), and the Hopkins Symptom Checklist -37A (Bean et al., 2004c).

Testing of the Belgian and Dutch normative samples took place in small groups (10-25 young people) during school time. The URM were assessed at schools, if possible. Because many URM did not attend schools or were frequently absent, URM were also assessed (in groups of 10) at the regional offices of Nidos, reception centers for refugees and residential settings. Approximately 20% of the URM were not tested at schools. Demographic information on the URM in the Netherlands was supplied by the Nidos Foundation (legal guardian of all of the URM living in the Netherlands). The rest of the participants took part anonymously and answered written questions that provided demographic and social characteristics about themselves, such as gender, age, nationality, time in Belgium and current living situation.

Questionnaires (measurements)

The RATS was developed to render the instrument multi-cultural and adolescent friendly and to attempt to ensure the content and technical equivalence of the RATS. The literal terms of the Likert scale (*not* = 1, *little* = 2, *much* = 3, *very much* = 4) were enhanced by using colored circles of increasing size. Secondly, items were simplified (based on a vocabulary list for foreign students in the Netherlands; Projectbureau OVB Rotterdam, 1992) to adjust the questionnaire to the language abilities of this population (all trauma-related questions come first), and thirdly, the questionnaires were translated and presented in a bilingual form. It was necessary to have the questionnaires in bilingual form because many of the refugee adolescents had limited written knowledge of their own language and learned the Dutch language quickly allowing them to use both languages to be able to better comprehend the item The RATS, SLE, and HSCL-37A questionnaires 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. 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 in treatment sessions of traumatized adult refugees to control the quality of the translations, to ensure that the original meaning was conveyed in the items, and to attempt to achieve semantic equivalence of the RATS. No written back-translations were done in this study. Instead an oral item-by-item analysis took place with trained interpreters from mental health services. All of the instruments were tested in a pilot study.

The *Stressful Life Events* (SLE) (Bean et al., 2004b) was used to assess the number and type of stressful event(s) that was experienced. Adolescents were asked if they had experienced one or more of twelve stressful events commonly experienced by refugee minors (dichotomous yes/no answer). There was one open question and a place for comments at the end of the questionnaire. The overall average total score of 6.5 of the SLE has been validated in 5 independent studies (Bean et al., 2004b).

Posttraumatic stress reactions were assessed with the RATS (Bean et al., 2004c). The 22 items are derived from the seventeen core symptoms of the B, C, and D clusters for the diagnosis of PTSD as defined by the DSM-IV (APA, 1994). The criteria B3, C1, C5, D1, and D2 have been divided into two items to better measure both symptoms of PTSD that appear in one criteria (for example; criteria D1 is “difficulty falling” or “staying asleep”). Great care was taken in the formulation of the items by comparing every word with a Dutch vocabulary list for foreign students and considering how to prevent the item from being misinterpreted in other languages. The checklist is scored using the three clusters of the DSM-IV criteria; intrusion, avoidance/numbing and hyper-arousal. Items 1-6 (range; min.6 - max. 24) correspond to the intrusion symptom cluster, items 7-15 correspond to the avoidance/numbing symptom cluster (range; min. 9 - max. 36), and items 16-22 (range; min.7- max. 28) correspond to the hyperarousal symptom cluster. Separate sub-scores for PTS reactions can be calculated for each symptom cluster. The total score can be calculated adding the points of all

of the 22 items (range; min. 22 – max. 88). Percentile scores and severity classifications are available in the user's manual (Bean et al., 2004c).

The combined use of the SLE and the RATS makes it possible to classify a probable PTSD diagnosis based on the A1, B, D and C criteria of the DSM-IV. One needs to have experienced at least one stressful life event (A1; SLE), one intrusion item, three avoidance/numbing items and two hyper-arousal items (RATS; B, D, and C) to meet the criteria requirements. An item qualifies for scoring (receives a 1) if it has been scored as *much* or *very much*. If the item is scored as *not* or *little*, the item receives a 0. A total sum score of 7 (at least 1 stressful life event, 1 intrusion item, 3 avoidance/numbing items, 2 hyperarousal items) is the minimal score needed for a classification of PTSD.

The Hopkins Symptom Checklist-37 for Adolescents (HSCL-37A (Bean et al., 2004a) (an adaptation of the HSCL-25; Winokur, Winokur, Rickles, & Cox, 1984) measures anxiety symptoms, depression symptoms and externalizing behavior (trauma-related "acting-out"). The psychometric properties appear to be good (Bean et al., 2004a). For the URM sample for the total scale, internalizing, and externalizing behaviour subscales was respectively .91, .92, and .69. 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.

Psychopathology

The criteria "referral" and "utilization of MHC" have been documented as being important in the evaluation of psychopathology in children and adolescents (Anderson, FRANZCP, Williams, McGee, & Silvav, 1987; Cuffe et al., 1995; Verhulst & Van der Ende, 1997). For this reason, (a) self-reported need for mental healthcare (MHC), (b) need for professional MHC for the URM; evaluated by the legal guardian, (c) need for professional MHC for the URM; evaluated by the teacher, (d) self-reported utilization of MHC by URM, and (e) referral to MHC services by a legal guardian was utilized as external criteria of psychopathology. Several studies have also shown that the number of experienced stressful events (dose-effect relationship) to be related to psychopathology, also being a good predictor of psychopathology in adolescents (Allwood, Bell-Dolan, & Husain , 2002; Berthold, 1999; Deykin, 1999; Tiet et al., 1998). The URM were individually interviewed in Dutch about their needs and mental health use. They were also able to read the questions in one of the languages that have been mentioned above. Guardians and teachers received short questionnaires in which they filled-in and returned by mail.

Theoretically, there should be strong significant and positive relationships between the RATS total score and the internalizing score of the of the HSCL-37A because as reported earlier in the introduction of the high co-morbidity that has been found between PTSD on the one hand and general anxiety /depression on the other. The correlation between the externalizing score (measuring trauma-associated acting out behaviour) of the HSCL-37A and the RATS scores should be present but weaker than with the internalizing scale. The total SLE score should be positively related to the total score of the RATS and subscales, since it was reported earlier in this article that trauma is a predictor of psychopathology.

Data Analysis

Descriptive statistics were used to give summary descriptions of the socio-demographic characteristics of the sample (Table 1). Confirmatory factor analyses, per language version, were calculated using the Multiple Group Method (MGM) procedure of the Simultaneous Components Analysis (SCA) (Kiers, 1990) to verify the factorial validity of the RATS (all cases with missing data were removed). The MGM (Guttman, 1952) has been propagated by authors such as Nunnally (1978) who describes the method as "simple, direct, and understandable". MGM is closely related to the rotation of component weights to perfect congruence and the cross-validation of components weights (Ten Berge, 1986). In this method, the factors which are obtained with this sample are compared with the theoretical three cluster structure of PTSD. SCA is based on the *same* set of weights for the variables in all populations enabling conclusions on the common components found across the samples. It is not a formal statistical test, such as the Maximum Likelihood estimation method. However, this is not a serious objection because the null hypothesis of a factor model based on a small number of factors is invariably false as has been known since Browne (1969, p. 385). Failure

to reject it merely means that the sample size has been too small (see McCrae, Zonderman, Costa, Bond, & Paunonen, 1996 for a discussion).

Internal consistency of the total scale and subscales of the RATS was calculated with Cronbach's α. Test-retest reliability was calculated for a twelve month interval for the URM sample only (n = 519). Pearson's product-moment correlations (two-tailed) were used to study the association between total and subscale scores of the RATS and the scores on the remaining questionnaires (SLE, HSCL-37A). Differences between groups were determined by using t-tests for independent groups; ANOVA's and effect sizes (d). Effect sizes were calculated using Cohen's d (Cohen, 1988). The Chi-square test with the odds ratio statistic was calculated per group, per event, and per cluster of total number of events to establish which group or event(s) lead to a greater risk for being classified with a PTSD. A maximum of ten percent of missing items was allowed to still be able to extrapolate the total or subscale scores.

Results

Factorial Validity

The factor structure of the RATS was tested with the MGM-SCA which tests for variables measured in two or more populations. The items of the RATS were divided into three a priori factors based on the three criteria clusters of the PTSD diagnosis in the DSM-IV. For the total sample, a principal component analysis was used with Varimax rotation (oblique) to simple structure which allowed for correlation between the factors (Kiers, 1990). In this analysis, the three factors explained 49% of the total variance. The three a priori factors based on the structure of the DSM-IV PTSD criteria explained 47.3% of the total variance as a result of the SCA-Multiple Group Method (MGM). This difference of 1.7% indicates an acceptable discrepancy.

Separate MGM analyses were conducted on the Portuguese, French, Chinese, English, Turkish, Dutch and Russian language versions (approximately 100 completed questionnaires per version). The amount of variance that was lost in enforcing the a priori factor structure in comparison to the results of the PCA in the separate language versions was very limited, ranging from 4% in the Arabic version to 1.2% in the Dutch version. Due to the limited number (n < 100) of completed questionnaires in Badini, Servo-Croatian, Albanese, Turkish, Soerani, Dari, Farsi, Amharic, Somali and Mongolian, no individual MGM's could be conducted for these languages. The three-factor model is confirmed in all the separate MGM analyses per language (Table 2).

Internal consistency

The internal consistency (Cronbach's alpha), which measures the homogeneity of the RATS (Myers & Winters, 2002), supports distinct scales in all language versions and per subscale (see Table 2). The internal consistency of the total scale of the RATS in the total sample was .91 and ranged from .81 to .93 for the individual language version. These are exceptionally high alphas, despite the high degree of heterogeneity in the samples.

Temporal Stability

The test-retest scores are used to provide an indication of scale stability and consistency over time (Myers & Winters, 2002). The test-retest reliability of the RATS was determined in a subgroup of 519 unaccompanied refugee minors, who completed the questionnaire twice. The time interval was twelve months. The stability coefficients were .61, p < .001, for the total RATS score, .63, p < .001, for intrusion, .44, p < .001, numbing/avoidance, and .55, p < .001 for the hyperarousal scale. The coefficients show the RATS scales to be reasonably stable in measuring traumatic stress reactions and do not differ greatly from other studies with the same time interval (see Cheng & Nicholas, 1998 for a discussion on stability of self-report measures).

Table 2.

Summary of Confirmatory Factor Analyses and Reliability Analyses per Language Version

	Total scale						Intrusion				Numbing/Avoidance				Hyperarousal			
Language	*n*	EV	LV	α	r_{ii}	r_{it}	*n*	α	r_{ii}	r_{it}	*n*	α	r_{ii}	r_{it}	*n*	α	r_{ii}	r_{it}
1. Total sample	3096	49.0%	1.7%	.91	.34	.09-.67	3304	.87	.51	.34-.67	3249	.81	.32	.13-.60	3325	.76	.32	.14-.63
2. Dutch	1712	44.7%	0.4%	.89	.28	-.07-.59	1752	.82	.42	.25-.57	1741	.77	.28	-.09-.60	1758	.76	.32	.20-.58
3. Portuguese	348	44.4%	3.3%	.87	.23	-.05-.65	378	.85	.48	.22-.65	369	.66	.17	-.03-.50	384	.74	.29	.01-.64
4. English	236	45.9%	4.5%	.88	.25	-.11-.59	271	.85	.48	.30-.58	275	.72	.22	-.06-.59	272	.70	.25	.06-.61
5. French	171	44.8%	2.6%	.88	.24	-.10-.72	198	.83	.43	.21-.71	186	.69	.19	.02-.55	200	.74	.28	.06-.58
6. Arabic	47			.93	.35	-.13-.74	52	.90	.60	.33-.75	50	.80	.29	-.13-64	56	.77	.31	-.02-.65
7. Turkish	126	51.0%	3.5%	.90	.30	-12..64	145	.86	.50	.38-.60	136	.71	.22	-.04-.48	144	.81	.39	.24-.57
8. Russian	126	50.1%	2.3%	.90	.29	-.15-.64	141	.84	.47	.34-.60	134	.77	.27	-.05-.61	143	.82	.39	.24-.61
9. Chinese	98	54.0%	2.5%	.92	.32	-.10-.74	101	.84	.45	.13-.74	102	.84	.36	-.04-.69	102	.78	.33	.09-.72
10. Spanish	46			.81	.17	-.18-.69	48	.52	.14	-.13-.37	48	.72	.23	-.15-.69	51	.65	.21	-.17-.62
11. Farsi	43			.87	.22	-.21-.67	46	.83	.44	.12-.63	45	.72	.21	-.18-.59	46	.66	.22	-.03-.47
12. Albanese	26			.90	.28	-.34-.90	36	.84	.45	.13-.76	32	.74	.24	-.33-.77	31	.70	.24	-.19-.68
13. Servo-Croatian	18			.88	.27	-.48-.85	23	.84	.19	.19-.77	24	.58	.14	-.31-.72	22	.80	.35	.00-.67
14. Dari	24			.88	.24	-.43-.82	28	.83	.46	.19-.71	27	.73	.22	-.33-.77	28	.74	.30	-.01-.53
15. Amharic	22			.93	.37	-.43-.95	27	.88	.56	.19-.80	24	.82	.33	-.12-.82	29	.69	.25	-.26-.61
16. Somali	19			.88	.26	-.47-.91	19	.86	.52	.03-.77	21	.74	.23	-.48-.77	22	.56	.18	-.28-.88
17. German	17			.92	.37	-.33-.87	19	.90	.60	.15-.81	18	.86	.47	-.05-.86	18	.82	.15	-.26-.79
18. Mongolian	11			.91	.30	-.40-.90	11	.67	.26	-.20-.75	11	.84	.34	-.21-.90	11	.72	.27	-.40-.71

Note. EV = Explained Variance with PCA; LV = Loss of Explained Variance with MGM; α = Alpha coefficient; r_{ii} = Mean inter-item correlation; r_{it} = Range item-total correlations

Table 3.
Intermeasures Correlations between RATS scales with the HSCL-37A and SLE

RATS subscales	internalizing HSCL-37A	externalizing HSCL-37A	Total SLE
	URM (n = 771)		
1. Total RATS	.79***	.32***	.46***
2. Intrusion	.70***	.18***	.43***
3. Numbing/Avoidance	.61***	.26***	.37***
4. Hyperarousal	.73***	.40***	.38***
	Dutch natives (n =1058)		
1. Total RATS	.76***	.23***	.50***
2. Intrusion	.64***	.12***	.45***
3. Numbing/Avoidance	.67***	.10***	.39***
4. Hyperarousal	.64***	.34***	.45***
	Belgian immigrants/refugees (n = 870)		
1. Total RATS	.66***	.33***	.52***
2. Intrusion	.58***	.23***	.53***
3. Numbing/Avoidance	.55***	.25***	.44***
4. Hyperarousal	.64***	.39***	.38***
	Belgian natives (n =596)		
1. Total RATS	.67***	.31***	.45***
2. Intrusion	.56***	.23***	.44***
3. Numbing/Avoidance	.60***	.27***	.36***
4. Hyperarousal	.58***	.36***	.40***

*** p <.001, two-tailed.

Content Validity

Content validity is a measure of the relevance of the items with regard to that behavior which they aim to measure (Morgan, Gliner, & Harmon, 2001). The RATS claims to measure the B, C and D criteria of the PTSD diagnosis defined in the DSM-IV (APA, 1994). All items of the RATS correspond with the DSM-IV criteria for a PTSD diagnosis. In fulfilling the content equivalence dimension of cross-cultural validation as proposed by Flaherty et al. (1988), the wording of the items was made equivalent to the reading level of a 12 year old in Dutch. In addition, the items were semantically made as concrete and "universal" as possible so that they were relevant for adolescents coming from a variety of different cultures and therefore could also facilitate the translation process. The content validity of the RATS can be considered good.

Construct Validity

Construct validity is a measure of the relationship between the instrument and variables that, on theoretical grounds, are expected to correlate with the measured variable. In construct validation, three processes are used to establish construct validity: (1) convergent validity – high correlations between one scale and others that in theory measure the same construct; (2) discriminant validity – low associations between the scale under study and other measures that should theoretically not be related; and (3) factorial validity – supports the theory-based grouping of items when a particular construct is complex (Morgen et al., 2001). In this study, the factorial validity of the RATS (reported earlier) has been examined. Table 3 shows the measure intercorrelations (with two-tailed test) between the RATS total and subscale scores, the HSCL-37A total score and the SLE total score for the URM sample and native Dutch sample. The measures' intercorrelations are presented in Table 3 between the HSCL-37A total score and the SLE total score for the immigrant/refugee and native Belgian sample.

As hypothesized, the RATS total scores show significant strong and positive correlations with the HSCL-37A internalizing scores (see Table 3). The relationship between the total score and subscales on the RATS and the total number of experienced events on the

SLE is positive and significant providing evidence of convergent validity. The relationship between the HSCL-37A externalizing scale and the RATS scales are small (Cohen, 1988), but still significant providing some support of discriminant validity. These findings are applicable to all samples.

The total mean scores of girls are expected to be significantly higher than that of boys. Table 4 shows that girls reported significantly higher total mean scores than boys (medium effect size). Age, in this study, played no role with respect to total mean scores. URM reported significantly higher total mean scores on the RATS than the other groups (very large effect sizes). Adolescents who reported having experienced four or more stressful life events scored significantly higher on the RATS than adolescents reporting less than four events.

Table 4 .
Relationship of RATS Total Scores with Demographic Characteristics

Characteristic	*df*	*n*	*M*	*SD*	*t*	Comparison Groups for *d*	*d*
Gender*							
1. Girls	2408	1081	36.41	10.66	8.93***		.37
2. Boys		1329	32.74	9.25			
					F		
Age*							
1. ≥14 years	3;2360	609	34.67	10.18	1.83		
2. 15 years		509	33.60	9.70			
3. 16 years		454	34.02	10.35			
4. ≤ 17 years		792	34.80	10.09			
Group							
1. Natives	2;3359	1560	32.63	9.18	748.69 ***	1 vs. 2 =	.51
2. Immigrants/Refugees		868	37.59	10.80		1 vs. 3 =	1.62
3. URM		934	49.09	11.57		2 vs. 3 =	1.03
Total number of reported SLE's							
1. 0 events	3;3363	235	27.82	6.21	258.40***	1 vs. 2 =	.58
2. 1-3 events		1387	32.70	8.74		1 vs. 3 =	1.29
3. 4-7 events		1301	41.73	11.42		1 vs. 4 =	2.45
4. 8-13 events		444	52.45	11.60		2 vs. 3 =	.89
						2 vs. 4 =	2.08
						3 vs. 4 =	.94

Note. *analyzed without URM group. *** $p < .001$.

Criterion Validity

Criterion validity refers to validating the instrument with some form of external criterion in which a relationship is established between the instrument and a measurable external or outside criterion. (Morgan et al., 2001). Criterion validity can be further divided into two types; predictive and concurrent. Only the concurrent validity of the RATS was addressed in this study. The five indicators of psychopathology are discussed in the Methods section of the article. URM themselves ($M = 51.98$, $SD = 11.08$), $F(2, 737) = 45.74$, $p < .001$, $d = .89$, their guardians ($M = 55.02$, $SD = 10.84$), $t(477) = 5.51$, $p < .001$, $d = .65$, and their teachers ($M = 52.40$, SD = 11.76) , $t(388) = 3.77$; $p < .001$, $d = .43$, reported significant higher RATS total mean scores for URM who needed professional care than for URM that did not need professional care. URM that had utilized mental health services ($M = 51.80$, $SD = 15.87$), $t(128) = 2.09$, $p < .05$, $d = .17$, and the URM which were referred by their legal guardian to mental health services ($M = 56.84$, $SD = 11.71$), $t(482) = 5.42$, $p < .001$, $d = .77$, also had significant higher mean total scores on the RATS then did URM who had never used or had

been referred to mental health services. The RATS questionnaire discriminated well, consistently, and significantly between URM that do and do not have a need for psychosocial help.

Odds ratio

The risk estimate for a PTSD classification for different groups, total number of SLE's and individual events can be found in Table 5. Dose-response relationships were evident between experiencing many SLE's (4 or more) and being classified with a possible PTSD diagnosis. URM have a 10 times greater risk for developing PTSD reactions than natives and 5 times greater risk for immigrant/refugees. If an adolescent had experienced being separated from their family, they were six times more likely of being classified with the diagnosis of PTSD than if they had not been separated from family. Furthermore, reporting having experienced physical (OR = 5.03) or sexual maltreatment (OR = 4.47) greatly increased the likelihood of being classified as having a possible PTSD. If an adolescent had reported experiencing a drastic change in the family situation last year or a war/armed conflict they were approximately 4 times more likely of for developing a PTSD than adolescents who have not experienced these events. Finally, if an adolescent had experienced losing a loved one, being seriously (life- threatening) ill or having witnessed someone being physically maltreated they had approximately a 3 times greater risk of being classified with a possible PTSD.

Table 5 .
Odds Ratio for Possible PTSD Classification

Stressful life event	χ^2	Odds Ratio	95% Confidence interval
Drastic change in family during last year (no/ yes)	235.81*	4.18	3.45 - 5.06
Separated from family (no/ yes)	430.13*	6.18	5.14 - 7.42
Loss of loved ones (no/ yes)	130.53*	3.56	2.84 - 4.48
Serious Illness (no/ yes)	187.53*	3.72	3.06 - 4.53
Serious Accident (no/ yes)	21.14*	1.64	1.33 - 2.03
Disaster (no/ yes)	93.14*	2.54	2.09 - 3.08
War or Armed Conflict (no/ yes)	287.28*	4.39	3.67 - 5.25
Physical maltreatment (self) (no/ yes)	335.22*	5.03	4.19 - 6.04
Physical maltreatment (witnessed) (no/ yes)	207.41*	3.88	3.20 - 4.71
Sexual maltreatment (no/yes)	195.65*	4.47	3.57 - 5.58
Other (self) (no/ yes)	270.74*	4.50	3.72 - 5.43
Other (witnessed) (no/ yes)	142.25*	2.94	2.45 - 3.53
SLE Total (0-3) / (4-13)	424.48*	8.95	7.06 - 11.35
Group (Native/ Immigrant/refugee)	23.00*	1.93	1.47 - 2.53
Group (Immigrant/refugee / URM)	216.74*	5.09	4.05 - 6.39
Group (Native/URM)	469.36*	9.80	7.79 - 12.34

* $p <$ .001 , two-tailed .

Discussion

The RATS is a psychometrically sound screening measure to assess posttraumatic stress reactions of adolescents. The preliminary data has been collected among four independent populations stretched across the Netherlands and Flemish Belgium. The psychometric properties of the RATS demonstrate invariance of factor structure in a heterogeneous sample, strong reliability and good validity which is remarkable considering the diversity of the populations.

In this study, the layout of the instrument made the RATS comprehensible for adolescents that had not mastered the Dutch language. However, in individual cases, lengthy

explanations of the meaning/nuances of the items were necessary, especially with “almost” illiterate adolescents. It is not clear if errors in understanding the questions might not be visible in the data. The Spanish version of the RATS had obvious less internal consistency on the total scale and all subscales. This could be due to the fact that the translation was in European Spanish and adolescents came from South American countries which speak a different dialect of Spanish.

The brevity of the RATS and the SLE takes into account the importance of not overburdening apprehensive adolescents and allows for quick, repeated measurements to assist with determining initial and enduring trauma-related symptomatology. Early symptom detection can lead to the initiation of appropriate therapeutic interventions. The RATS is to be used by trained professionals who are capable of proficiently assessing the well-being of adolescents. In all settings, one must be aware that the instrument may trigger emotional distress. Therefore, adequate crisis and/or follow-up care should be arranged prior to administration to protect the integrity of the adolescents.

Clinical observations and additional assessment are important in establishing a valid diagnosis and making treatment recommendations. Furthermore, it is important that clinicians are aware that URM in host countries are at an extremely high risk of experiencing severe posttraumatic reactions, thus the RATS should be used for screening purposes with this specific population.

Study Limitations

There are several limitations to the findings of this study. Although it appears from the preliminary findings on the multiple language versions that the cross-cultural equivalence of the RATS has been verified, written back-translations of the language versions were not done, deviating from standard protocol which can be seen as a limitation of the study. 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 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 of the RATS for different cultures.

The large amount of time and intense effort that the refugee adolescents needed to fill in the instruments limited the number of measures that could be utilized in the study (such as additional measure for PTSD or instruments to measure thoroughly the discriminate and divergent validity of the RATS). The number of instruments that were used were limited to a minimum for a number of reasons; (a) the short attention spans of the refugee adolescents, (b) the amount of time needed to explain and administer (getting the right language version to the right adolescent) the three instruments took around 15 minutes of the testing time, (c) the substantial amount of time and effort used by the refugee adolescents to complete only three questionnaires, and (d) the ethical issue of administering long instruments with severely traumatized individuals which might induce emotional distress. Additional measures would have enhanced the quality of the study and would have been useful in determining the divergent validity of the RATS. The divergent validity of the RATS will need to be further investigated in future studies.

The stability (test-retest) of the RATS was calculated over a longer interval (12 months) than the usual 8-week interval. This resulted in poor temporal stability then is typically expected or desired. However, it could be expected after one year that many changes (i.e., developmental, stressful life events, transfers, residential status, and therapeutic interventions) would have taken place in the constantly changes lives of URM which could have led to much lower stability levels. The significant stability coefficients found for traumatic stress reactions among URM could imply continuity of psychopathology among this sample. Nonetheless, the stability of the RATS for short and long periods will need to be further evaluated in future studies to properly establish the temporal stability of the measure.

Furthermore, the fact that the instruments that were used in the study all have been developed or modified by the authors could have in some way affected the results. RATS and SLE together do not measure the A2 and E criteria of a PTSD defined by the DSM-IV (APA, 1994) meaning that caution should be used when using these two measures to classify for a PTSD. Because no standardized diagnostic interview was utilized in this study, the sensitivity and specificity of the RATS could not be evaluated, nor the PTSD classification confirmed.

Ideally, a standardized diagnostic interview is used in combination with questionnaires to determine the presence and severity of psychopathology. However, “referral”of children and adolescents to psychiatric services has been used as a “gold standard” instead of a diagnostic interview (e.g., Nolan et al., 1996). It was not feasible in the URM study to administer a diagnostic interview for the reasons that have been listed above and that there is no validated psychiatric diagnostic interview available in all of the languages of the (refugee) adolescents who took part in this study. It would have first been necessary to test the validity and reliability of a psychiatric interview in the 19 languages before it could have been utilized, which is a very time consuming and expensive process. Furthermore, the use of diagnostic interviews in cross-cultural studies invokes itself a host of methodological issues such as classifying culture-specific disorders and ensuring “the semantic and psycholinguistic equivalence of psychiatric symptoms across cultures” (Cheng, 2001). Nonetheless, the preliminary validity findings suggest that the RATS is able to discriminate between adolescents that do and do not need to utilize mental health services.

Self-report questionnaires such as the RATS yield less diagnostic information than extensive structured interviews and therefore should be used only to indicate whether a refugee adolescent is experiencing global posttraumatic reactions due to a traumatic event and not to diagnosis a PTSD. Additional information should be collected regarding the mental health of the adolescent from the viewpoint of significant adults (caregivers/ teachers) in the environment of the adolescent. This information is crucial in assessing the degree of impairment in daily functioning and the severity of the symptoms of adolescents.

Chapter 5

Validation of the Child Behavioral Checklist for Guardians of Unaccompanied Refugee Minors

Abstract

The objective of this study is to validate the Child Behavioral Checklist (CBCL) for the legal guardians of unaccompanied refugee minors residing in the Netherlands. The legal guardians (caseworkers) of the unaccompanied minors (N = 920) that participated in the study all received a CBCL to report on the mental health of the unaccompanied minor. The guardians filled in and returned 478 CBCL's. The results of the hierarchical confirmative factor analyses support a one-factor and a two-factor structure of externalizing and internalizing scales equally well. Moreover, the fit of the original individual eight first order factor models of the a priori CBCL subscales were found to be moderate. The total, internalizing, and externalizing scales show good internal consistency. The construct and concurrent validity of the CBCL were also examined and found to be moderate to good. The findings of this study suggest that the CBCL is a reliable and valid measure for use by guardians to assess the maladaptive emotional and behavior problems of unaccompanied refugee minors.

Introduction

The Child Behavior Checklist (CBCL) finds its origin in the United States (Achenbach & Edelbrock 1983; Achenbach, 1991b). It is a checklist that is usually completed by parents to report on the behavioral and emotional problem of their children. The CBCL and its

corresponding measures (e.g., YSR, TRF) have been used in many countries and with children and adolescents from diverse cultures (Kvernmo & Heyerdahl, 1998; McKelvey, Davies, Sang, Pickering & Hoang, 1999; Stevens et al., 2003; Wiesz et al.,1993; Zukauskiene, Pilkaukaite, Malinauskiene, & Krataviciene, 2004) to measure maladaptive behaviors and emotional problems. Furthermore, the CBCL has been utilized with refugee adolescents (Mollica, Poole, Son, & Murray, 1997; Rousseau & Drapeau, 1998; Sourander, 1998) from an array of different cultures.

Although the CBCL was developed for parents to report on the behavioral and emotional problems of their own children, it has been used in research settings with other significant adults such as residential mental health workers (Albrecht, Veerman, Damen, & Kroes, 2001; Wherry et al., 1992), hospital staff (Kazdin & Bass, 1988), foster parents (Shore, Sim, Prohn, & Keller, 2002; Strijker, Zandberg, & van der Meulen, 2002; Tarren-Sweeney, Hazell, & Carr, 2004), clinicians (Dutra, Campbell, & Westen, 2004) and staff members of a refugee reception center in Finland (Sourander, 1998). However, there have been a few studies which have found that when significant adults (caregivers) other than parents report on the emotional and behavioral problems of children the assessment of internalizing problems is less reliable than parental reports (Tarren-Sweeney et al., 2004), can lead to biases originating from placement issues (Garland et al., 1996), and to under-reporting due to limited "familiarity" with the child which is directly associated with the length of time the adult has known the child (Starr, Dubowitz, Harrington, & Feigelman, 1999). Furthermore, it is well known that the concordance between the reports of different informants is frequently low (i.e., Achenbach, McCounaughy, & Howell, 1987) and constitutes a risk factor for the development of (internalizing) psychopathology in adolescents (Ferdinand, van der Ende, & Verhulst, 2004; Rueter, Scaramella, Wallace, & Conger, 1999). Discrepancies in reports from multiple informants can result from specific context related problems (i.e., at home but not at school) and/or differences in how the informants perceive the behaviors/emotions which are manifested (see Shore et al., 2002 for a discussion).

During the last ten years, there has been considerable debate surrounding the factorial structure and validity of the CBCL. Dedrick, Greenbaum, Freidman, Wetherington, & Knoff (1997) and De Groot, Koot, & Verhulst (1994) found modest evidence in their confirmatory factor analyses for the applicability of the original eight-factor model of the CBCL. A recent study by Dumenci, Erol, Achenbach, & Simsek (2004) verified the first order eight-factor model with a very large Turkish sample ($n \approx 5000$). However, there have been a number of contradictory findings regarding the validity of the eight-factor model (cross informant syndromes) of the CBCL, especially with respect to the two syndromes; Social Problems and Attention Problems (Heubeck, 2000). Hartman and colleagues (1999) found minimal support for the two-factor or eight-factor models, only significant support was found for a second order one-factor model. Heubeck (2000), just like Dedrick et al. (1997), found the second order one-factor and first order eight-factor model to both have a modest fit in their confirmatory factor analyses.

In most studies, like the ones mentioned above, the hierarchical two-factor (second order) model of the CBCL is rarely examined. This is quite odd since most of studies that report on the findings of the CBCL frequently use the broadband, "internalizing" and "externalizing" terminology to describe findings. A study from Greenbaum and Dedrick (1998) used a hierarchical confirmatory analysis based on 16 parcel indicators (instead of the 85 items) to evaluate the two-factor second order structure of the CBCL. In the Greenbaum and Dedrick study and a replication thereof that was carried out among clinicians (Dutra et al., 2004), support was found for the two-factor second order model. Additional support was found for the second order two-factor model by Albrecht and colleagues (2001) who conducted a study in the Netherlands among 846 adolescents which lived in residential institutions. Mental healthcare staff workers completed the CBCL for the adolescents. Albrecht et al. conducted a confirmative factor analysis (CFA) on the original items of the CBCL. They concluded that the data best fit the hierarchical two- factor second order model of maladaptive internalizing and externalizing behaviors and modestly fitted the eight-factor first order model. Macmann and Barnett (1993) in their critical examination of the interpretations of the CBCL also theoretically favored the two- factor model and had earlier found in their own evaluation of the second order structure that the CBCL for practical purposes can be best seen as a global index of the emotional and behavioral problems

(Macmann, Barnett, & Lopez, 1993). Although, there are discrepancies with respect to the factorial validity of the CBCL, the two-factor second order structure was better supported with informants other than custodial parents than the eight-factor first order model. Empirically, the internalizing and externalizing scales have also been found to be reliable and valid measures of child psychopathology over time (e.g., Verhulst & van der Ende, 1992).

The CBCL was used in the present study for the first time with legal guardians, which function as caseworkers for unaccompanied refugee minors (URM). Despite the fact that there are some reliability and validity issues surrounding the use of the CBCL with informants other than parents, a substantial amount of documented information is available regarding the affirmative use of the CBCL with other informants than parents. The objective of the present study was to validate the CBCL for legal guardians of unaccompanied minors. There is one foundation that has the legal guardianship of all of the unaccompanied minors that reside in the Netherlands, The Nidos Foundation. The minors come from more than 100 different countries. This foundation has offices throughout the entire country and has almost 20 years of experience in working with unaccompanied minors. The guardian functions as a caseworker for the welfare of the unaccompanied minor and as a rule has a degree in social work. He/she is responsible for the emotional, developmental and educational needs, housing, allowance and asylum procedure of the unaccompanied minor. Furthermore, the guardian has all of the legal responsibilities and parental authority of the minors just as a custodial parent would have (for example; legal permission is needed from the guardian for a minor younger than 16 years of age for medical treatment, opening a bank account, and applying for a passport).

On the average, 20 unaccompanied minors will be assigned to one guardian. A guardian has at least one appointment (1 hour) with an unaccompanied minor per month (more if needed) and is available at the office for the unaccompanied minor. The guardian discusses with the minor how things are going and sorts out any problems that need to be discussed. If the minor is transferred to a different residential setting or Nidos office, they will receive a new guardian and their file will be transferred with them so that no information is lost. Although the guardian has limited personal contact with the unaccompanied minor, he/she is kept up-to-date regarding the functioning of the unaccompanied minors from the housing staff, group worker or teachers on a daily to weekly basis and is readily available in crisis situations.

Because of the uniqueness of this study, Dutch guardians, reporting on the mental health of adolescents from a wide variety of countries and ethnical backgrounds, and the previous conflicting findings regarding the validity and reliability of the CBCL, it was prudent to examine the psychometric properties of the CBCL for this specific population. In addition, much too often in research with adolescents from other cultures, no attempt is made to validate the instruments that were utilized resulting in uncertainty surrounding the results of the study (Drotar, Stein, & Perrin, 1995). The value which can be attached to results of a study is, of course, determined by the degree of reliability and validity of the instrument that has been utilized. In this study, the endeavor was undertaken to evaluate the psychometric properties of a well known existing psychological instrument, the CBCL, for use with a specific research population, the guardians of unaccompanied refugee minors.

Method

Context of study

Due to a dramatic increase in the number (15,000) of unaccompanied minors in the Netherlands in 2001 and problems in referring unaccompanied minors to mental healthcare services, a national and longitudinal research project “Unaccompanied Refugee Minors and Dutch Mental Healthcare Services” was started among unaccompanied refugee minors living in The Netherlands and among their guardians, teachers and professional mental healthcare providers in 2001. Ethical approval for this study was given by the Medical Ethics Committee of the Leiden University Medical Center, Leiden University.

The goal of the project was to determine the severity level of psychological distress of unaccompanied minors, their need for mental healthcare, the availability of mental healthcare services for this group and finally, the associations between all of these factors. A secondary

goal of the project was to validate screening instruments that measure emotional distress and behavioral problems for this specific population group.

Sample

Demographic information on the unaccompanied minors in The Netherlands was supplied by the Nidos Foundation. Approximately 4000 unaccompanied minors were randomly selected in 2002 from the total population of 12,000 in the Central Registrar of Nidos. Information about the study and permission waivers (available in translated versions) were sent to the guardians to discuss with the unaccompanied minors. Both the minor and his/her guardian gave written permission for the unaccompanied minors to participate. Roughly 2300 unaccompanied minors' permission waivers were returned; 1300 (57%) wished to participate, 15% refused, 12% did not participate for a wide range of practical reasons, 9% were transferred, and 7% turned out to be untraceable. However, there were no statistical significant differences found between the URM that did participate and the URM that did not in gender, age, and country of origin. A total of 920 unaccompanied minors were present for participation. The final sample was representative in all of the main characteristics of the total unaccompanied minors population aged 12 to 18 year old in 2002 in the Netherlands. The unaccompanied minors came from 48 countries. Two-thirds of the sample had lived in the Netherlands for a period of 18 months or less.

Measures

CBCL

The Dutch version of the CBCL-4/18; 1991 Profile-(Achenbach, 1991b; Dutch translation: Verhulst , Van der Ende, & Koot, 1996b) was used to standardize the assessment of the behavior and emotional problems of unaccompanied minors through the observations of guardians. The CBCL has a three point rating scale; 0 = *not true*, 1 = *somewhat true*, and 2 = *very true*. The 118 problem items of the CBCL were explanatory factor analyzed to empirically identify the constructs of psychopathology that occur in adolescents (Achenbach, 1991b). These items are presented in the English version in alphabetical order to reduce the bias that might occur as a result of informants' preconceived notions regarding the presence or absence or a particular disorder. The Dutch items follow the same order as the English; however they are no longer alphabetical. The CBCL can be scored in three ways; (1) eight first order scales-withdrawn, somatic, anxious/depressed, social problems, thought problems, attention problems, delinquent and aggressive; (2) two second order scales, internalizing (consisting of the withdrawn, somatic, anxious/depressed scales) and externalizing (consisting of the delinquent and aggressive) scales, and (3) a Total score. The validity and reliability of the Dutch CBCL for normative and clinical populations is thoroughly described by Verhulst et al. (1996b). Although the CBCL has 118 problem behavior items, only 85 items are utilized in the subscales of the CBCL. The scales were originally classified on the basis of exploratory factor analysis (Achenbach, 1991b).

Mental Health Questionnaire for guardians

The perceived need for mental healthcare for the unaccompanied minor by the guardian, the referral process to mental healthcare (MHC) services and the satisfaction with the utilized mental healthcare was measured using a checklist of 23 items. Examples of some questions are; Do you find that this minor needs professional psycho-social mental healthcare? , Did you refer this minor to a mental healthcare facility that provides psychosocial assistance? , Did this minor want to go to the MHC facility? Did you go with the minor to the facility? Have you seen a change in the symptoms/behaviors of the minor after treatment? The guardians were also asked to fill in 10 questions about themselves and their experience with working with adolescents and specifically URM.

Mental Health Questionnaire for teachers

The need for mental healthcare of the unaccompanied minor perceived by the teacher and the referral process to mental health services were measured using a checklist of 6 items. Examples of some questions are; Do you find that this minor needs professional psycho-social mental healthcare?, Did you have contact with the guardian of this minor about the psychosocial problems of the minor?, and Did you contact the school doctor about the

psychosocial problems of this minor? The teachers were also asked to fill in 10 questions about themselves and their experience with working with adolescents in general and specifically with URM.

Teacher's Report form (TRF)

The Dutch version of the TRF 4/18; 1991 Profile-(Achenbach, 1991c)-Dutch translation (Verhulst, van der Ende, & Koot, 1997) was used to standardize the assessment of the behavioral and emotional problems of unaccompanied minors through the observations of teachers. The validity and reliability of the Dutch TRF for normative and clinical populations is thoroughly described by Verhulst et al. (1997). The psychometric properties for the TRF in this study did not differ from those of Verhulst and colleagues (1997).

Stressful Life Events

The *Stressful Life Events* (SLE) (Bean, Eurelings-Bontekoe, Deluyn, & Spinhoven, 2004b) 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?, Has someone ever hit, kicked, shot at or some other way tried to physically hurt you?, Have you ever been separated from your family against your will? Have you been involved in a serious accident? (for example involving a car,)Has someone ever tried to touch your private sexual parts against your will or forced you to have sex?). The overall mean total score of 6.5 on the SLE for URM has been replicated in 5 independent studies. The overall mean of URM is significantly higher than the total mean SLE scores for parental accompanied immigrant/refugee adolescents, Dutch and Belgium adolescents (Bean et al., 2004b).

HSCL-37A

The Hopkins Symptom Checklist-37 for Adolescents (HSCL-37A) (Bean et al., 2004a) measures internalizing distress and externalizing behavior (trauma-related “acting-out”). The psychometric properties have been investigated among a culturally diverse adolescent population and appeared to be satisfactory to good (Bean et al., 2004b). Internal reliability for the URM sample for the total scale internalizing distress, and externalizing behavior 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 0.38 ($p < .001$). 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.

The *Reactions of Adolescents to Traumatic Stress* (RATS) 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 (hyper-arousal) 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 investigated among culturally diverse adolescent populations and per language version of the RATS and appear to be satisfactory to good (Bean et al., 2004c). 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).

Mental Health Questionnaire for adolescents

The self-perceived need for, knowledge of and satisfaction with MHC services was measured using an interview of 23 items. The interview was individuality conducted with the URM after they had filled in the other three questionnaires to ensure that the questionnaire would be filled in properly. The research assistants always stressed that the questions were

about receiving help for problems regarding “thinking and feeling” and not about practical problems. This interview was translated in the above mentioned languages so that the URM could read along in their own language if that was necessary or for clarification. Examples of the questions are: Do you think that you have problems (emotional) that you need help for?, Would you like to contact someone that could help you (with your emotional problems)?, Have you already been to a “(mental) health professional” (for your emotional problems)?. The answer categories were specific to the nature of each question.

Assessment procedure

The CBCL and a short questionnaire regarding the mental healthcare for the unaccompanied minors was sent to the supervisors of each regional office for each guardian that was responsible for at least one of the 920 unaccompanied minors that took part in the study. The guardians received a letter with the questionnaires informing them about the study and giving instructions concerning how the questionnaires should be filled in. The guardians were instructed in the letter and by their supervisors that they could fill in the questionnaire or ask a staff member of the living unit/foster parent of the unaccompanied minors to do so. However, the guardian remained responsible for retuning the completed questionnaires to their supervisors which in turn sent all the completed questionnaires back from the regional office. For the first assessment period, 557 questionnaires were returned. From the 557 questionnaires that were returned for the first assessment 478 CBCL (118 items) questionnaires were filled in of which 421 completed all of the 85 core items. The rest of the returned questionnaires pertained only to the questions concerning the mental healthcare of the URM. Twenty-two percent of the completed CBCL's were filled in by someone else than the guardian (e.g., staff at residential setting).

Procedures for the confirmatory factor analyses (CFA)

The minimum CFA sample requirements are 10 cases per item (i.e., five cases for the factor loadings and five cases for the residual; Kline, 1998). A simpler procedure that can be used involves a scale-based CFA (e.g., Byrne, 1988; McCreary, Newcomb, & Sadava, 1998), in which parcels of items are used as indicators to form the latent factors that represent the subscales. Bandalos (2002) stated that the parcel method is often applied to highly skewed, categorized data to obtain distributions that are more normal and continuous in which CFA' s can be generated from. The parcels can vary in the number of items they contain, and typically three parcels are created for each latent factor (Nasser & Wisenbaker, 2003). However, there have been two studies (Greenbaum & Dedrick, 1998; Dutra et al., 2004) in which two parcels have been used per sub-scale (total of 16 parcels) to evaluate the hierarchical structure of the CBCL because two subscales (Social problems ;8 items) and Thought problems (7 items) have not enough items to be divided into three parcels. The present study used the same methods (random selection of items for parcel, summing of items) as Greenbaum and Dedrick to create the parcels which will be used as indicators for the hierarchical confirmatory analysis.

Bagozzi and Heatherton (1994) have listed the many advantages of using parcels. Nonetheless, when using parcels as indicators in the model, information is lost at item-level. To supplement the findings of the hierarchical analysis, individual first order and second order factor models will be examined to evaluate how the single items behave in their a priori defined factors.

Models

In this study, the fit for each of the eight first order factor models and the second order factor models will be examined individually to evaluate the behavior of items in each model. Furthermore, individual second order factor models will be examined to see if they can be better described as single models or as a grouping of smaller factors. The second order factor structure of the two a priori internalizing and externalizing factors will be evaluated using parcels as indicators in a hierarchical CFA (see Figure 1). Also, the possibility of a one-factor second order structure will be investigated.

Statistical Analysis

The indicators, parcels and subscales of the CBCL, are skewed and in great violation of normal distribution assumptions (see Table 2). The indicators for all of the models were treated as ordinal. There were additional analyses not discussed in the article in which the indicators for the CBCL were treated as dichotomous, however, no improvement was found in the fit of the models when using dichotomous indicators instead of ordinal indicators. Missing items were deleted listwise since deleting items pairwise resulted in multiple Heywood cases which prevented convergence of the models. It is known that the Maximum Likelihood (ML) method of estimation, which uses product-moment correlations for estimating model parameters, is based on data in which there is no multivariate kurtosis (Browne, 1984). This method is not adequate to use with the URM sample because of the non-normality of the indicators. It was necessary to calculate polychoric correlation matrices and the asymptotic covariance matrices using PRELIS 2 (Jöreskog & Sörbom, 1990; Jöreskog & Sörbom, 1996b) on which all of the confirmatory factor analysis could be calculated so that the model parameters were not underestimated, that the chi-squared statistic would not be inflated and that the standard error estimates would not be downwardly biased (Flora & Curran, 2004). From the matrices, the individual factor models (using items) and hierarchical factorial structure (using parcels) could be calculated with LISREL 8.71 (Jöreskog & Sörbom, 1996a) using the unweighted least squares (ULS), weighted least squares (WLS), or diagonally weighted least squares (DWLS) methods for estimating model parameters.

The ULS method has been used in many CBCL studies (e.g., Albrecht et al, 2001; Dedrick et al., 1997; De Groot et al., 1994; Hartman et al., 1999). Dumenci et al. (2004) recently used the WLS method, an asymptotically distribution-free (ADF) estimator in their study evaluating the eight-factor first order model of the CBCL. They used this method instead of the ULS because they found that the ULS is not the most efficient estimator of the model. However, the WLS method can only be used with very large samples. Jöreskog and Sörbom recommend a sample size $=1.5p\ (p + 1)$, where p = number of variables. To use the WLS method with the 85 items of the CBCL, a sample of more the 7000 would be necessary! However, using the suggested sample size formula for the 16 parcels, a stable weight matrix could be obtained using the WLS method (minimum of 408) since the effective sample size of the present study is 421 fully completed CBCL's. The DWLS (Muthén, du Toit, & Spisic, 1997) method (estimation capabilities falling in between the ULS and WLS methods [Jöreskog & Sörbom, 1996a]) was applied to the generation of the eight first order a priori individual factor models. Although the DWLS method is not the best estimator of the parameters, it seems to be the best method to use when evaluating the factor models in relation to the URM sample because it has behaved stable among smaller sample sizes (Flora & Curran, 2004) while the WLS method did not.

Browne and Cudeck (1993) and Hu and Bentler (1999) recommend using multiple fit indices to determine how well the hypothesized factor structure will fit the observed data. To examine the models, indices of model fit, model comparison and model parsimony were calculated. The fit indices include (a) Satorra-Bentler chi-square (SB) (values should not be significant, but in larger samples this is often not feasible), (b) [chi square]/df ratio (values should be < 2.0) (c) Incremental indices of fit were examined : the parsimony normed fit index (PNFI), the comparative fit index-takes the non-centrality parameter into consideration (CFI) and Adjusted Goodness-of-Fit Index (AGFI) values should be [greater than or equal to] .80). Root Mean Square Error of Approximation (RMSEA) values less than .08 indicate at least sound fit while values between .08 and .1 reflect mediocre fit (Byrne, 1998). Incremental indices reflect the improvement in fit gained by a given factor model relative to the most restrictive (null or independence) model. All three incremental indices are scaled from 0 (no fit) to 1 (perfect fit). Hu and Bentler (1999) advised that values close to .95 are indicative of good fit. PNFI values range from 0 to 1, values close to 1 (perfect fit) are not expected. Moreover, indices around .5 are not unexpected in sound-fitting models (Byrne, 1998). Parsimony adjusted measures take the number of parameters estimated in the model into account. Models are penalized for each parameter. Multiple fit statistics can be used to compare models with differing number of parameters to determine the impact of adding additional parameters to the model based on theoretical driven assumptions.

Descriptive statistics were used to give summary descriptions of the demographic characteristics of the URM sample (Table 1). Internal consistency of the total scale, subscales, and parcels of the CBCL was calculated with Cronbach's α (Table 2). Pearson's product-moment correlations and Spearman's rho (two-tailed) were used to study the associations (pairwise exclusion of missing data) between raw scores. The kappa statistic was used to assess the agreement between the psychopathology indicators used in this study. Differences between groups (Table 5) were determined by using t-tests for independent groups, ANOVA's and effect sizes [calculated using Cohen's *d*](Cohen, 1988). A maximum of ten percent of the missing items were allowed to still be able to extrapolate the total and subscale scores of all measures.

Table 1.
Summary of Sample Characteristics of unaccompanied minor and guardians

		Unaccompanied minor	Guardians
N		(920) 478*	(557) 478*
Gender			
	Male	71.3%	22.4%
	Female	28.7%	77.6%
Age in years			
	Mean	15.48	36.27
	SD	1.52	8.96
	Range	10-18	20-64
Country of Origin			
Netherlands		0.0%	78.9%
Angola		43.9%	
Iran/Afghanistan/Iraq		4.4%	
Eritrea/Ethiopia		2.7%	
Somalia		2.1%	
Sierra Leone		7.9%	
Guinea		6.7%	
Other African Countries		14.0%	
China/Tibet		8.6%	
Other Countries		9.6%	21.1%
Most frequent reported level of education		1-5 years of education 44.9%	Bachelor's Degree 92.7%
Most frequent reported Occupation		N/A	Social worker (93%)

Note. ( ) Total number of completed/returned questionnaires for the first assessment
* number of CBCL's filled in and returned

Results

Demographic information about unaccompanied minors and guardians

Table 1 represents the demographic background information for the 478 unaccompanied minors (of the 920 of whom there was a CBCL completed) and their guardians. For thirty-five percent of the all of the 478 minors, one guardian filled in a questionnaire for one unaccompanied minor that had taken part in the study, in 22% of the cases one guardian filled in questionnaires for 2 minors., in 18% of the cases guardians filled in questionnaires for 3 minors and in 25% of the cases one guardian filled in questionnaires for more than 4 minors.

The sample of unaccompanied minors consisted mostly of boys (71.3%). The mean age was approximately 16 years and the most frequent countries of origin were Angola, Sierre Leone, Guinea and China. Most of the unaccompanied minors came from Africa (69.4%). 55.1% of the unaccompanied minors sample had received educational training for more than 5 years. The guardian population consisted of mostly females (77.6%) that had a mean age of 36 years. The greater majority of guardians were born in the Netherlands. A large portion of the guardians had received the equivalent of a Bachelor's degree in Social Work. Almost seventy-five percent of the guardians reported being "very well informed" about the kinds of behavioral and emotional problems that URM frequently experience. The guardians also reported on their work experience with youth. Forty-five percent of the guardians said to have worked 5 years or less with youth in general, 63% said to have had 5 years or less working experiences with non-Dutch youth and 51% reported having 3 years or less experience working with URM.

Table 2.
Descriptive statistics for indicator variables (Listwise exclusion of missing cases)

CBCL scales	CBCL items	α	*M*	*SD*	Skewness	Kurtosis
Withdrawn	All items in subscale	.78	3.25	3.03	1.05	.70
Somatic	All items in subscale	.76	1.61	2.35	2.36	7.46
Anxious/Depressed	All items in subscale	.84	4.24	4.24	1.48	2.72
Social	All items in subscale	.64	1.08	1.65	1.90	3.73
Thought	All items in subscale	.65	.83	1.49	3.73	20.96
Attention	All items in subscale	.80	2.71	3.08	1.57	2.75
Delinquent	All items in subscale	.70	1.43	2.12	2.15	5.54
Aggressive	All items in subscale	.88	3.11	4.47	1.98	3.93
Internalizing	All items in subscale	.89	8.40	7.72	1.46	2.69
Externalizing	All items in subscale	.90	4.55	6.12	1.94	3.71
Total	All 85 items	.94				
Withdrawn parcel 1	65, 69, 75, 80, 88, 102	.67	2.06	2.04	.99	.44
Withdrawn parcel 2	42, 103, 111	.62	1.20	1.31	1.21	1.30
Somatic parcel 1	54, 56a, 56b, 56d, 56c, 56f	.69	1.39	1.98	2.03	4.71
Somatic parcel 2	51, 56e, 56g	.62	.23	.61	3.33	14.00
Anx/dep parcel 1	14, 31, 32, 35, 71, 103, 112	.72	2.47	2.36	1.04	.90
Anx/dep parcel 2	12, 33, 34, 45, 50, 52, 89	.76	1.80	2.26	1.87	4.29
Social parcel 1	1, 11, 55, 64,	.36	.63	.99	1.73	2.80
Social parcel 2	25, 38, 48, 62	.69	.46	1.01	2.81	9.13
Thought parcel 1	40, 66, 70, 85	.59	.13	.58	7.29	68.51
Thought parcel 2	9, 80, 84	.52	.71	1.11	2.11	5.46
Attention parcel 1	1, 10, 13, 41, 45, 61	.66	1.51	1.86	1.51	2.19
Attention parcel 2	8, 17, 46, 62, 80	.63	1.24	1.50	1.43	2.19
Delinquent parcel 1	39, 43, 63, 67, 72, 96, 105	.55	.71	1.21	2.20	5.35
Delinquent parcel 2	26, 81, 82, 90, 101, 106	.47	.74	1.15	1.97	4.47
Aggressive parcel 1	7, 16, 19, 20, 37, 87, 93, 95, 97, 104	.77	1.50	2.29	2.00	4.09
Aggressive parcel 2	3, 21, 22, 23, 27, 57, 68, 74, 86, 94	.81	1.63	2.42	1.81	3.13

Individual Confirmatory and Hierarchical Confirmatory Factor Analysis

The fit of all of the eight lower order factor models are sound to mediocre (not shown, but available). The greater majority of the item factor loadings were estimated above .40, ranging in mean estimates from .51 to .72. Although the SB chi-square goodness-of-fit statistics for all of the individual factors except Social and Thought, lacked fit, the alternative

measures of fit supported the six other factor models. These findings do not diverge from the results of previous studies regarding the lower-order factor model of the CBCL that have been reported earlier in this article.

The SB chi-square goodness-of-fit test revealed for the hierarchical structure of the CBCL (Figure 1) that the model lacked fit for the observed data in the present study. However, when the alternative measures of fit were examined, the results indicated that the fit of the model was good (SB-$\chi^2(92)= 340$; AGFI = .97; PNFI = .74; CFI = .98; RMSEA = .08). The results of the model fit of the present study are very similar to those of the Greenbaum and Dedrick study findings. None of the modification indices suggested further refining of the model. In the model, the Thought factor loaded quite high on internalizing (.75) while the Social factor (.71) loaded quite high on the externalizing model.

The correlation between the second order internalizing and externalizing factors was .84. Because of the traditional cross-loadings of the Social, Thought, and Attention syndromes on both internalizing and externalizing factor models, the correlations between the second order factors could have been inflated. To test this hypothesis, the two factor second order model was recalculated without the Social, Thought, and Attention factors. The new model yielded a slightly lower correlation of .70 between internalizing and externalizing factors.

Because of this high correlation and the previous findings that have been documented in CBCL studies indicating that the one-factor second order model fits the data better than a two-factor model, a final one-factor second order model was calculated (SB-$\chi^2(96)=380$; AGFI=.97; PNFI=.77; CFI=.98; RMSEA=.08). There was a small difference found in model fit between the one-factor second order model and the two-factor second order model. The two-factor second order model fit the data slightly better than the one-factor second order model.

Reliability

The reliability of the total CBCL scale is .94. The remaining Cronbach's alpha values for the rest subscales of the present study are located in Table 2 and are consistent with those calculated for Dutch parents (Verhulst et al., 1996), American parents (Achenbach, 1991), residential staff workers (Albrecht et al., 2001), and clinicians (Dutra et al., 2004).

Inter-measure correlations

The correlations for the first assessment between all the scales of the CBCL are presented in Table 3. Using Cohen's effect magnitude for correlations, correlations above .10 are considered small, above .30 are considered medium and correlations above .50 are considered large (Cohen, 1988). These correlations are comparable to those found for Dutch parents (Verhulst et al., 1996). It can be observed from Table 4 that the externalizing scale and internalizing scale show a correlation of .40. Accordingly, this means that these two scales are not totally independent of each other.

Table 3.
Intercorrelations of the scales of the CBCL

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Withdrawn										
2. Somatic	.47									
3. Anxious/Depressed	.67	.55								
4. Social	.41	.28	.49							
5. Thought	.54	.49	.63	.33						
6. Attention	.59	.44	.69	.63	.62					
7. Delinquent	.39	.15	.34	.49	.24	.58				
8. Aggressive	.30	.17	.42	.59	.30	.62	.68			
9. Internalizing	.85	.75	.92	.49	.67	.70	.36	.38		
10. Externalizing	.35	.18	.43	.61	.30	.66	.84	.97	.40	
11. Total score	.72	.60	.84	.68	.69	.86	.63	.72	.88	.75

Note. All correlations reached the .01 significance level. Two-tailed.

Inter-informant agreement

In Table 4, the correlation matrix for inter- and intra-informant correlations can be found. The intra-informant specific correlation between internalizing and externalizing (raw) scores were all significant and strong. The internalizing correlations per informant pair were found to be significant but small (minors & guardian, $r = .23$; minors & teacher, $r = .13$; teacher & guardian, $r = .26$). The externalizing correlations per informant pair were smaller between minors and guardian ($r = .18$), and minors and teachers ($r = .14$), than between guardians and teachers ($r = .47$). These findings do not deviate extensively from the inter-informant correlations found in previous studies (Achenbach et al., 1987; see Tarren-Sweeney et al., 2004 for an overview). There were strong significant and positive correlations between URM's self-reported total number of SLE's and internalizing, externalizing and traumatic stress reactions (small to medium effect sizes). However, there were no significant correlations found between the guardians' or teachers' report of psychological distress or behavioral problems and URM report of total number of SLE's. Older age was significantly negatively related to the guardians (and teachers) reports of externalizing problems, however significant, positively related to the unaccompanied minors reports (negligible effect size).

Validity

Confounding factors for the validity of the CBCL among guardians

In this specific study, several factors such as someone other than the guardian completing the CBCL (22%), one guardian completing multiple CBCL's for individual URM, or experience in working with URM could have in some way confounded the validity results. Therefore, the effect of the confounding factors will be first addressed and then the actual validity findings.

First, the reliability of the reports of the guardians was compared with those of non-guardians to investigate if there were differences. There was no indication that the guardians reports (internalizing - minors & guardian, $r(338) = .23$, $p < .01$; teacher & guardian, $r(210) = .30$, $p < .01$; externalizing- minors & guardian, $r(345) = .18$; $p < .01$; teacher & guardian, $r(200) = .45$, $p < .01$); were less reliable than the reports from mentors/residential staff workers who have daily contact with the minors (internalizing- minors & guardian, $r(77) = .25$, $p < .05$; teacher & guardian, $r(44) = .24$, $p < .05$; externalizing - minors & guardian, $r(77) = .24$; *ns*; teacher & guardian, $r(44) = .53$, $p < .01$).

Furthermore the effect of one guardian completing multiple CBCL's was examined. Previously was reported that 75% of the CBCL's were filled in by one guardian for 3 or less minors. There was a small but significant and negative relationship found between the number of CBCL's filled in by the same guardian and the reported CBCL internalizing scores (rho $(372) = -.11$, $p < .05$). Implying that if a guardian had filled in multiple CBCL's they also had reported lower internalizing scores. There was no correlation found between CBCL externalizing scores and the number of CBCL's filled in by one guardian.

If the guardian said that he/she was "very well informed" of the types of emotional problems that unaccompanied minors experience, there was a larger and significant inter-rater agreement found between the minor and guardian CBCL internalizing report ($r(30) = .47$, $p < .01$) than when the guardian was "well informed" ($r(301) = .20$, $p < .01$) or "average informed" ($r(52) = .19$, ns). However, the results regarding the agreement between minors and guardians concerning externalizing problems were different. If the guardians had said that they were "very well informed" ($r(28) = .26$) the relationship was not significant. Whereas among the guardians who said they were "average informed" ($r(51) = .30$, $p < .05$) or "well informed" ($r(310) = .14$, $p < .01$) stronger and significant relationships were found.

Similarly, the variable "years of work experience with unaccompanied minors" had effect on the agreement between guardian and minor concerning externalizing problems. However, in this case, agreement was better when guardians had reported having many years (7 or more) of experience ($r(60) = .26$, $p < .05$) than when they reported medium (4-6 years) ($r(147) = .18$, $p < .01$) or little (0-3 years) ($r(207 = .12$; *ns*) experience working with minors. However, if the guardian had reported many years of experience, the agreement between the guardian and minor concerning internalizing problems was moderate ($r(57) = .27$, $p < .05$) and did not differ from the category of guardians with little (0-3 years) ($r(203) = .24$; $p < .01$) or medium (4-6 years) ($r(148) = .20$, $p < .01$) experience.

Table 4.
Intermeasures Correlations

	1.	2.	3.	4.	5.	6.	7.	8.
1. internalizing HSCL-37A (n)								
2. externalizing HSCL-37A (n)	.42** (825)							
3. internalizing CBCL (n)	.23** (415)	.20** (426)						
4. externalizing CBCL (n)	-.05 (411)	.18** (422)	.40**(434)					
5. internalizing TRF(n)	.13* (401)	.20** (413)	.26**(254)	.06 (254)				
6. externalizing TRF (n)	-.04 (401)	.14** (415)	.03 (247)	.47**(244)	.40**(396)			
7. SLE total (n)	.41** (812)	.12* (835)	.07 (445)	-.06 (442)	-.05 (425)	-.10* (428)		
8. RATS total (n)	.79** (767)	.32** (780)	.23**(404)	-.03 (399)	.10* (390)	-.03 (390)	.46** (799)	
9. Age (n)	.24** (828)	.07* (852)	.04 (455)	-.32**(453)	.06 (433)	-.18** (435	.22** (894)	.25***(799)

*p <.05 . **p <.01 . ***p <.001 . Two-tailed.

Construct validity

Construct validity is a measure of the relationship between the instrument and variables that, on theoretical grounds, are expected to correlate with the measured variable. Factorial validity of the CBCL of the internalizing and externalizing scales was found to be moderate, as reported earlier. In this study, guardians did report higher internalizing mean scores for girls than boys (t (453) = 2.01, p <.05) but there were no significant differences between girls and boys regarding externalizing mean scores (t (451) = .79, *ns*). There are contradictory findings in the literature concerning age and emotional distress. Age, divided into 4 categories in the present study (14 years and younger, 15 years, 16 years and 17 years or older), did not seem to play a role with respect to internalizing mean scores reported on the CBCL (F (3,454) = 1.39, *ns*) but did play a role in CBCL externalizing scores (F (3,449) = 17.35, p <.001), 14 years and younger minors having significant higher scores than older minors.

Several studies have shown the number of experienced stressful events (dose-effect relationship) to be a good predictor of psychopathology (e.g., Tiet et al., 1998). Nevertheless, the number of stressful life events that the unaccompanied minor reported did not play any role in the perceptions of emotional or behavioral problems of the unaccompanied minors by guardians (internalizing , F (3,441) = .52, *ns*; externalizing , F (3,438) = 1.09, *ns*).

Criterion validity

Criterion-based validity shows whether the test scores can be used to predict future behavior or to diagnose symptoms. Ideally, a standardized diagnostic interview is used in combination with questionnaires to determine the presence and severity of psychopathology. It was not feasible in the present study to administer a diagnostic interview. Five indicators of psychopathology were utilized as external criteria; (1) self-reported need for mental healthcare (MHC) by the unaccompanied minors, (2) need for professional MHC for the unaccompanied minors; evaluated by the legal guardian, (3) need for professional MHC for the unaccompanied minors; evaluated by the teacher, (4) self-reported utilization of MHC by unaccompanied minors, and (5) referral to MHC services by a legal guardian. Using the kappa statistic, the inter-rater agreement between the indicators was examined to estimate the extent to which each of these variables provided unique information. There was poor inter-rater agreement between all indicators suggesting that each indicator reveals additional and important information (highest kappa = .36, between guardian reported referral and URM reported service use; lowest kappa's = .03, between teacher reported need and URM reported need). Agreement between guardian reported need and guardian referral was good (kappa = .68). However, agreement between URM reported need and URM report service use was poor (kappa = .02).

The criterion “referral” and “utilization of MHC” are important in the evaluation of psychopathology (Anderson, FRANZCP, Williams, McGee, & Silvav**,** 1987; Cuffe et al., 1995; Verhulst & van der Ende, 1997). For this reason, unaccompanied minors themselves, their guardians and their teachers were asked to evaluate the need for professional MHC. An unaccompanied minor was asked if he/she had seen a MHC professional and the legal guardian was asked if he/she had referred the unaccompanied minor to MHC services. The findings presented in Table 5 show that the CBCL can discriminate well between unaccompanied minors whose guardians and teachers report that he or she needs professional help but not between unaccompanied minors with and without a self-reported need for MHC themselves. The CBCL internalizing mean scores for the unaccompanied minors of which the guardians (M =19.30; SD = 10.80) or teachers (M = 14.45; SD = 11.09) reported that they needed mental health services were higher or in the clinical borderline range (*T-score > 60*) that has been established for Dutch adolescents by Verhulst et al. (1996). The externalizing mean score, however, fell below the clinical borderline range (*T-score > 60*) for both guardians (M =8.39; SD=8.37) and teachers (M = 6.58; SD = 7.77).

Table 5.
External criteria influencing CBCL internalizing and externalizing scores

	internalizing						externalizing				
	N	*Mean*	*SD*	*F(df)*	*p*	*d*	*N*	*Mean*	*SD*	*F(df)*	*p*	*d*
Unaccompanied minor: Need for MHC												
Need for MHC	234	10.03	8.98	.43 (2;403)	.65		232	4.36	6.20	4.16(2;397)	<.05	.36
No need for MHC	86	9.85	10.14				84	6.79	8.29			
Uncertain of need	84	11.00	10.19				82	5.58	6.81			
	N	*Mean*	*SD*	*t (df)*	*p*	*d*	*N*	*Mean*	*SD*	*t (df)*	*p*	*d*
Guardian: Need for MHC												
Need for MHC	90	19.30	10.80	9.64 (108)	<.001	1.46	87	8.39	8.37	4.23(111)	<.001	.61
No need for MHC	351	7.75	6.99				352	4.34	6.23			
Teacher: Need for MHC												
Need for MHC	82	14.45	11.09	4.59 (119)	<.001	.70	81	6.58	7.77	2.35(132)	<.05	.34
No need for MHC	175	8.22	7.67				173	4.25	6.35			
Unaccompanied minor: MHC Utilization												
Utilization of MHC	49	12.57	11.76	1.66 (56)	.10		51	4.77	6.19	.25(368)	.81	
No utilization of MHC	327	9.68	8.62				319	5.03	6.98			
Referral: MHC by guardian												
Referred to MHC	56	20.74	11.99	7.39 (61)	<.001	1.48	58	8.54	8.03	3.59(69)	<.001	.59
Not referred MHC	394	8.57	7.55				390	4.58	6.53			

Discussion

The results of this study indicate that the CBCL can be utilized as screening instrument to assess the global emotional distress and maladaptive behaviors that are reported by guardians based on their observations of unaccompanied refugee adolescents. However, there are several findings related to validity and reliability that should be considered when using the CBCL to assess the mental health of unaccompanied minors.

First, it is important to consider that the guardians or other caregivers of an unaccompanied minor may not always be able to observe the emotional distress and behavioral problems as well as parents simply because they spend much less time interacting with the adolescents. Another reason why emotional distress among URM might go unnoticed is due to the internal nature of their maladaptive problems which are difficult to observe. Additional information from alternative sources (teachers, residential staff workers, adolescents) is essential to make an adequate assessment of the mental health of the adolescent because of the low agreement between informants. Information from each informant is crucial in assessing the degree of impairment in daily functioning and the severity of the symptoms. In this study, it appears that guardians are reliable informants on the psychological well-being of URM.

Second, the factorial validity of the second order two-factor model of CBCL's externalizing and internalizing scales has been verified for this specific, culturally unique, population. The two-factor model was chosen based on previous findings concerning the reliability and validity of the internalizing and externalizing constructs. Although there was no actual difference in fit between the one-factor and two-factor solution, it is advised for theoretical and conceptual reasons that the two-factor model be used when reporting on the findings of the CBCL in future studies. For specific populations, such as URM (internalizing problems) or delinquent youth (externalizing behavior) the two-factor solution gives better insight into which type of psychopathology is predominant. A clear conceptual description of the psychological problems for specific adolescent populations can in turn lead to better tailored interventions and treatments to alleviate their emotional distress.

It appears that for this specific population, the Thought problem subscale is strongly associated with the internalizing problems whereas the Social problem subscale was strongly related to the externalizing problems. Examination of the individual items which make up the Thought subscale (e.g., Can't get mind off problem, repeats acts, strange behavior) reveals that many items could indicate observed behavior resulting from internal traumatic stress reactions of the URM. Due to the great exposure of URM to traumatic experiences (Bean et al., 2004), it would seem logical to expect that guardians might observe psychological distress that could be related to traumatic reactions and which they consider to be strange because they are difficult to interpret. Heubeck (2000) defined social problems that were strongly related with the externalizing scale as being an indication of overt antisocial behavior. All of the original first order individual eight-factor models of the CBCL appear to moderately fit the observed data in this study.

Furthermore, it appeared that when guardians had many years of experience with working with URM and were well-informed about the type of psychological problems that URM can exhibit, the concordance between their reports and the reports of URM regarding externalizing behavior was better than for guardians with less experience and not as well informed. If a guardian was well-informed about the type of internalizing distress URM can experience there was also better agreement between URM and their guardian's reports.

The total score of the CBCL was not a good discriminator for the self-reported need for mental healthcare by the unaccompanied minor themselves. This finding is not new. Bilenberg (1999) found that the CBCL material has never provided good diagnostic validity, however is useful as a guideline for early diagnostic purposes. It is widely known that the agreement between cross-informants is usually low (Achenbach et al., 1987; Ferdinand et al., 2004; Weissman et al., 1987; Yeh & Weisz, 2001). That is why alternative sources of information are not interchangeable for the purpose of making treatment decisions, but can simply be complementary (Macmann & Barnett, 1993). Macmann and Barnett (1993) further indicated that "the composition of core syndromes may vary depending on the items sampled, subjects sampled, and methods of analysis used". This finding has been confirmed among this very specific population (i.e., internalizing problems are more prevalent and frequently

recognized among unaccompanied refugee minors than externalizing problems which seem to be more prevalent among western youth in foster care (Tarren-Sweeney et al., 2004). Great care needs to be taken in the decision making process in determining when professional mental healthcare services need to be consulted for unaccompanied minors. In this study, it was not feasible to administer standardized diagnostic interviews to the URM because of the lingual diversity of the sample which could have established specificity and sensitivity of the CBCL for this specific population. Cross-informant questionnaires such as the CBCL yield less diagnostic information than extensive structured interviews and therefore cannot be used to determine a psychiatric disorder. Considering the multiple risk factors (exposure to multiple traumatic experiences, separation form parents, uncertainty of residential status) that unaccompanied minors are faced with in their lives, it is crucial to their well-being that they receive adequate and appropriate psychosocial care in the residential settings, reception or detention centers were they reside in host countries. One technique to accomplish this objective is by using psychological instruments, such as the CBCL to screen URM for their emotional distress.

In future studies, multiple informants (including the minor themselves) should be included in the assessment of the mental health of unaccompanied minors. It is apparent from this study that each informant contributes unique and important information about the mental health of the URM. Comparing the concordance between different informants that have different relationships (i.e., staff workers and guardians) with the minors themselves could give better insight into the reliability of the reports of significant adults in the lives of minors. Furthermore, measuring the effect of "familiarity" of the minor by the guardian more systematically than in this study could reveal if the "quality" or "quantity" of time spent with the minor is more important in accurately assessing behavioral and emotional problems. Finally, studying the effect of training guardians to accurately perceive emotional and behavioral problems of unaccompanied minors should be investigated to improve the mental healthcare services and the referral process. In this study, it appears that if guardians are knowledgeable about the types of psycho-social problems URM experience, agreement between URM and guardian reports is improved.

The results of this study, in which the mental health of unaccompanied refugee minors was reported on by their legal guardians, demonstrate consistency with previous studies which have evaluated the factorial structure of the CBCL. The two-factor model of internalizing and externalizing is supported in spite of the fact that other methods were used (parcels in the CFA) and that the adolescents were a culturally heterogeneous population coming from 48 different countries. Furthermore the internal consistency was found to be good to moderate and the criterion validity was found to be moderate when significant adults in the lives of the URM were used as informants. The present findings on the psychometric properties of the CBCL suggest that the CBCL can be used by guardians to reliably assess the global maladaptive emotional and behavior problems of unaccompanied refugee minors.

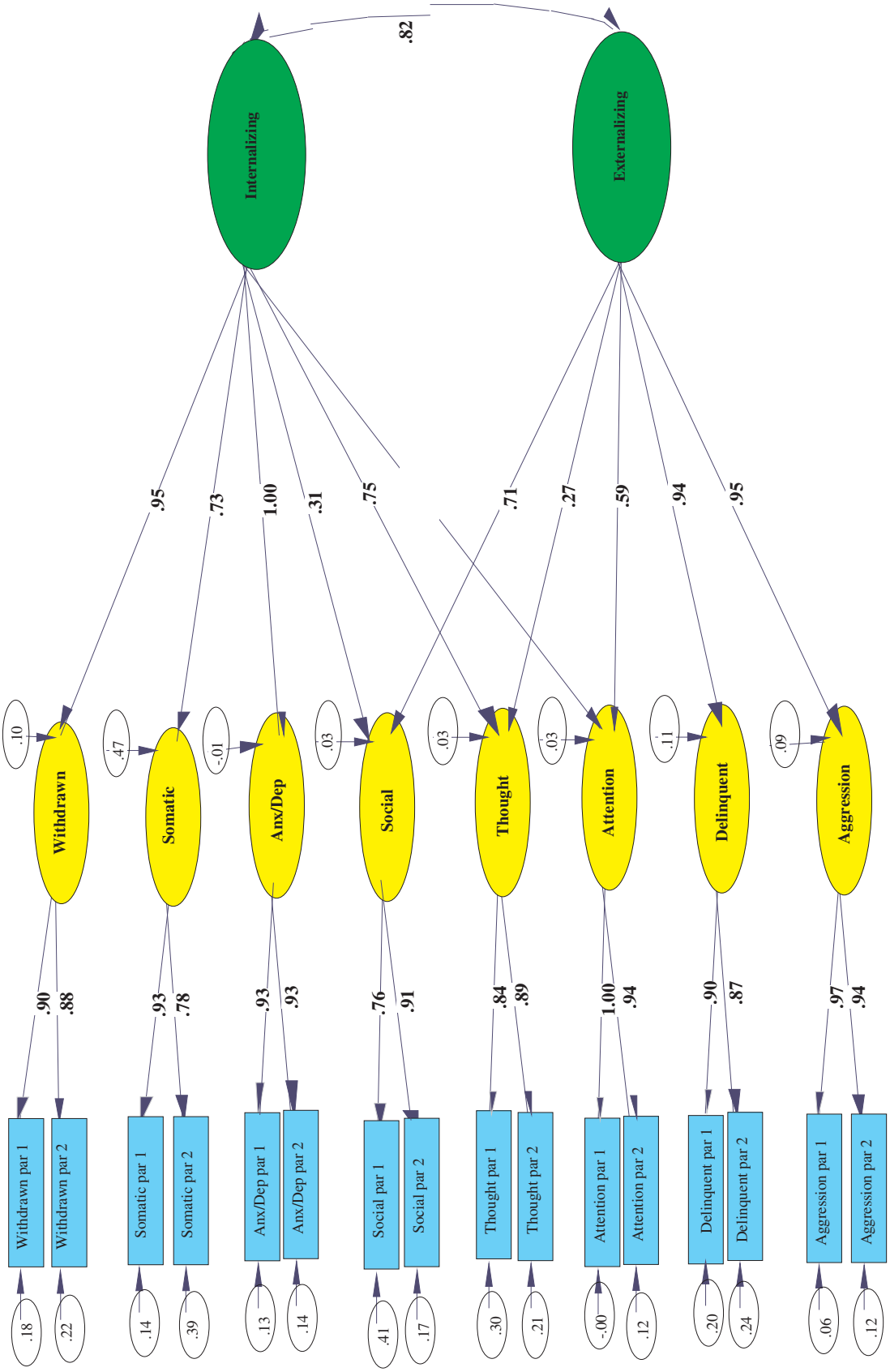


Figure 1. Standardized parameter estimates for the CBCL hierarchical factor model

Chapter 6

Validation of the Teacher's Report Form for Teachers of Unaccompanied Refugee Minors

Abstract

The validity and reliability of the Teacher's Report Form (TRF) for Dutch teachers of unaccompanied refugee minors was evaluated in this study. The teachers of the unaccompanied minors that participated in the study all received a TRF to report on the mental health of the unaccompanied minor. The teachers filled in and returned 486 TRF's. Hierarchical confirmative factor analysis and individual confirmatory factor analyses support the a priori structure of the TRF. However, the Thought problems subscale could not be verified in this study suggesting that some of the problem behavior reported by teachers of unaccompanied minors differs from that of parent reports or that the item constellation of the TRF is different for teachers of unaccompanied minors. The total, internalizing and externalizing scales show good internal consistency. The construct and criterion validity of the TRF were found to be good. The results suggest that the TRF is a reliable and valid instrument to assess emotional and behavior problems of unaccompanied refugee minors.

Introduction

Throughout the world, refugee children and adolescents attend schools in their host countries. The number of foreign-born children and adolescents attending schools in European metropolitan areas is equal to or even greater than the number of native born

students (Eurydice, 2004). The school provides structure and an informal environment in which low threshold mental services can be provided to refugee children and adolescents (and their families). During the last few years, there has been an increase in the literature of school-Report Form (TRF) (Achenbach, 1991c)(e.g., Allwood, Bell-Dolan, & Husain, 2002). The TRF is a checklist that is completed by teachers reporting on the maladaptive emotional and behavioral problems of the children they have in their class. Although, the TRF has been used in a few studies with refugee adolescents, the psychometric properties of the TRF have not yet been thoroughly examined for this specific population.

There have been studies carried out which have used teachers as informants in assessing distinct specific populations such as foster children (i.e., Shore, Sim, Le Prohn, & Keller, 2001), severely maltreated children (i.e., Culp, Howell, McDonald-Culp, & Blankemyer, 2001) and delinquent adolescents (i.e., Tranh & Hill, 2000). Furthermore, the TRF has been used in several different countries (predominantly western) with children and adolescents from diverse cultures and ethnicities (Atzaba, Naama, Pike, & Barett; 2004; French, Jansen, Riansari, & Kusdwiratri, 2003; Frigerio et al., 2004; Hartman et al., 1999; Lambert, Lyubansky, & Achenbach, 1998; Stevens et al., 2003; Satake, Yoshida, Yamashita, Kinukawa & Takagishi, 2003; Yang, Soong, Chiang, & Chen, 2000) to measure maladaptive behaviors and emotional problems. Again, the psychometric properties, especially, the validity of the TRF for many of these populations are frequently not reported on.

Only a few studies have examined the factorial validity of the TRF. De Groot, Koot, & Verhulst (1996) found mediocre evidence in their confirmatory factor analyses for the applicability of the eight-factor model of the TRF. Three studies that have evaluated the construct validity of the TRF (De Groot et al., 1996; Spijker, Kramer, Constatine, & Bryant, 1992; Hartman et al., 1999) all found greater violation of distribution assumptions in the TRF model than for the associated CBCL, which led to a poorer fit of the TRF model. The Hartman et al., (1999) study further found minimal support for the two-factor second order or eight-factor first order models. Only significant support was found for the one-factor second order model. The second order two-factor model terminology of “internalizing” and “externalizing” behavior is used to describe the results in most studies which utilize the TRF. Macmann and Barnett (1993) in their critical examination of the interpretations of the instruments associated with the Achenbach cross-informant structure also theoretically favored the second order two-factor model. Although, findings concerning the factorial structure and validity of the TRF are weak, the internalizing and externalizing scales have been found to be reliable and valid measures of child psychopathology over time (e.g., Verhulst & van der Ende, 1992). The second order two- factor model was chosen as the basic model for this study because of the vast empirical evidence that has been collected over the past years using the cross-informant structure associated with the instruments of Achenbach.

Due to a dramatic increase in the number (15,000) of unaccompanied minors in the Netherlands in 2000 and problems in referring unaccompanied minors to mental healthcare services, a national and longitudinal research project “Unaccompanied Refugee Minors and Dutch Mental Healthcare Services” was started among unaccompanied refugee minors living in the Netherlands and among their guardians, teachers and professional mental healthcare providers in 2001. 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 the Netherlands, there is a national network of schools that offer a two-year educational program to URM and other parental accompanied immigrant and refugee adolescents. In this program, acquisition of the Dutch language and customs of the Netherlands are prominent tasks in the first year. As soon as a basic vocabulary in the Dutch language has been achieved, adolescents can follow normal lessons and gradually integrate into the regular Dutch educational system. The classes are usually small, about 15 adolescents per class, and the adolescents receive a great deal of individual attention.

Because of the uniqueness of this study, Dutch teachers reporting on the mental health of unaccompanied adolescents from many different countries, it was prudent to examine the psychometric properties of the TRF for this specific population. The value which can be attached to results of a study is, of course, predetermined by the degree of reliability and validity of the instrument that has been utilized. In this study, the endeavor was undertaken to evaluate the psychometric properties of a well known existing psychological instrument, the

TRF, for use with a specific research population, the teachers of unaccompanied refugee minors.

Method

Sample

Demographic information on the unaccompanied minors in the Netherlands was supplied by the Nidos Foundation. Approximately 4000 unaccompanied minors were randomly selected from the Central Registrar of Nidos. Information about the study and permission waivers (available in translated versions) were sent to the guardians to discuss with the unaccompanied minors. Both the minor and his/her guardian gave written permission for the unaccompanied minors to participate. Roughly 2300 unaccompanied minors' permission waivers were returned; 57% wished to participate, 15% refused, 12% did not participate for a wide range of practical reasons, 9% were transferred, and 7% turned out to be untraceable. A total of 920 unaccompanied minors were present for participation (20% of the URM were not tested at school but in their residential setting or at a Nidos regional office). The final sample was representative in all of the main characteristics of the total unaccompanied minors population aged 12 to 18 year old in 2002 in the Netherlands. The unaccompanied minors came from 48 countries. Two-thirds of the sample had lived in the Netherlands for a period of 18 months or less. Ethical approval for this study was given by the Medical Ethics Committee of the Leiden University Medical Center, Leiden University.

Measures

TRF

The Dutch version of the TRF; 1991 Profile-(Achenbach, 1991c) Dutch translation (Verhulst, van der Ende, & Koot, 1997) was used to standardize the assessment of the behavior and emotional problems of unaccompanied minors through the observations of teachers . The TRF has a three point rating scale; 0 = *not true*, 1 = *somewhat true*, and 2= *very true*. The TRF has 118 problem behavior items, yet 101 items fall under the internalizing or externalizing scales or Social, Thought and Attention subscales of the TRF.

The 118 problem items of the TRF were explanatory factor analyzed to empirically identify the constructs of psychopathology that occur in adolescents (Achenbach, 1991c). The TRF yields three possible types of scores; a total score, a score for second-order internalizing and externalizing scales and scores for the eight first-order scales-(withdrawn, somatic, anxious/depressed, social problems, thought problems, attention problems, delinquent and aggressive). The validity and reliability for the normative and clinical populations of the Dutch version of the TRF is thoroughly described in Verhulst et al. (1997).

Mental Health Questionnaire for teachers

The need for mental healthcare of the unaccompanied minor perceived by the teacher and the referral process to mental health services were measured using a checklist of 6 items. Examples of some questions are; Do you find that this minor needs professional psycho-social mental healthcare?; Did you refer this minor to a mental healthcare facility that provides psychosocial assistance? , Did this minor want to go to the MHC facility?; Did you go with the minor to the facility?; Have you seen a change in the symptoms/behaviors of the minor after treatment?. The teachers were also asked to fill in 10 questions about themselves and their experience with working with adolescents.

Mental Health Questionnaire for guardians

The need for mental healthcare among the unaccompanied minor as perceived by the guardian, the referral process to mental health services and the satisfaction of the utilized mental healthcare was measured using a checklist of 23 items. Examples of some questions are; Do you find that this minor needs professional psycho-social mental healthcare? , Did you refer this minor to a mental healthcare facility that provides psychosocial assistance? , Did this minor want to go to the MHC facility? Did you go with the minor to the facility? Have you seen a change in the symptoms/behaviors of the minor after treatment? The guardians were also asked to fill in 10 questions about themselves and their experience with working with adolescents.

Stressful Life Events

The *Stressful Life Events* (SLE) (Bean, Derluyn, Eurelings-Bontekoe, & Spinhoven, 2004b) checklist (available in 19 different languages) 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?"). The overall average total score of 6.5 of the SLE for URM has been replicated in 5 independent studies and was significantly higher than the total scores for parental accompanied immigrant/refugee adolescents, Dutch and Belgium adolescents (Bean et al., 2004).

Mental Health Questionnaire for adolescents

The self-perceived need for, knowledge of and satisfaction with MHC services was measured using an interview of 23 items. The interview was individuality (in Dutch) conducted with the URM after they had filled in the other three questionnaires to ensure that the questionnaire would be filled in properly. The questionnaire was available in 19 different languages so the adolescents could read along in their own language. The research assistants always stressed that the questions were about receiving help for problems regarding "thinking and feeling" and not about practical problems. This interview was translated in the above mentioned languages so that the URM could read along in their own language if that was necessary or for clarification. Examples of the questions are: Do you think that you have problems (emotional) that you need help for?, Would you like to contact someone that could help you (with your emotional problems)?, Have you already been to a "(mental) health professional" (for your emotional problems)?. The answer categories were specific to the nature of each question.

Assessment Procedures

There is one foundation that has the legal guardianship of all of the unaccompanied minors that reside in the Netherlands, The Nidos Foundation. This foundation has offices throughout the entire country and has almost 20 years of experience in working with unaccompanied minors. Two information packages (one for guardian and one for teacher) were sent to the supervisors of each regional office for each guardian that was responsible for one of the 920 unaccompanied minors that took part in the study. The guardians received their own questionnaires and information package and those for the teachers of the URM from their supervisors. The guardian was responsible to send the information package to the teacher. Enclosed in the information package for the teacher, was a letter describing the project, questionnaires and a stamped and addressed enveloped in order to enable the teacher to return the completed questionnaires directly. The teachers received a letter with the questionnaires informing them about the study and providing instructions as to how the questionnaires should be filled in. For the first assessment period, 496 questionnaires were returned. From the questionnaires that were returned for the assessment, 486 TRF (problem items) questionnaires were filled in. The 10 other returned questionnaires only pertained to the questions concerning mental healthcare of the URM.

Procedures for the confirmatory factor analyses (CFA)

The minimum CFA sample requirements are 10 cases per item (i.e., five cases for the factor loadings and five cases for the residual) (Kline, 1998). A simpler procedure that can be used involves a scale-based CFA (e.g., Byrne, 1988, McCreary, Newcomb, & Sadava, 1998), in which parcels of items are used as indicators. Bandalos (2002) stated that the parcel method is often used with highly skewed, categorized data to obtain distributions that are more normal and continuous in which CFA's can be generated from. The latent factors represent the subscales in the parcel approach. The parcels can vary in the number of items they contain, and typically three parcels are created for each latent factor (Nasser & Wisenbaker, 2003). However, there have been two studies (Greenbaum & Dedrick, 1998; Dutra et al., 2004) in which two parcels have been used per sub-scale (total of 16 parcels) to evaluate the hierarchical structure of the CBCL because two subscales Social Problems (8 items) and

Thought Problems (7 items) have not enough items to be divided into three parcels. As far as is known by the authors of this article, no study used the parcel approach in evaluating the hierarchical structure of the TRF.

The present study used the same methods (random selection of items for parcels, summing of items) as Greenbaum and Dedrick to create the parcels for the TRF which will be used as indicators for the hierarchical confirmatory analysis. Using two parcels per factor has been found to result in a less reliable CFA model fit than three or more parcels per factor (Nasser & Wisenbaker, 2003). Dividing the 101 TRF items into three parcels, per subscale, was possible instead of two used in Greenbaum and Dedrick because the TRF two-factor model contains more items (101) than the CBCL (85). It was necessary to add one item to the Thought subscale, item 80 (Stares blankly), to allow three indicators for each parcels, thus the three parcel minimum found to be necessary by Nasser & Wisenbaker (2003) to generate reliable parameter estimates was fulfilled. Item 80 has been shown to have a complex relation to the cross-informant structure of the TRF and CBCL (Hartman et al., 1999) and also strengthened the reliability of the Thought scale from .53 to .58 (see Table 2).
Bagozzi and Heatherton (1994) have listed the many advantages of using parcels. Nonetheless, when using parcels as indicators in the CFA model, information is lost at item-level. To supplement the findings of the hierarchical analysis, individual first order and second order factor models were examined to evaluate how the single items behave in their a priori defined factors.

Models

In this study, the fit for each of the eight first order factor models and the second order factor models of the TRF will be examined individually to evaluate the behavior of items in each model. Individual second order factor models were also examined to see if they are better described as single models or as a grouping of smaller factors. The second order factor structure of the two a priori factors, internalizing and externalizing, will be evaluated using parcels as indicators in a hierarchical CFA (see Figure 1). Also, the possibility of a one-factor second order structure will be investigated.

Statistical Analysis

The indicators, parcels and subscales of the TRF, are skewed (West, Finch, & Curran (1995) recommend concern if skewness > 2 and kurtosis > 7) and in great violation of distribution assumptions (see Table 2). As reported earlier, the violation is greater than found in studies which have evaluated the validity of both the CBCL and TRF. Therefore, the indicators for all of the models need to be considered as categorical. It is known that the Maximum Likelihood (ML) method of estimation, which uses product-moment correlations for estimating model parameters, is based on data in which there is no multivariate kurtosis (Browne, 1984). This method is not adequate to use with the URM sample because of the nonnormality of the indicators. It was necessary to calculate tetrachoric correlation matrices (instead of polychoric due to the large skewness and kurtosis) and the asymptotic covariance and variances matrices using PRELIS 2 (Jöreskog & Sörbom, 1990; Jöreskog & Sörbom, 1996b) on which all of the confirmatory factor analysis could be generated so that the model parameters were not underestimated, that the chi-squared statistic would not be inflated and that the standard error estimates would not be downwardly biased (Flora & Curran, 2004). From the matrices, the individual factor models (using items) and hierarchical factorial structure (using parcels) could be calculated with LISREL 8.71 (Jöreskog & Sörbom, 1996a) using the unweighted least squares (ULS), weighted least squares (WLS), or diagonally weighted least squares (DWLS) methods for estimating model parameters.

The ULS method has been used in many CBCL studies (e.g., Albrecht et al., 2001; Dedrick et al., 1997; De Groot et al., 1994; Hartman et al., 1999). Dumenci et al., (2004) recently used in their study evaluating the eight- factor first order model of the CBCL, the WLS, an asymptotically distribution-free (ADF) estimator. They used this method instead of the ULS because they found that the ULS is not the most efficient estimator of the model. However, the WLS method can only be used with very large samples. Jöreskog and Sörbom, recommend a sample size = $1.5p\ (p + 1)$, where p = number of variables. To use the WLS method with the 101 items of the TRF, a sample of more the 15000 would be necessary. Using the suggested sample size formula for the 24 parcels (created for this study), a stable

weight matrix could also not be obtained using the WLS method (minimum sample size needed of 900) since the effective sample size of the URM study is 461 (fully completed TRFs). Therefore, the individual factor models and the hierarchical CFA will be evaluated using the DWLS (Muthén, du Toit, & Spisic, 1997) method (estimation capabilities falling inbetween the ULS and WLS methods; Jöreskog & Sörbom, 1996a). Although, DWLS is not the best estimator of the parameters, it seems to be the best method to use when evaluating the factor models in relation to the URM sample because it has behaved stable among smaller sample sizes (Flora & Curran, 2004) while the WLS method did not.

Browne and Cudeck (1993) and Hu and Bentler (1999) recommend using multiple fit indices to determine how well the hypothesized factor structure will fit the observed data. To examine the models, indices of model fit, model comparison and model parsimony were calculated. The fit indices include (a) Satorra-Bentler chi -square (values should not be significant, but in larger samples this is often not feasible), (b) chi square/df ratio (values should be < 2.0) (c) Incremental indices of fit were examined : the parsimony normed fit index (PNFI), the comparative fit index-takes the non-centrality parameter into consideration (CFI) and Adjusted Goodness-of-Fit Index (AGFI) values should be [greater than or equal to] .80). Root Mean Square Error of Approximation (RMSEA) values less than .08 indicate at least sound fit while values between .08 and .1 reflect mediocre fit (Byrne, 1998). Incremental indices reflect the improvement in fit gained by a given factor model relative to the most restrictive (null or independence) model. All three incremental indices are scaled from 0 (no fit) to 1 (perfect fit). Hu and Bentler (1999) advised that values close to .95 are indicative of good fit. PNFI values range from 0 to 1, values close to 1 (perfect fit) are not expected. Moreover, indices around .5 are not unexpected in sound-fitting models (Byrne, 1998). Parsimony adjusted measures take the number of parameters estimated in the model into account. Models are penalized for each parameter. Multiple fit statistics can be used to compare models with differing number of parameters to determine the impact of adding additional parameters to the model based on theoretical driven assumptions.

Descriptive statistics were used to give summary descriptions of the demographic characteristics of the sample (Table 1). Internal consistency of the total scale, subscales and parcels of the TRF used in this study were calculated with Cronbach's α. Pearson's product-moment correlations (two-tailed) were used to study the association between total and subscale scores of the TRF. Differences between groups were determined by using ANOVA's and effect sizes, *d* (Cohen , 1988). A maximum of ten percent of the missing items were allowed to still be able to extrapolate the total and subscale scores.

Results

Demographic information about unaccompanied minors and teachers

Table 1 represents the demographic background information for the 486 unaccompanied minors (of the 920 of whom there was a TRF completed) and their teachers. The teachers could reply anonymously if they chose to do so. Therefore, it was not possible to establish the exact number of teachers that took part in the study. We were able to estimate that approximately 400 teachers took part in the study. The unaccompanied minors in this sample consisted mostly of boys (71.3%). The mean age was approximately 15 years and the most frequent countries of origin were Angola, Sierre Leone, Guinea and China. Most of the unaccompanied minors came from Africa (80.8%). 44.9% of the unaccompanied minors sample had received educational training for more than 5 years. The teacher population consisted of mostly females (68.1%) that had a mean age of 46 years. The greater majority of teachers were born in the Netherlands. Most of the teachers had received the equivalent of a Bachelor's degree in Teaching.

Table 1.
Summary of Sample Characteristics of unaccompanied minor and teachers

		Unaccompanied minor	Teachers
N		(920) 486*	(496) 486*
Gender			
	Male	73.5%	31.9%
	Female	26.5%	68.1%
Age in years			
	Mean	15.44	45.97
	SD	1.58	8.72
	Range	9-18	23-64
Country of Origin			
Netherlands		0.0%	90.3%
Angola		47.3%	
Iran/Afghanistan/Iraq		3.9%	
Eritrea/Ethiopia		1.6%	
Somalia		1.9%	
Sierra Leone		8.2%	
Guinea		7.8%	
Other African Countries		14.0%	
China/Tibet		8.2%	
Other Countries		7.0%	7.8%
Questionnaire completed by			Mentor 86.1%
Time spent with URM per week			7 hours or longer 72.0%
How long did the teacher know the URM			6 months or longer 59.8%
Most frequent reported level of education		1-5 years of education 44.9%	Bachelor's Degree 98.2%

Note. ( ) Total number of completed/returned questionnaires for the first assessment. * number of TRF's filled in and returned.

Individual and Hierarchical Confirmatory Factor analyses

The fit of all of the individual eight lower order factor models, except for the Thought subscale, of the TRF are mediocre (data not shown). The Thought subscale fits the observed data poorly (even after attempting to change the model based on modification indices). The greater majority of the items were estimated above .40, ranging in mean estimates from .58 to .90 (except for Thought). These findings do not deviate from previous studies regarding the lower-order factor model of the TRF that have been reported on earlier in this article.

The SB chi-square goodness-of-fit test indicated the second order model did not fit the observed data very well. However, when the alternative measures of fit were examined, the results indicated that the fit of the model was acceptable (SB-$\chi^2(240) = 958$; AGFI = .97; PNFI = .84; CFI = .98; RMSEA = .08). The results of the model fit of the present study are very similar to those of the Greenbaum and Dedrick study findings for the CBCL. Adjusting the model based on modification indices did not lead to better refining of the model. In the model, the Thought (.86) and Social factors (.73) loaded quite high on the secondary hierarchical internalizing factor.

The correlation between the second order internalizing and externalizing factors was .52. Because of the traditional cross-loadings of the Social, Thought, and Attention syndromes on both internalizing and externalizing factor models, the correlations between the second

order factors could have been inflated. To examine if this hypothesis was correct, the two factor second order model was recalculated without the Social, Thought, and Attention factors. The recalculated model yielded almost the same correlation of .50 between the internalizing and externalizing factors.

Because of this rather high correlation and the previous findings that have been documented in CBCL and TRF studies indicating that the one factor second order model fits the data better than a two factor model, a final one- factor second order model was calculated study (SB-$\chi^2(244) = 1205$; AGFI = .95; PNFI = .85; CFI = .97; RMSEA = .09). There was a small difference found in model fit between the one-factor second order model and the two-factor second order factor for the TRF. However, the two-factor second order model of the TRF fit the data slightly better than the one-factor second order model .

Table 2.
Descriptive statistics for indicator variables (Listwise exclusion of missing cases)

TRF scales	TRF items	α	*M*	*SD*	Skewness	Kurtosis
Withdrawn	All items in subscale	.82	3.63	3.46	.99	.52
Somatic	All items in subscale	.74	1.58	2.29	2.23	6.87
Anxious/Depressed	All items in subscale	.84	4.59	4.62	1.45	2.27
Social	All items in subscale	.78	1.73	2.58	2.34	7.91
Thought	All items in subscale	.55	.95	1.53	2.43	7.33
	(+ item 80)	(.58)				
Attention	All items in subscale	.92	6.16	6.82	1.44	1.65
Delinquent	All items in subscale	.72	1.86	2.36	1.74	3.44
Aggressive	All items in subscale	.95	4.18	7.15	2.67	5.07
Internalizing	All items in subscale	.89	8.97	8.09	1.25	1.75
Externalizing	All items in subscale	.94	6.03	8.86	2.14	4.55
Total	All 101 items	.95				
Parcel						
Withdrawn parcel 1	42, 65, 69	.65	1.31	1.40	.90	-.02
Withdrawn parcel 2	80, 88, 102	.58	.91	1.23	1.36	1.35
Withdrawn parcel 3	75, 103, 111	.63	1.41	1.47	1.07	.64
Somatic parcel 1	56a, 56b, 56d	.46	.76	1.15	1.70	2.88
Somatic parcel 2	51, 54, 56f	.52	.69	1.04	1.79	3.28
Somatic parcel 3	56c, 56e, 56g	.50	.16	.58	5.10	33.29
Anx/dep parcel 1	31, 33, 35, 71, 81	.65	1.33	1.62	1.56	2.71
Anx/dep parcel 2	12, 14, 34, 45, 47, 50	.66	1.31	1.83	1.83	3.50
Anx/dep parcel 3	52, 89, 103, 112, 106, 108	.62	2.03	1.94	1.01	.85
Social parcel 1	1, 11, 12, 33, 64	.53	.76	1.20	1.93	3.95
Social parcel 2	14, 25, 36, 38	.50	.41	.84	2.57	7.91
Social parcel 3	34, 35, 48, 62	.60	.62	1.10	2.32	6.96
Thought parcel 1	2, 109, 85	.51	.49	.98	2.78	9.65
Thought parcel 2	40, 18, 70	.41	.06	.35	7.18	59.26
Thought parcel 3	80, 84, 66	.42	.52	.91	2.13	4.78
Attention parcel 1	1, 2, 4, 10, 13, 15, 41	.82	1.50	2.42	2.10	4.32
Attention parcel 2	22, 45, 49, 60, 61, 62	.77	2.21	2.40	1.12	.51
Attention parcel 3	8, 17, 80, 72, 78, 92, 100	.81	2.59	2.80	1.28	1.26
Delinquent parcel 1	26, 39, 90	.63	.40	.92	3.07	11.28
Delinquent parcel 2	43, 82, 63	.57	.41	.87	2.95	10.70
Delinquent parcel 3	98, 101, 105	.62	1.16	1.41	.93	-.36
Aggressive parcel 1	3, 6, 7, 16, 19, 20, 21, 23	.86	1.58	2.68	2.12	4.45
Aggressive parcel 2	24, 27, 37, 53, 57, 67, 68, 74	.87	1.31	2.53	2.40	5.83
Aggressive parcel 3	76, 77, 86, 87, 93, 94, 95, 97, 101	.89	1.84	3.18	2.22	4.70

Reliability

The reliability of the 101 TRF items is .95. The alpha for the internalizing scale is .89 and for externalizing scale the alpha is .94. The Cronbach's alpha's for each parcel and subscale have been reported on in Table 2. The alpha's for the scales of the present study are as high, or higher than those calculated for the Dutch normative population (Verhulst et al., 1997).

Intermeasure correlations

The correlations for the first assessment between all the scales of the TRF are presented in Table 3. These correlations are comparable to those found in the Dutch normative population (Verhulst et al., 1997). It can be observed from this table that the externalizing scale and internalizing scale show a correlation of .40. Accordingly, this means that these two scales are not independent of each other, implying that the two constructs partly overlap.

Table 3.
Intercorrelations of the subscales of the TRF

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Withdrawn										
2. Somatic	.39									
3. Anxious/Depressed	.64	.47								
4. Social	.53	.39	.75							
5. Thought	.36	.37	.50	.54						
6. Attention	.56	.45	.55	.66	.49					
7. Delinquent	.36	.30	.40	.48	.38	.65				
8. Aggressive	.23	.21	.43	.62	.48	.65	.59			
9. Internalizing	.84	.67	.91	.71	.51	.63	.43	.35		
10. Externalizing	.27	.27	.45	.62	.47	.70	.74	.98	.40	
11. Total score	.62	.52	.69	.78	.62	.83	.65	.71	.76	.77

Note. All correlations are significant to the .01 level. Two-tailed.

Validity

Construct validity

Construct validity is a measure of the relationship between the instrument and variables that, on theoretical grounds, are expected to correlate with the measured variable. Factorial structure and validity of the TRF of the internalizing and externalizing scales have been found to be good to mediocre, with the exception of the individual Thought subscale, reported on earlier.

Usually, teachers report a higher number of emotional problems for girls and higher externalizing behavioral for boys. In this study however, teachers did not report higher internalizing mean scores for girls than boys (F (1,432) = 3.12, *ns*) but there were significant differences between externalizing mean scores (F (1,433) = 6.29, $p < .05$; d= .09) for girls and boys, boys having higher mean scores. There are contradictory findings in the literature concerning age and emotional distress. Age did not seem to play a role with respect to internalizing mean scores reported on the TRF (r (n = 435) =.06; *ns*) but did play a role in TRF externalizing scores (r (n = 438) = -.18; $p < .001$), younger minors having significant higher scores than older minors.

Several studies have shown the number of experienced stressful events (dose-response relationship) to be a good predictor of psychopathology (e.g. Papageorgiou et al., 2000; Tiet et al., 1998). Nevertheless, the number of stressful life events that the unaccompanied minor reported were not significantly associated with the perceptions of emotional or behavioral problems of the unaccompanied minors by teachers (internalizing, r (n = 425) = -.05, *ns* ; externalizing, r (n = 428) = -.10, *ns*).

Criterion validity

Criterion-based validity shows whether the test scores can be used to predict future behavior or to diagnose symptoms. Ideally, a standardized diagnostic interview is used in

Table 4 .
External criteria influencing TRF internalizing and externalizing scores

	internalizing						externalizing				
	N	*Mean*	*SD*	*F(df)*	*p*	*d*	*N*	*Mean*	*SD*	*F(df)*	*p*	*d*
Unaccompanied minor: Need for MHC												
Need for MHC	218	9.85	8.94	.21 (2,385)	.81		218	5.20	7.55	2.65(2,388)	.07	
No need for MHC	86	9.34	9.02				87	7.62	11.31			
Uncertain of need	84	9.21	7.65				86	5.12	8.43			
Guardian: Need for MHC												
Need for MHC	58	14.75	12.19	15.32 (1,296)	<.001	.57	56	8.06	11.31	1.43(1,293)	.23	
No need for MHC	240	9.52	8.24				239	6.35	9.24			
Teacher: Need for MHC												
Need for MHC	106	18.50	10.02	194.02 (1,379)	<.001	1.60	101	11.79	12.22	55.09(1,385)	<.001	.86
No need for MHC	275	6.75	6.07				286	4.32	7.06			
Unaccompanied minor: MHC Utilization												
Utilization of MHC	41	11.20	10.29	1.41 (1,354)	.24		41	6.58	9.27	.32(1,352)	.57	
No utilization of MHC	316	9.47	8.58				314	5.75	8.87			
Referral: MHC by guardian												
Referred to MHC	35	17.26	13.21	22.13 (1,301)	<.001	.85	34	10.40	12.92	6.14(1,299)	<.05	.45
Not referred MHC	268	9.65	8.30				267	6.10	9.05			

combination with questionnaires to determine the presence and severity of psychopathology. It was not feasible in the present study to administer a diagnostic interview. Five indicators of psychopathology were utilized as external criteria; (1) self-reported need for mental healthcare (MHC) by the unaccompanied minors, (2) need for professional MHC for the unaccompanied minors; evaluated by the legal guardian, (3) need for professional MHC for the unaccompanied minors; evaluated by the teacher, (4) self-reported utilization of MHC by unaccompanied minors, and (5) referral to MHC services by a legal guardian.

The criterion "referral"and "utilization of MHC" are important in the evaluation of psychopathology (Cuffe et al., 1995; Verhulst & Van der Ende, 1997). For this reason, unaccompanied minors themselves, their legal guardians and their teachers were asked to evaluate the need for professional MHC. An unaccompanied minor was asked if he/she had seen a MHC professional and the legal guardian were asked if he/she had referred the unaccompanied minor to MHC services. Table 4 shows that the TRF can discriminate well between unaccompanied minors whose teacher's report that he or she needs professional help but not between unaccompanied minors with and without a self-reported need for MHC themselves. Furthermore, using the *T*- scores which have been established for Dutch adolescents by Verhulst et al. (1997) the TRF Internalizing mean scores for the URM of which the guardians (Boys $M = 13.96$; $SD = 12.04$; *T*-score = 66) (Girls $M = 16.64$; $SD = 12.70$; *T* - score = 65) or teachers (Boys $M = 17.65$; $SD = 9.83$; *T*- score = 68) (Girls $M = 20.87$; $SD = 10.33$; *T* - score = 68) reported that they needed mental health services was higher than the clinical range (*T - score* > 63) . The TRF Externalizing mean scores, however, fell just below or just above the clinical borderline range (*T - score* > 60) for both guardians (Boys $M = 9.46$; $SD = 12.12$; *T*- score = 59) (Girls $M = 5.09$; $SD = 8.97$; *T* score = 58) and teachers (Boys $M = 12.98$; $SD = 12.33$; *T* - score = 61) (Girls $M = 8.68$; $SD = 11.55$; *T* - score = 61).

Discussion

The results of this study indicate that the TRF can be utilized as a screening instrument to assess the global emotional and problem behaviors that are reported by teachers based on their observations of unaccompanied refugee adolescents. Since the school provides structure and an environment for informal mental health services for refugee adolescents, this measure can help mental health providers to reliably and validly assess when a refugee adolescent is in need of professional care. However, there are several findings that should be considered when using the TRF to assess the mental health of unaccompanied minors.

It is important to consider that the teachers of unaccompanied minors may not be able to observe or perceive all of the emotional distress and behavioral problems that they have because of the internal nature of the psychological problems. Additional information from alternative sources (guardians, residential staff workers, adolescents) should be collected regarding the mental health of the adolescent. This information is crucial in assessing the degree of impairment in daily functioning and the severity of the symptoms.

The factorial hierarchical structure of the two-factor second order model of the TRF's externalizing and internalizing scales were examined in this study and were supported. Although there was only a very small difference in fit between the one-factor and two-factor solution, it is advised for theoretical and conceptual reasons that the two-factor model be used when reporting on the findings of the TRF in future studies. For specific populations, such as URM (internalizing problems) or delinquent youth (externalizing behavior) the two-factor terminology gives better insight into which type of psychopathology is predominant. A clear conceptual description of the psychological problems can in turn lead to more tailored interventions and treatments to alleviate the emotional distress of adolescents.

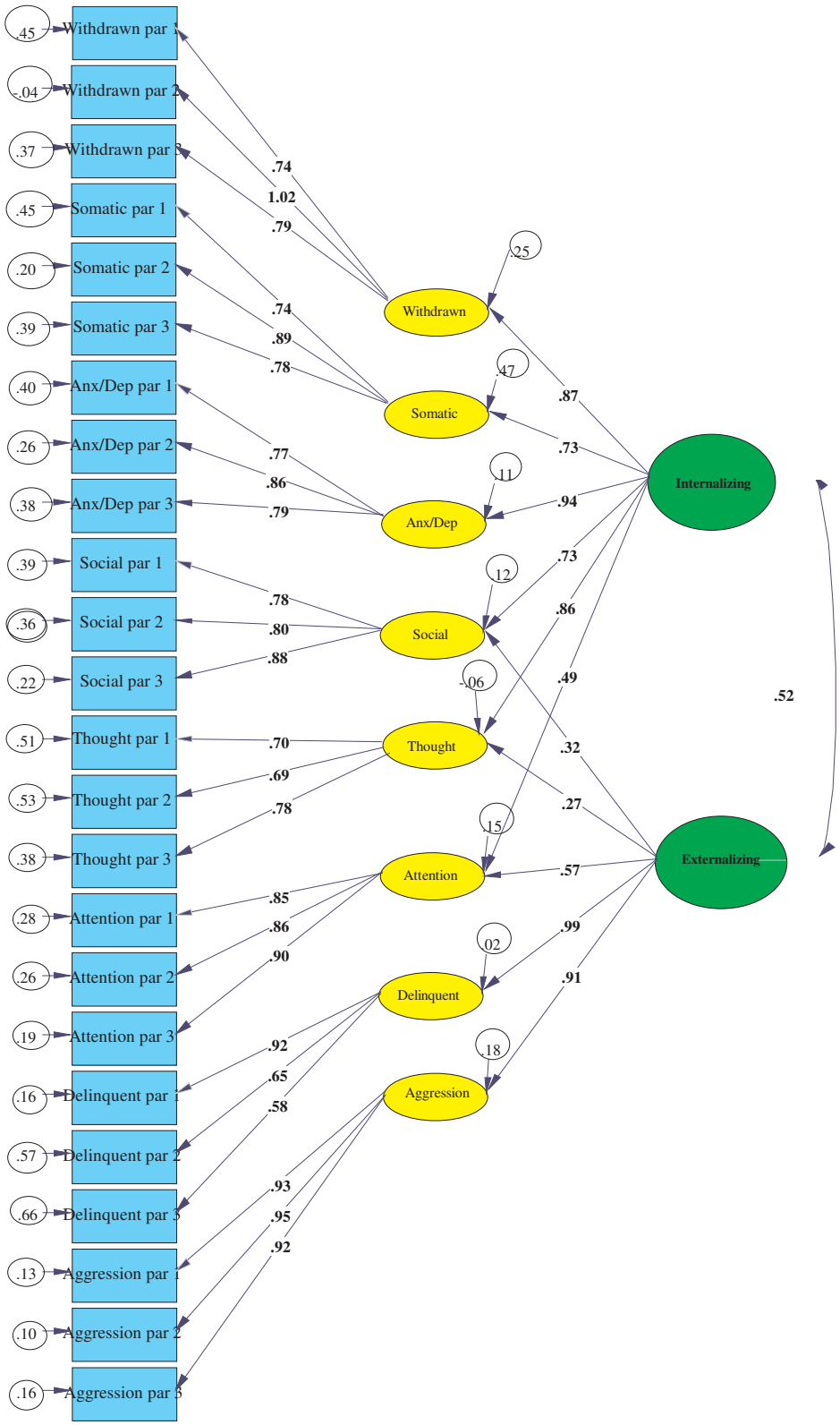
The individual first order and second order factor models also verify the factorial validity of each subscale, except for the Thought subscale. However the fit of the individual factors was only acceptable to mediocre. This result does not deviate from other studies that have investigated the goodness- of- fit of the TRF model which have found the model fit of the TRF to be worse than the model fit of the CBCL. Thought Problems and Social Problems loaded quite high on the internalizing factor. Examining the individual items which make up the Thought subscale (e.g., can't get mind off problem, repeats acts, strange behavior) reveal that many items could indicate observed behavior resulting from internal traumatic stress

reactions of the URM. Due to the great exposure of URM to traumatic experiences (Bean et al., 2004), it would seem logical to expect that teachers observe psychological distress that might be related to traumatic reactions which they consider to be strange because they cannot interpret it. The Social Problem subscale of the TRF (unlike the CBCL) contains 6 items from the Anxious/Depressed subscale, explaining most likely, the strong relationship found between internalizing and Social problems in this specific population.

Finally, the total score of the TRF was not a good discriminator for the self-reported need for mental healthcare among the unaccompanied minor themselves. This finding is not new. Bilenberg (1999) found that all of the CBCL related material has never provided good diagnostic validity, however is useful as a guideline for early diagnostic purposes. It is widely known that the agreement between informants is usually low (Achenbach, McCounaughy, & Howell, 1987; Ferdinand, Van der Ende & Verhulst, 2004). That is why alternative sources of information are not interchangeable for the purpose of making treatment decisions, but can simply be complimentary (Macmann & Barnett, 1993). Macmann and Barnett (1993) further indicated that "the composition of core syndromes may vary depending on the items sampled, subjects sampled, and methods of analysis used". This finding has also been confirmed in this study. Great care needs to be taken in the decision making process in determining when professional mental healthcare services need to be consulted for unaccompanied minors. Cross-informant questionnaires such as the TRF yield less diagnostic information than extensive structured interviews and therefore cannot be used to determine a psychiatric disorder. Considering the multiple risk factors (exposure to multiple traumatic experiences, separation from parents, and uncertainty of residential status) that unaccompanied minors are faced with in their lives, it is crucial to their well-being that they receive adequate and appropriate psychosocial care in the residential settings, reception or detention centers were they reside in host countries.

The results of this study, in which the mental health of unaccompanied refugee minors was reported on by Dutch teachers, are consistent with previous studies which have evaluated the factorial structure of the TRF. The two-factor model of internalizing and externalizing behavior is supported in spite of the fact that other methods were used (parcels in the CFA) and that the adolescents were a heterogeneous population coming from 48 different countries. Furthermore, the internal consistency was found to be good and the criterion validity was found to be good when significant adults in the lives of the URM were used as informants. The present findings on the psychometric properties of the TRF suggest that the TRF is a reliable and valid instrument to assess emotional and behavior problems of unaccompanied refugee minors.

Figure 1.Standardized parameter estimates for the TRF hierarchical indicators



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			
	Boys (*n* =751)	Girls (*n* =322)	*t(df)*		Boys (*n* =605)	Girls (*n* =525)	*t(df)*		Boys (*n* =555)	Girls (*n* =419)	*t(df)*	
Variable	*M* (*SD*)	*M* (*SD*)	*d*	Age *r*	*M* (*SD*)	*M* (*SD*)	*d*	Age *r*	*M* (*SD*)	*M* (*SD*)	*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.

	Groups						
	URM	Immigrants/Refugees	Native				
Variable	*(n =1078)* *M* *(SD)*	*(n =1152)* *M* *(SD)*	*(n =975)* *M* *(SD)*	ANCOVA Main effect Gender *F* (*df*)	ANCOVA Main effect Sample *F* (*df*)	URM vs. I/R *d*	URM vs. Native *d*
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.

	URM						Immigrants/refugees						Native					
	Girls		Boys		Total		Girls		Boys		Total		Girls		Boys		Total		Group Comparison
Stressful Life Events	n	%	N	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	χ^2
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. ***$p < .001$

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.”

Chapter 8

Prevalence, Course, and Associations of Maladaptive Psychological Distress and Behaviors of Unaccompanied Refugee Minors; One Year Epidemiological Follow-up Study Among Minors, Their Guardians and Teachers

Abstract

This epidemiological one year follow-up investigation addresses the prevalence, course, and predictors of the psychological distress and maladaptive behaviors of Unaccompanied Refugee Minors (URM) living in the Netherlands. The legal guardians, teachers and URM all reported on the mental health of URM at baseline and follow-up. The self-reported psychological distress of URM is severe, has a chronic nature, and was confirmed by reports from the legal guardians and teachers. A dose-response relationship was found between the number of experienced life events and level of psychological distress. Large predictive strength of psychopathology at baseline was evident in the regression analyses for psychological distress at follow-up as reported by each informant. Concordance in reports between the informants does not deviate from results of prior studies. The present study which used a population-based sample further enhances and enlarges the knowledge of mental health among refugee adolescents. The investigation is unique because of the large sample size, the longitudinal nature of the study, the use of multiple informants, and finally, the heterogeneous nature of the sample.

Introduction

Little is known about the mental health of Unaccompanied Refugee Minors (URM) residing in host countries. There are few quantitative studies that have addressed the mental well-being of this population (e.g., Derluyn, 2005; Felsman, Leong, Johnson, & Felsman,

1990; Geltman, et al., 2005; Masser , 1992; Melville & Lykes, 1992; Sourander, 1998). The psychological problems reported in the studies listed above as being most prevalent among URM are depression, anxiety, traumatic stress reactions, somatization, and maladaptive behavior. Qualitative studies that have addressed the emotional well-being of URM have emphasized the resiliency of unaccompanied youth amid their great loss and hardship (Goodman, 2004; Rousseau, Said, Gagne, & Bibeau, 1998).

This unique adolescent population appears to be at a high risk for experiencing high severity levels of psychological distress as a result of repeated exposure to traumatic experiences, an accumulation of problems (e.g., concentration difficulties in learning, avoidance coping, isolation), separation from family, personal loss, and great uncertainty surrounding their futures. Usually convenience samples are used (i.e., Geltman et al., 2005) when investigating the mental health of URM due to the host of practical difficulties in conducting research with refugees, therefore excluding the conduction of epidemiological studies. No epidemiological data for a host country (as far as is known by the authors) is available concerning the mental health of URM. Many of the URM studies reported above were cross-sectional resulting in ambiguity regarding the nature (temporary or enduring) of the psychological distress reported. There are a limited number of studies that have been carried out among accompanied refugee children/adolescents which have used in addition to the self reports of the adolescents other informants such as parents (i.e., Mollica, et al., 1997; Rousseau & Drapeau, 1998) or teachers (i.e., Rothe, et al, 2002) to report on the child's mental health , a standard which is widely accepted due to the bias of reports from one informant. However, again, there is a lack of studies which have utilized multiple informants to examine the mental health of URM.

Because of the scarcity of research on the mental health (on a national and international level), an epidemiological, follow-up research project using multiple informants as sources of information on the mental health of URM was undertaken among URM living in the Netherlands. There was a dramatic increase in the number of Unaccompanied Refugee Minors (URM) living in the Netherlands, peaking at approximately 15,000 in 2001. Due to the large increase in numbers of URM living in the Netherlands, there were also many practical problems reported in referring unaccompanied minors to mental healthcare services by their legal guardians (Nidos Foundation) ranging from not being able to find services to professionals refusing to treat URM because they held the view that the circumstances under which URM must live (limited knowledge of the Dutch language, no residential permit, transfers) would undo any effect from therapy. Therefore the goal of the project was to determine the prevalence and severity of psychological distress of URM population living in the Netherlands, their need for mental healthcare, and the availability of mental healthcare services for this population. The URM population in the Netherlands is extremely culturally heterogeneous (more than 100 countries) (Nidos Foudation, 2004). Nevertheless, since the objective of the study was to investigate the mental health of a large sample that would be representative of the total population of URM living in the Netherlands, no attempt would be made to assess only URM coming from specific cultures or countries.

This epidemiological and longitudinal study investigates the self-reports of URM and the reports of their guardians and teachers pertaining to (a) the prevalence, severity, and course of the psychological distress and maladaptive behaviors of URM; (b) the predictive value of demographic and clinical variables for psychological distress and maladaptive behaviors at follow-up; and (c) the strength of the correlations between the three informants reports concerning psychological distress and maladaptive behaviors.

Methods

Sample description

URM sample (n = 920). From the total population of 12,000 under the age of 17.5 years, approximately 4000 URM, ages ranging from 11 to 17.5 years were randomly selected from the Central Registrar of Nidos in 2002. URM had to reside for at least 4 months in the Netherlands at the time of the selection. Information about the study and permission waivers (available in translated versions) were sent to the guardians to discuss with the URM. Both the minor and his/her guardian needed to give written permission for the URM to participate. Roughly 2,300 URM permission waivers were returned; 1300 (57%) wished to participate,

15% refused, 12% did not participate for a wide range of practical reasons, 9% were transferred, and 7% turned out to be untraceable. However, there were no significant differences found between the basic demographic characteristics the URM that did participate and the URM that did not in gender (χ^2 (1, N = 3686)=1.21, *ns*) age (χ^2 (3, N = 3686) = 8.42, *ns*) and country of origin (χ^2 (8, N = 3686)=20.62, *ns*) (additional information is available). A total of 920 URM participated in the study. The final sample was representative in all of the main characteristics of the total URM population aged 12 to 18 year old in 2002 in the Netherlands. The URM came from 48 countries. Two-thirds of the sample had been living in the Netherlands for a period of 18 months or less. At least three research assistants administered the questionnaires to groups of ten to fifteen URM during one hour, usually at school or at their residential setting. After a period of 12 months had passed, contact was again sought with the same 920 URM that had participated in the first assessment period. Refreshments (T1) and a gift certificate for the cinema (T2, worth 7.50 euro) were given to the URM during or after the administration of the instruments as a token of appreciation for their participation.

Procedures

Ethical approval to conduct the study was given by the Medical Ethics Committee of the Leiden University Medical Center, Leiden University. Forty-two regional offices of the Nidos Foundation were spread throughout the Netherlands in 2002. After permission slips were returned, two information packages (one for guardian and one for teacher) were sent to the supervisors of each regional office for each guardian that was responsible for one of the 920 unaccompanied minors that took part in the study. The guardians received a letter with the questionnaires informing them about the study and giving instructions concerning how the questionnaires should be filled in. The guardians were instructed in the letter and by their supervisors that they could fill in the questionnaire or ask a staff member of the living unit/ foster parent of the unaccompanied minors to do so. However, the guardian remained responsible for retuning the completed questionnaires to their supervisors which in turn sent all the completed questionnaires from the regional office back. For the first assessment period, 557 questionnaires were returned from the guardians and for the second assessment, 501.

The guardian was also responsible to send the information package to the teacher. Enclosed in the information package for the teacher, was a letter describing the project, questionnaires and a stamped and addressed enveloped in order to enable the teacher to return the completed questionnaires directly. The teachers received a letter with the questionnaires informing them about the study and giving instructions concerning how the questionnaires should be filled in. For the first assessment period, 496 questionnaires were returned from the teachers and for the second assessment 272 questionnaires were returned.

Measurements

The self-report questionnaires 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 literal terms of the likert scales were improved by using colored circles of increasing size. Items were simplified to adapt the questionnaires to the language abilities of this population, and the questionnaires were translated and presented in a bilingual form. The cross-cultural validation process and the norms for diverse adolescent populations (URM, immigrants/refugees, Dutch, and Belgium) for the three self-report questionnaires is thoroughly described in the pertaining manuals listed below.

The *Hopkins Symptom Checklist-37 for Adolescents* (HSCL-37A) (Bean, Eurelings-Bontekoe, Derluyn, Spinhoven, 2004a) measures internalizing distress (anxiety and depression symptoms) and externalizing behavior (“acting-out” behavior). The psychometric properties have been investigated among a culturally diverse adolescent population and appeared to be satisfactory to good (Bean et al., 2004a). Internal reliability for the URM sample for the total scale, internalizing and externalizing behavior subscales was respectively .91, 92, and .69. Twelve-month test-retest reliability for the total scale was analysed with a Pearson correlation coefficient and appeared to be satisfactory (r = .63, p <.001) (Bean et al.,

2004a). Inter-measure correlations with the total scores of the RATS and SLE were respectively .77 (p <.001) and .38 (p <.001)(Bean, in press). Using a confirmatory factor analysis, the two-factor structure, internalizing and externalizing, was verified in the URM sample with a loss of only .4% of the explained variance.

The *Stressful Life Events* (SLE) checklist (Bean, Derluyn, Eurelings-Bontekoe, Broekaert, & Spinhoven, in press) 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?"). Having experiencing a 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., 2006) is a self-report questionnaire developed to assess posttraumatic stress reactions defined in the DSM-IV (American Psychiatry Association, 1994) with culturally diverse adolescents. The RATS consists of 22 items that correspond directly to the B (intrusion), C (numbing/avoidance), and D (hyper-arousal) 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 investigated among culturally diverse adolescent populations and per language version of the RATS and appear to be satisfactory to good (Bean et al., 2004c). 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 analysed with a Pearson correlation coefficient and appeared to be satisfactory (r = .61, p <.001) (Bean, et al., 2006). 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).

The Dutch version of the CBCL/4/18; 1991 Profile-(Achenbach, 1991)-Dutch translation (Verhulst , van der Ende & Koot, 1996) was used to standardize the assessment of the behavior and emotional problems of unaccompanied minors through the observations of guardians. The CBCL has been found to be a reliable and valid instrument to be utilized by other informants than parents (Albrecht, Veerman, Damen, & Kroes, 2001). The CBCL scores for this study were dichotomized. The cutoff point was a *T score* of 60 or above for both the Internalizing and Externalizing scales. This cut off point has been established among Dutch adolescents and indicates a score which falls on or above the clinical borderline range (Verhulst et al., 1996). The validity and reliability of the Dutch CBCL for normative and clinical populations is thoroughly described in Verhulst et al. (1996). The psychometric properties for the CBCL in this study did not differ from those of Verhulst and colleagues (Bean, Mooijaart, Eurelings-Bontekoe, & Spinhoven, 2006).

The Dutch version of the TRF 4/18; 1991 Profile-(Achenbach, 1991)-Dutch translation (Verhulst , van der Ende & Koot, 1997) was used to standardize the assessment of the behavioral and emotional problems of unaccompanied minors through the observations of teachers. The TRF scores for this study were dichotomized. The cutoff point was a *T score* of 60 or higher for both the Internalizing and Externalizing scales. This cut off point has been established among Dutch adolescents and indicates a score which falls on or above the clinical borderline range (Verhulst et al., 1997). The validity and reliability of the Dutch CBCL for normative and clinical populations is thoroughly described in Verhulst et al. (1997). The psychometric properties for the TRF in this study did not differ from those of Verhulst and colleagues (Bean, Mooijaart, Eurelings-Bontekoe & Spinhoven, submitted).

Statistical Analysis

Differences between the attrition group (from T1) and the follow-up group at T1 were analyzed with chi-square tests and independent t-tests. The magnitude of the differences was

presented in effect sizes (*d*) (Cohen, 1988). Only the assessment information pertaining to the URM that took part at T1 and T2 were included in sequential analyses. Severity level was determined using percentiles or T-scores. To determine the severity at item level, item means were calculated and compared. Differences between T1 and T2 were tested using paired-samples t-tests. T-tests for independent samples and analyses of variance were used to examine the influence of socio-demographic variables on T2 self-reported emotional distress, maladaptive behavior, and traumatic reactions. Hierarchical linear regression analysis on residualized change scores were carried out to determine significant predictors of all scales. The standard adjustment for regression to the mean for change scores is the residualized change score, which seeks to determine the change for an individual if each individual had started at the same point. Residualized change scores can be thought of as Time 2 measurements controlled for their Time 1 level, or the amount of variance left over at Time 2, after accounting for initial levels. Furthermore, Pearson's moment coefficient correlations were used to assess the intra- and inter correlations between scores reported by the three informants, stressful life events, and age. The Statistical Package for the Social Sciences (SPSS) version 12.0 was applied for data analysis.

Results

Attrition

The second assessment wave took place approximately 12 months after the first assessment. From the 920 URM that participated in the first assessment (TI) 9.2% of the URM were listed in the Nidos Registrar as “missing – residence unknown”. 16.5% of the 920 URM did not want to take part in the second assessment period. 9.7% of the URM did not respond to the 3 invitations that they received (by the researchers and guardians) to take part in the study for a second time (1.6% of the URM did not take part for a range of practical reasons). Finally, 582 (63%) of the URM took part in the second assessment. The mean age of the follow-up sample at T2 was 16.46 (SD 1.47, range 10-21), 72.9% being male. 37.9% of the follow-up sample at T2 had followed more than 5 years of formal education and 29.9% had another family member living somewhere in the Netherlands. More than half (55.8%) of the follow-up sample had entered the Netherlands after the critical month of April , 2001 when the governmental policy changed (40.4% lived 2 years or less in the Netherlands) and 30.5% had been transferred (at least 1 time) to another regional office sometime in year proceeding the T2. Furthermore, the majority of the follow-up sample lived independently (29.7%), in small living units (35.6%) and 19% lived in large scale reception centers. 40.9% of the follow-up sample had received a temporary residential status until their 18th birthday at T2.

Gender, age, type of residential setting, country of origin, experienced (individual-not shown in Table 1) stressful life events (SLE) and severity levels of emotional and behavioral problem (HSCL-37A, RATS, CBCL, TRF scales- Table 2) scores were compared (with the Chi-square statistic or t-tests) to investigate if there were differences between the attrition group and the follow-up sample at T1. Their were significant differences found between the attrition group and the follow-up sample at T1 for residential setting, age, HSCL-37A Externalizing scores and CBCL Internalizing scores. For all other variables, the follow-up sample was representative of the larger sample of 920.

Differences in the variables might have been biased indirectly by an age effect because a greater percentage of the attrition group was older than the follow-up sample at T1. Older URM were more difficult to find for the follow-up assessment because many were no longer registered by the Nidos Foundation. The variables that were found to be significantly different were further examined for differences in age. The mean ages for the different types of residential settings within the attrition group (AG) (F (4,333) = 60.5, p <.001) and within the follow-up sample (FU) at T1 (F (4,557) =115.2, p <.001) were all significantly different from each other . URM living in small living groups had the lowest mean age (AG = 13.3; FU=13.4) and URM living independently had the highest mean age (AG = 16.5; FU=16.7). This could explain, in part, why significant differences were found between the attrition group and follow-up samples for residential setting. Significant differences (with small effect sizes) were found between the attrition group and follow-up sample for scores on the HSCL-37A Externalizing scale (d = .23) and CBCL Internalizing scale (d = .30). The significant

correlation between HSCL-37A Externalizing scale and age was small and positive among the attrition group (r (304) =.14, p <.05), but not among the follow-up sample (r (548) = -.03, *ns*). When controlling for the effect of age on the HSCL-37A Externalizing scores between the attrition group and follow-up sample the difference remained significant, however small (F(1,852) = 7.80, p <.01; d = .20). The correlation between CBCL internalizing scale and age was negligible among the attrition group (r (147) = .04, *ns*), and among the follow-up sample (r (308) = 00, *ns*). When controlling for the effect of age on the CBCL internalizing mean scores between the attrition group and follow-up sample the difference also remained significant and small (F(1,454) = 8.41, p <.01; d = .29) . Apparently the few differences between the attrition group for T1 and the follow-up sample at T1 can only be partly explained by age differences within the samples.

Table 1.
Socio-demographic variables; Differences between attrition group and follow-up group at T1

	Attrition (n = 338) % *M(SD)*	Follow-up (n = 582) % *M(SD)*	χ^2 *(df) or t (df)*
Gender			.00 (1)
Girls	27.2	27.1	
Boys	72.8	72.9	
Country of origin	41.7(Angola)	43.3(Angola)	7.61(8)
Residential setting			50.16 ***(4)
Non-kinship or Kinship Foster care	2.7	5.5	
Living groups (24hr. daily supervision) (± 10)	8.6	16.7	
Living units (4 hr. daily supervision) (± 4)	41.4	52.4	
Large-scale Reception Center	42.0	22.9	
Independent	5.3	2.6	
Age	41.1(17 & older)	22.0(17 & older)	41.23*** (3)
Means (SD)	16.1(1.5)	15.5(1.5)	5.99 (918)***
Total number self-report stressful life events	33.5(8-13)	33.0 (8-13)	1.53 (3)
Means (SD)	6.1(2.7)	6.2 (2.6)	.95 (892)

*** Significant at the .001 level.

Relationship of socio-demographic variables with self-report measures

The influence of socio-demographic variables at T2 on the HSCL-37A Internalizing and Externalizing and RATS total mean scores were examined. Several variables could only be measured at the second assessment period (ie., obtaining a temporary residential status, change in guardian, transfer to another Nidos regional office and transfer to a different school, effect of utilization of mental healthcare services). Therefore only the influence of the socio-demographic variables at T2 will be addressed in this study.

Psychological distress or behavioral problems were not related to the following socio-demographic variables; length of stay in the Netherlands, change in guardian, change in school, coming to the Netherlands after April, 2001, and number of years of formal education. In contrast, the socio-demographic variables of gender, having a family member living in the Netherlands and being transferred to another regional office were significantly associated with scores for Internalizing problems and with RATS total scores. However, these variables were not associated with HSCL-37A Externalizing behavior. Girls reported slightly higher mean scores than boys (Internalizing, t (553) = 2.97, p < .01, d = .29; RATS, t (551) = 2.01, p < .05, d =.20). URM having a family member in the Netherlands reported lower mean scores than URM having no family member living in the Netherlands (Internalizing, t (519) = 4.67, p < .001, d = .45; RATS, t (518) = 3.07, p < .01, d =.30). URM that were transferred also reported slightly higher mean scores (Internalizing, t (519) = 4.67, p < .001, d = .23; RATS, t (518) = 3.07, p <.01, d =.19) than URM that were not transferred to another regional office. In addition having not obtained a temporary residential status at T2 was associated with higher HSCL-37A Internalizing scores (t (324) = 2.34, p <.05, d = .25). Older age was significantly

related with higher HSCL-37A Internalizing and Externalizing scores and RATS total scores (Table 4) at T2.

URM that had received any type of mental healthcare services in the Netherlands reported significantly lower scores at T2 on the HSCL-37A Internalizing scale (t (206) = 3.88, p<.001, d = .40) and RATS total scale (t (211) = 3.14, p <.01, d = .32) , but higher scores on the HSCL-37A Externalizing scale (t (544) = 3.41, p <.01, d = .37) than URM that had not received any mental healthcare services.

Because type of residential setting was strongly related to age, it was necessary to control for age effects when testing the effects of differences in residential settings on symptomatology. After controlling for age , significant differences were found between URM living in large scale reception centers and URM living in other types of residential settings regarding scores on the HSCL-37A Internalizing scale(F(4, 552) = 6.33, p <.001, range d =.49-1.22) and RATS total scale (F(4,550) = 2.97, p <.05, range d =.29-1.09. The largest effect sizes were found for the differences between URM residing in residential settings with 24 hour supervision (Foster care, small living groups) and URM residing in the large scale reception centers.

To be able to investigate the differences between scores of URM from different countries of origin on HSCL-37A Internalizing and Externalizing scales and the RATS total scale, it was necessary to control for age because there were significant differences found in mean age between URM coming from different countries of origin (F(8, 581) = 3.39, p <.01). After controlling for age by introducing it as a covariate in the analysis of variance, URM coming from Eritrea/Ethiopia reported the highest Internalizing mean scores (F (8, 555)= 4.00, p <.001) than all other URM, except for URM from Guinea. The largest differences in Internalizing means scores were found between URM coming from Eritrea/Ethiopia China (d = 1.15) (see Appendix chapter 8 on page 122). URM coming from Eritrea/Ethiopia reported by far the highest Externalizing mean scores (F(8, 565) = 6.80, p <.001-except for URM from Guinea) than URM coming from China and other African counties who by far reported the lowest Externalizing mean scores. However, no differences between URM coming from the different countries were found concerning RATS total scores (F(8, 553)= 1.68, p =.10) .

Symptom severity and changes in symptoms during follow-up

In Table 2, the means, standard deviations and percentage of URM scoring above the established cutoff scores for measures, based on normative Dutch adolescents' samples, are reported for the follow-up sample at T1. It is apparent from table 2 that all informants during T1 reported elevated scores on the Internalizing scale ranging from 26.8% from guardians to 46.2% for URM self-report. URM also self-reported elevated scores for traumatic stress reactions (RATS): 41.9% at T1.

Changes in severity of psychological distress and maladaptive behaviors for the URM follow-up sample were examined for all of the measures used in the present study (Table 2). There were significant differences found between the T1 and T2 mean scores on the HSCL-37A- total scale, HSCL-37A Externalizing scale, CBCL Total scale, CBCL Externalizing scale, TRF Total scale and TRF Internalizing scales. However, the magnitude of the effect sizes of all differences was found to be negligible. Continuity of both self-reported as well as teacher and guardian reported psychological distress and maladaptive behavior is evident.

Table 2.
Symptom severity and changes in symptoms

Variables	Attrition group and follow-sample at T1			Follow-up sample at T1 and T2					
	Attrition *M(SD)*	Follow-up *M(SD)*	*t (df)*	*n*	T1 *M (SD)*	T2 *M(SD)*	*t (df)*	*d*	*r*
HSCL-37A Total				519	65.5 (14.8)	66.8 (15.0)	2.42*	-.01	.63***
HSCL-37A internalizing	51.8(12.8)	50.2(13.0)	1.8 (826)	510	50.2 (13.0)	50.9 (13.1)	1.56		.64***
Cutoff % >95th percentile	50.2%	46.2%							
HSCL-37A externalizing	16.0(3.5)	15.2(3.1)	3.0 (561)**	535	15.2 (3.1)	15.9 (3.4)	5.01***		.53***
Cutoff % >95th percentile	18.1%	12.2%						-.08	
RATS Total	50.1(11.6)	48.7(11.5)	1.7(797)	494	48.7 (11.5)	48.3 (11.7)	.80		.61***
Cutoff % >95th percentile	48.4%	41.9%							
RATS Intrusion				516	14.0 (4.3)	13.7 (4.4)	1.77		.63***
RATS Avoidance/Numbing				504	20.0 (4.9)	20.1 (5.0)	.44		.44***
RATS Hyperarousal				530	14.6 (4.2)	14.6 (4.1)	.06		.55***
CBCL Total				225	19.6 (18.9)	16.6 (16.3)	2.32*	.01	.42***
CBCL internalizing	11.9(10.8)	9.2(8.1)	2.7(227)**	274	9.8 (9.4)	9.1(8.0)	1.34		.54***
Cutoff % > T-score 60	32.8%	26.8%							
CBCL externalizing	4.9 (6.5)	5.2 (7.0)	.4 (451)	270	4.9 (6.8)	4.0 (6.1)	2.26*	.03	.51***
Cutoff % > T-score 60	15.6%	17.8%							
TRF Total				82	25.0 (22.1)	16.7 (19.3)	3.02***	.01	.28*
TRF internalizing	10.1(9.1)	9.9(8.9)	.24 (431)	130	10.2 (8.7)	8.6 (7.5)	2.33*	.03	.52***
Cutoff % > T-score 60	36.4%	37.5%							
TRF externalizing	6.2(9.5)	6.1(9.0)	.1(433)	144	6.5 (9.7)	5.6 (8.7)	1.33		.59***
Cutoff % > T-score 60	16.2%	18.2%							

*p < .05. **p < .01. ***p < .001

Table 3.
Results of Hierarchical Regression Analysis for Predicting Changes in Symptoms at Follow-Up

Step	Variable	Total adj. R^2	*df*	Overall *F*	R^2 Change	*F* Change	Standardized β (for final step)
HSCL-37A internalizing at T2							
Step 1	HSCL-37A internalizing T1	.42	1,459	339.03***			.56***
Step 2	Age	.46	1,458		.04	34.41***	.14***
Step 3	SLE Total Score T2	.48	1,457		.02	18.71***	.17***
Step 4	Reception Center	.50	1,456		.01	12.63***	.14***
Step 5	Gender	.51	1,455		.01	11.14***	.11***
HSCL-37A externalizing at T2							
Step 1	HSCL-37A exernalizing T1	.24	1,463	149.72***			.46***
Step 2	Reception Center	.25	1,462		.01	7.40**	.13**
Step 3	Length of stay in country	.27	1,461		.01	8.64**	.12**
Step 4	SLE Total Score T2	.27	1,460		.01	5.76*	.10*
RATS Total score at T2							
Step 1	RATS Total score T1	.36	1,454	261.37***			.35***
Step 2	SLE Total Score T2	.41	1,453		.05	37.20***	.21***
Step 3	Age	.43	1,452		.02	17.70***	.15***
Step 4	HSCL-37A internalizing score T1	.44	1,451		.01	10.51***	.18***
CBCL internalizing at T2							
Step 1	CBCL- internalizing T1	.25	1,236	80.18***			.50***
CBCL externalizing score at T2							
Step 1	CBCL externalizing T1	.22	1,236	68.35***			.43***
Step 2	Age	.23	1,235		.01	4.53*	-.13*
TRF internalizing at T2							
Step 1	TRF- internalizing T1	.24	1,102	34.06***			.53***
TRF externalizing score at T2							
Step 1	TRF externalizing T1	.39	1,85	55.64***			.61***
Step 2	Length of time in NL	.41	1,84		.03	4.50*	.17*
Step 3	No family	.43	1,83		.02	3.55	-.16

*$p < .05$. **$p < .01$. ***$p < .001$

Predictors of change on URM self-report measures

Hierarchical regression analyses were preformed to select the best predictors of changes on all scales from each informant at T2. For each of the three regression analysis of the URM self-report measures at T2 (HSCL-37A Internalizing, Externalizing & RATS), the following independent variables were entered stepwise into the regression models in addition to the T1 scores on the dependent variable; gender, having a family member living in the Netherlands, type of residential setting (dummy variables), age at T2, length of stay in the Netherlands, transfer in regional office, and number of reported stressful life events at T2. In addition, the T1 scores of the remaining two self-report measures were also entered into model being analyzed.

For the first analysis, the HSCL-37A internalizing scores at T2 was the dependent variable. The independent predictors that are listed above were entered into the regression model and a few were found to contribute to explaining the variance in internalizing scores at T2 after controlling for the HSCL-37A internalizing scores at T1(which alone explained 42% of the variance). Older age, total number of SLE's reported at T2, living in a reception center and gender all contributed significantly to the amount of variance that could be explained. The overall multiple correlation was R =.72. or 51% of the total variance in HSCL-37A internalizing scores at T2 can be explained by the predictor variables.

In the second regression analysis, the HSCL-37A externalizing scores at T2 was the dependent variable. The independent predictors that are listed above were entered into the regression model and three were found to contribute to explaining the variance in scores after controlling for the HSCL-37A externalizing at T1(accounting for 24% of the explained variance): living in a reception center, (longer) length of stay in the Netherlands and total number of SLE's reported at T2. The overall multiple correlation was R=.53 or 27% of the total variance in HSCL-37A externalizing scores at T2 can be explained by the four predictor variables together.

The final regression analysed RATS total scores at T2 as the dependent variable. The independent predictors that were entered into the regression model and were found to contribute to explaining the variance in scores after controlling for the RATS total score at T1 (alone accounting for 36% of the variance) were total number of SLE's reported at T2, age, and HSCL-37A internalizing scores at T1. The overall multiple correlation was R =.67 or 44% of the total variance in RATS total scores can be explained.

Predictors of change on Guardian and Teacher reports

Hierarchical regression analyses were also preformed to select the best predictors of the CBCL Internalizing and Externalizing severity levels at T2. For each regression analysis in addition to the scores at T1 on the dependent variable analysed the following independent variables were entered into the regression models; gender, having a family member living in the Netherlands, type of residential setting (dummy variables), age at T2, length of stay in the Netherlands, and transfer in regional office.

The CBCL Externalizing scores at T1 explained 22% of the variance in the CBCL scores at T2. Younger age significantly accounted for a small additional amount (1%) of the explained variance in the CBCL Externalizing scores at T2. The overall multiple correlation was R = .51 or 23% explained variance. Furthermore the only robust predictor of T2 CBCL Internalizing scores were CBCL Internalizing T1 scores accounting for 25% of the variance.

For each regression analysis with the teachers reports (TRF), in addition to T1 measurements of the variable analysed the following independent variables were entered into the regression models; gender, having a family member living in the Netherlands, type of residential setting (dummy variables), age at T2, length of stay in the Netherlands, and transfer in regional office. The only significant predictor of the TRF Internalizing scores at T2 were the T1 TRF Internalizing scores explaining 24 % of the variance. Two additional independent variables, i.e. having no family in the Netherlands and (longer) length of time residing in the Netherlands, accounted for an additional amount of the explained variance in T2 TRF externalizing scores over and above the T1 TRF externalizing scores (alone explaining 39% of the variance). The overall multiple correlation was R = .67 or 43% of the variance in T2 TRF Externalizing scores could be explained by these 3 independent variables.

Correlations

Using Cohen's effect magnitude for correlations, correlations above .10 are considered small, above .30 are considered medium and correlations above .50 are considered large (Cohen, 1988). The largest significant correlations were found between the self-reported Internalizing distress and traumatic stress reactions for both T1 (r (496) =.78;p <.001) and T2 (r (540) =.80;p <.001) and between de TRF Internalizing and Externalizing scores at T2 (r(108) =.56; p <.001). The magnitude of the intra-informant specific correlations between Internalizing and Externalizing scores were all significant with an medium magnitude during both T1 and T2 (URM - r(526) = .44;p <.001 (T1), r (551) = .49;p <.001 (T2);Guardian - r(294) = .44;p <.001 (T1), r (339) = .45;p <.001 (T2); Teacher - r(268) =.46;p <.001 (T1), r (108)= .56;p <.001 (T2). The Internalizing correlations per informant pair for T1 and T2 were found to be significant but small (URM & Guardian, r(282) = .21;p <.001 (T1), r (334) =.13;p <.001 (T2); URM & teacher, r(277) = .19;p <.001 (T1), r(114) = .25;p <.001 (T2); Teacher & Guardian, r(176) =.19;p <.05 (T1), r (176) =.26;p <.001 (T2). The Externalizing correlations per informant pair were smaller between URM and guardian r (292) = .14;p <.05 (T1), r (343) = .17;p <.001 (T2) and URM and teacher r(281) = .16;p <.001 (T1), r (123) =.11; *ns* (T2) , than between guardians and teachers r(168) = .46;p <.001 (T1), r (116) = .42;p <.001 (T2).

There were also significant and positive correlations between URM's self-reported total number of SLE's and Internalizing r(542) = .41; p <.001 (T1), r(555) = .37;p <.001 (T2) , Externalizing r (537) = .10; p <.05 (T1), r (565) =.19; p <.001 (T2), and traumatic stress reactions r (516) = .42;p <.001 (T1), r(553) =.44; p <.001 (T2). However, there were no significant correlations found between guardian or teacher reported psychological distress or behavioral problems and total number of SLE's as reported by the URM themselves (data not shown).

Item endorsement level comparisons

The 10 items that had the highest item mean (received most frequently a high severity score) are listed for each informant in Table 5. It becomes clear through this comparison at item level, that although the correlations mentioned in the previous section were low between informants, that the 10 symptoms that received the highest severity scores from all of the informants have common themes such as physical reactions (headaches, sleeping problems), loneliness, withdrawn/avoidance behavior, hyperarousal (vigilance, concentration problems, irritability).

Table 4.
Most severe10 symptoms reported by URM, guardians and Teachers for T1

	HSCL-37A & RATS items	*M*	CBCL items	*M*	TRF items	*M*
1.	Afraid/sad when thinks about event (RATS)	2.76	Worries	.69	Emotional distant (secretive)	.67
2.	Feels alone (RATS)	2.71	Emotional distant (secretive)	.56	Worries	.56
3.	Avoiding places & people that reminds of event (RATS)	2.62	Sad	.51	Daydreams	.52
4.	Unwanted thoughts about event (RATS)	2.56	Concentration problems	.45	Often late	.49
5.	Physical reactions in body (RATS)	2.54	Headaches	.42	Shy	.47
6.	Waking-up during the night/ Waking-up early (RATS)	2.49	Nightmares	.40	Concentration problems	.45
7.	Vigilant (RATS)	2.45	Problems sleeping	.40	Sad	.44
8.	Problems sleeping (HSCL-37A)	2.45	Lonely	.38	Truancy	.42
9.	Pushes feelings away concerning event (RATS)	2.45	Shy	.37	Headaches	.41
10.	Lonely (RATS)	2.45	Irritable	.36	Difficulties learning	.40

Discussion

This study investigated the prevalence, course, predictors and concordance of psychological distress and maladaptive behaviors of Unaccompanied Refugee Minors (URM) living in the Netherlands in a 12 month follow-up study as assessed by URM self-report and teacher and guardian ratings. The high unremitting symptom severity levels reported by URM, their guardians and teachers indicate a chronic course of mainly traumatic stress reactions and emotional distress among this specific population. Large predictive strength of psychopathology at the first measurement for psychopathology at the second measurement was evident in the regression analyses of internalizing distress, externalizing behaviors according to all informants. Furthermore the concordance between informants was poor.

The severity levels of traumatic stress reactions and internalizing distress that have been found in this study do not deviate from previous studies with refugee adolescents studies (e.g., Smith, Perrin,Yule, Hacam, & Stuvland, 2002; Thabet & Vostanis, 1999) or studies assessing the psychological distress among (western) youth living in foster care (e.g., McMillen et al., 2005; Shore, Sim, Prohn, & Keller, 2002). McMillen et al. (2005) and refugee studies listed above all found that traumatization was strongly associated with high levels of psychological distress reported in their samples. This dose-response relationship was confirmed in the present study. The elevated levels of (traumatic) stress reactions among all of these groups however do contrast greatly from the low levels (3%-6.3%) reported among normative populations (i.e.,Cuffe et al., 1998; Giacona et al., 1995).

The most robust predictor of the emotional distress and maladaptive behaviors of URM at follow-up was the initial assessed severity level as reported by each informant on every measure. This finding supports the monitoring of symptoms to apply timely psychosocial interventions among URM. The total number of self-reported stressful life events, after controlling for initial severity level with residualized change scores, remained a significant predictor of URM self-reported traumatic stress reactions as well as general emotional distress and maladaptive behaviors at follow-up. The other significant predictors of follow-up psychological problems; such as age, living in a reception center, residing for a longer period of time, gender and having no family living in the Netherlands, explained very little variance in outcome, especially as assessed by guardians and teacher ratings.

The magnitude of the effect of socio-demographic factors on severity levels of emotional distress among URM was small or nonexistent. Age appeared to be the only factor of importance. Several studies have verified age being related to traumatic stress reactions (Smith et al., 2002; Thabet & Vostanis 1999). In addition, Realmuto et al., (1992) have postulated that it may be possible that younger children do not fully comprehend the full magnitude of war related experiences which functions as a protective factor. In this study, a higher number of negative life events was also associated with older age implying that older URM have been exposed to more traumatic experiences.

Strong continuity in psychopathology of adolescents has been previously documented (e.g., Visser, van der Ende, Koot, &Verhulst, 1999). Longitudinal studies that have been carried out with refugee adults have found persistent high symptoms levels (e.g., Steel et al., 2004). Previous longitudinal investigations among refugee children and adolescents have observed an uncoupling from depression and traumatic stress reactions over time with the later taking on a chronic form (Almqvist & Broberg, 1999; Sack et al., 1999;). However, in the present study there is no indication of severity levels of anxiety/depression lowering over time, perhaps due to the high levels of uncertainty surrounding the life of an URM residing in the Netherlands. More evidence is needed through longer prospective studies, which are carried out in different host countries, to be able to draw definite conclusions on these contrasting findings.

Correlation between reports of URM, guardians, and teachers were quite low which constitutes a rather common finding in research of the assessment of mental health of adolescents from different perspectives (Rousseau & Drapeau, 1998). At item level, the concordance between informants was evident and complimentary. This finding suggest that the guardians and teachers are not always accurate in the individual assessment of the well-being of URM which would have lead to higher intermeasure correlations, but are aware of the general type of psychological distress that URM experience. Kramer et al. (2004) found that disagreement between informants reports can be a result of (1) differences in how

adolescents and adults interpret the questions posed, (2) lack of awareness of problems by parents, and (3) different thresholds held by the informant of what a "problem" is. Ferdinand and colleagues (2004) have found that "if adolescents reports considerably more emotional problems than their parents (possibly as a result of poor recognition by parents), the risk for persistence of emotional problems in young adulthood may increase." Both of these recent studies call attention to the adverse effects of disagreement between informants on reports of emotional and maladaptive problems. In the present study, weak correlations have been found which raise concern if the significant adults in the lives of URM are able to recognize their emotional suffering.

Methodological Challenges

This study examined the mental health of an exceptionally culturally diverse population. With this amount of diversity, some discussion concerning validation of measures and cultural influence in symptom reporting is required. The psychological measurements that have been used in this study have been thoroughly examined and data supporting their validity and reliability with diverse adolescent populations have been collected (See Questionnaire section for a list of references). It was not apparent in the data that there should be doubt that adolescents from one culture perceived the questions differently than another; however individual differences that did not appear in the data could have taken place.

Although the attrition group for the first and second assessment was quite large, at least on an objective demographic level, there were no apparent differences between the study sample and attrition group. However, here again individual subjective differences that did not appear in the data could have been present but were not apparent. Wiesaeth (1989) commented that often the most traumatized individuals do not take part in studies due to their avoidance of all trauma-related stimuli. If this point of view is taken seriously, than the severity findings in this study could be seen as an underestimation, but certainly not an overestimation of the true severity levels for psychological distress among URM.

In the present investigation few differences were found between URM coming form different countries of origin in the reporting of emotional distress. Although this lack of difference could have come from the unequally sized cultural groups, perhaps a more plausible explanation would be that the number and type of traumatic experiences one experiences is a better predictor of psychological distress than socio-demographic factors such as country of origin, gender or age. Patel (2001) makes the argument that within one country itself there is enormous diversity (i.e., gender, age, socioeconomic status, individual subjective differences) among residents which makes it very difficult to measure the broad effect of "country of origin" on the psychological well-being of emigrated citizens to western countries.

The inter-agreement correlations that were found in the present study were poor. This could be a result not only from the reasons already mentioned above, but because a different questionnaire was used with URM instead of the standard Youth Self Report (YSR) that is usually administered with the CBCL en TRF. The YSR was not used in this study because; (1) the YSR was not available in the languages needed at the start of this project, (2) has not been validated for this specific population, (3) in a previous investigation among refugee adolescents in the Netherlands (Vervuurt & Kleijn 1997) was considered to be too long for the short attention spans of refugee adolescent, and (4) some questions were very difficult for the adolescents to understand or for the interpreters in achieving semantic equivalence.

Preferably, a standardized diagnostic interview is used in combination with questionnaires to determine the presence and severity of psychopathology. It was not feasible in the URM study to administer a diagnostic interview for the main reason that there is no validated psychiatric diagnostic interview available in all of the languages of (refugee) adolescents who took part in this study. It would have first been necessary to test the validity and reliability of a psychiatric interview in the 19 languages before it could have been utilized as a criterion. Furthermore, the use of diagnostic interviews in cross-cultural studies invokes itself a host of methodological issues such as classifying culture-specific disorders and ensuring "the semantic and psycholinguistic equivalence of psychiatric symptoms across cultures" (Cheng, 2001).

Implications

It is first relevant to briefly review the literature on the treatment possibilities and available mental healthcare services available to URM before giving recommendations for interventions. It has been documented that refugees who have experienced many traumatic experiences can suffer from psychological distress for many years (Sack et al., 1999; Steel et al., 2004). Biological changes in the brain and hormonal levels have also been known to be altered due to (chronic) exposure to traumatic experiences which in turn can result in permanent developmental and/or personality changes (Charney, 2004).

Furthermore, there is little research examining the treatment of chronic traumatic stress reactions in children and adolescents, therefore, limiting the evidence of effective interventions (Salmon & Bryant 2002; Lustig et al., 2004). Salmon and Bryant (2002) emphasize that a child (adolescent) must be competent in regulating his/her emotions before cognitive-behavioral trauma therapy is possible. In addition, mental healthcare services have higher thresholds for refugees (Silove, Steel, McGorry, & Drobny, 1999) and for parental accompanied refugee adolescents and children than for the original population of the host country (Howard & Hodges, 2000). Literature concerning the mental health needs of young refugees suggest that large scale therapeutic (social) care (Kohli & Mather, 2003) or a low threshold to mental health services (Hodes, 2002) is needed to properly fulfill the needs of young refugees.

In light of this short review and the results of this study which have emphasized the chronic nature and high severity levels of (traumatic) psychological distress among URM, it is imperative that large scale, low-threshold (in residential settings) psycho-social interventions be applied to this specific “at-risk” population. A stepped care approach to providing mental healthcare to URM in which the aim is fitting the intensity of care to their psychological needs seems most adequate. Periodic screening and monitoring of their emotional distress will enable the significant adults in their lives that currently underestimate the psychological distress of URM to become aware of the high levels of the psychological suffering and to intervene appropriately. Ciarrochi and colleagues (2002) have proposed that teaching adolescents how to effectively identify and manage emotions will lead to positive help-seeking behavior such as a better ability to estimate when help is needed from their social network. Since they cannot learn skills to become emotional competent from their parents, basic social skills, relaxation techniques, self-reflection through journaling and skills to manage (chronic) traumatic stress reactions can be most effectively learned in the their daily lives at school or in the residential setting in which they live. Low-threshold, outreaching, mental healthcare will enable these young people to acquire the psychological tools that are necessary to manage the great levels of uncertainty, anxiety, negative stress and emotional pain in their lives.

Appendix Chapter 8

Effect country of origin on the RATS Total scores, HSCL-37A internalizing, and HSCL-37A externalizing at T2

	RATS Total scores				HSCL-37A internalizing					HSCL-37A externalizing				
	n	*M*	*SD*	*F*^	*n*	*M*	*SD*	*F*^	*Post hoc Contrasts*	*n*	*M*	*SD*	*F*^	*Post hoc Contrasts*
1. Eritrea/Ethiopia	14	55.61	11.15	1.68	14	61.68	13.89	4.00***	9=8=7=6=5=	14	19.01	4.03	6.80***	9<8=7=6=5=
2. Other African Countries	67	50.11	10.99		70	53.81	14.60		2<4<3=1	70	15.32	3.14		2=4<3=1
3. Guinea	41	49.96	11.91		38	58.10	13.40			42	18.07	4.19		
4. Other countries	49	49.98	10.78		49	53.33	13.60			50	16.70	3.43		
5. Iran/Afghanistan/Iraq	31	47.99	9.83		31	49.14	11.29			31	16.88	4.59		
6. Angola	241	47.53	11.64		242	49.70	12.41			246	15.63	2.90		
7. Sierra Leone	45	49.87	11.59		47	50.67	12.96			47	15.75	3.32		
8. Somalia	10	45.96	11.96		10	48.73	12.46			10	16.50	4.14		
9. China/Tibet	55	44.72	12.63		54	47.02	12.69			55	14.34	1.88		

Note. ^F value is controlled for age; *** Significant at the .001 level.

Chapter 9

Pathways to and Factors Associated with Mental Health Service Utilization Among Unaccompanied Refugee Adolescents

Abstract

This study is the first to address the need for mental healthcare (MHC) and the patterns of utilization of MHC services among Unaccompanied Refugee Minors (URM). Information concerning the well being, mental health need, and utilization of services of URM was collected from three informants, the minors themselves (n = 920), their legal guardians (n = 557), and their teachers (n = 496). The well-being, need and utilization of MHC services of URM was compared with those of a representative Dutch adolescent sample (n = 1059). The findings of this study indicated that URM that report a mental healthcare need (57.8%) also report higher levels of emotional distress than Dutch adolescents who report a similar need for MHC (8.2%). In addition, guardians and teachers detect emotional distress and mental healthcare needs in only a small percentage (30%) of URM. The referral of URM to mental healthcare services does not appear to be driven by the reported needs of the URM, but by the need and emotional distress as observed and perceived by guardians. This resulted in the fact that 48.7% of the URM total sample reported that their need for mental healthcare was unmet.

Introduction

Refugees who have experienced many traumatic experiences can suffer from psychological distress for many years (Sack, Him, & Dickason, 1999; Steel, Silove, Phan, & Bauman, 2004). It has been documented that Mental Healthcare (MHC) services have higher

thresholds for adult refugees (Silove, Steel, McGorry & Drobny, 1999) and for parental accompanied refugee adolescents and children than for the original population of the host country (Howard & Hodges, 2000). Literature concerning the mental health needs of young refugees suggest that large scale therapeutic (social) care (Kohli & Mather, 2003) or a low threshold to mental health services (Hodes, 2002) is needed to properly fulfill the needs of young refugees. Howard and Hodges (2000) found that the availability of interpreters and the liaison of psychiatric services with other social agencies facilitated help-seeking and utilization of MHC among young refugees. Unaccompanied Refugee Minors (URM) have been found to be at risk for the development of psychopathology (Felsman, Leong, Johnson, & Felsman, 1990; Kinizie, Sack, Angell, Manson, & Rath, 1986: Masser, 1992; Sourander, 1998) largely due to exposure to (sequential) traumatic experiences. While some have called this population "the most vulnerable of all" (Halvorsen , 2002), there is little known about their needs for mental healthcare and patterns of MHC utilization. This study will endeavor to address this very issue. As there is a dearth of studies on the MHC utilization of refugee children and adolescents, it is necessary to consult the general literature on theories concerning adolescents' MHC utilization to be able to examine the important issues surrounding the help-seeking process.

An epidemiological summary study reporting on the prevalence of psychopathology in adolescent populations, estimates that 15% of adolescents suffer from mental problems (Roberts, Attikison, & Rosenblatt, 1998). Ezpeleta, Keeler, Erkanli, Costello, and Angold (2001) found a 12.9% prevalence rate in a representative sample of 1420 adolescents followed over 6 years. However, there remains a large gap between the adolescents who can be classified with a psychiatric disorder (or have sub-disorder symptoms levels- but are still functionally impaired) and the adolescents who actually utilize MHC services. The majority of the children and adolescents that suffer from mental health problems do not receive appropriate services (Leaf et al., 1996; US Department of Health and Human Services, 1999;Verhulst & van der Ende, 1997). Several studies have shown that between 10 and 30% of the children and adolescents who need help actually utilize MHC services (Saunders, Resnick, Hoberman, Blum, 1994; Sournader et al., 2001). Zwaanswijk, Verhaak, Bensing, van der Ende, &Verhulst (2003b) found in a representative Dutch adolescent population (11-18 years) that 10.5% of the adolescents reported having a mental health problem that was severe and 3.8% of the population self- reported an unmet MHC need (unmet need is defined as self-reporting a need for MHC services, but self-reporting not having obtained it). Flisher and colleagues (1997) found a higher percentage of unmet need, specifically 17%, using more objective measures (presence of psychopathology and functional impairment). Other specific at- risk populations such as adolescents living in residential settings (Hukkanen, Sournader, Bergoth & Piha, 1999), on child welfare (Burns et al., 2004), in foster care (Garwood & Close, 2001; McMillen et al., 2005), inter-country adoptees (Tieman, van der Ende, & Verhulst, 2005), or homeless adolescents (Bukner & Baasuk, 1997; De Rosa et al., 1999) have been found to have higher levels of emotional and behavioral problems as well as greater psychological needs for MHC than normative adolescent populations.

From the known literature, it appears that there are distinct stages in the help-seeking process of adolescents (Cauce, Domenech-Rodriguez, & Paradise, 2002; Srebrink, Cauce, & Baydar , 1996); (a) Problem-recognition, (b) Decision to seek help (internal and external factors), and (c) Service selection/utilization. Problem recognition denotes the first step in seeking help; being aware that there is a problem. Srebink et al. (1996) stated that the severity level of psychological distress and behavioral problems are the most powerful predictor of problem recognition. This assumption has been confirmed in many studies (e.g. Saunders et al., 1994; Sourander et al., 2001; Zwaanswijk et al., 2003b).

As mentioned earlier, in several studies it has been documented that most of the children and adolescents that need professional mental health care (MHC) do not receive these services (e.g., Kataoka, Zhang , & Wells, 2002). The help-seeking of children and adolescents occurs frequently in the social network in which they live and is usually not initiated by them (Srebink et al., 1996), but by their parents/caretakers. Many studies have found that parents play a crucial role (more important than the adolescent self) in adolescents MHC utilization (e.g., Kramer et al., 2004, Yeh & Weisz, 2001). There is often a discrepancy between the need that adolescents report and the need that parents/teachers report concerning MHC (Leaf et al , 1996). This discrepancy has been found to lead to adverse effects on the mental health of

adolescents (Ferdinand, Van der Ende, & Verhulst, 2004). Family structure (1 or two parent) (e.g. Zwaanswijk et al., 2003a) and living situation (homeless, in home or out home placement) (Buckner & Bassuk, 1997; McMillen et al., 2005; Sourander et al., 2004) have also been found to be important factors in MHC use. Since URM often live in residential settings in host countries where they do not receive 24 hour supervision or only very limited supervision, the discrepancy between the need for MHC as felt by URM themselves and the need as perceived by significant adults could be even greater.

Furthermore, there are studies suggesting that externalizing problems are more prominent under adolescents and children that are referred or utilize MHC than internalizing problems (e.g., Wu et al., 1999, Yeh & Weisz, 2001). Posttraumatic stress reactions and internalizing complaints such as depression and anxiety have been found to be prevalent forms of psychological distress among refugee children and adolescents (see Lustig et al., 2004 for a review) as result of extensive exposure to traumatic events. Experiencing stressful life events (abuse, loss) have been found to be strong predictors of MHC need and utilization in adolescent populations (Brugman, Reijnveld, Verhulst, & Verloove-Vanhorick, 2001; Burns et al., 2004; McMillen et al., 2005). In addition, several studies have found that ethnic minority groups underutilize MHC services as compared to adolescents from the dominant culture (Cauce et al., 2002; Flisher, Kramer, & Grosser, 1997; Kodjo & Auinger, 2004; Kataoka et al., 2002; Yeh, Hough, McCabe, Lau, & Garland , 2004). These findings would seem to imply that the percentage of URM that would actually use MHC services might be lower than among the Dutch adolescent population due to under recognition of their psychological distress.

Individual subjective factors such as attitudes, beliefs (willingness), and knowledge (about mental health, available facilities) precede the actual help seeking and have been found to be vital aspects of the process of obtaining help (Sheffield, Fiorenza, & Sofronoff, 2004; Verhulst & Van der Ende, 1997; Zwaandijk et al., 2003a). Social-demographic factors such as age and gender also appear to be important in the help-seeking process. Females have been repeatedly found to be more willing than boys to use MHC services (e.g., Garland et al. 2003; Sears, 2004). Older age of adolescent has been associated in several studies with more use of mental health services (e.g., Burns et al., 2004; McMillen et al., 2005; Sears, 2004) and with accurate problem recognition (Zwaanswijk et al., 2003b).

To address the issues outlined above that surround the help-seeking process of URM, this study will address the following questions (a) do the self-reported need for MHC, the willingness to use, the actual use of MHC services, and the self-reported unmet need of URM differ from that of a representative Dutch adolescent population and (b) which determinants facilitate the recognition of need and utilization of MHC services among URM?

Method

Context of the study

In the years preceding 2001, there was a dramatic increase in the number of URM 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 of a lack of research on the mental health and mental healthcare utilization of URM, a national and longitudinal research project “Unaccompanied Refugee Minors and Dutch Mental Healthcare Services” was started among URM living in the Netherlands and their guardians, teachers and professional mental health care providers in 2001. The goal of the project was to determine the severity of psychological distress of URM, their need for mental healthcare, and the availability of mental healthcare services for this population. Ethical approval was given by the Medical Ethics Committee of the Leiden University Medical Center, Leiden University to conduct the study.

Samples

URM sample (n = 920). Approximately 4,000 URM were randomly selected from the Central Registrar of Nidos. Information about the study and permission waivers (available in translated versions) were sent to the guardians to discuss with the URM. Both the minor and his/her guardian gave written permission for the URM to participate. Roughly 2,300 URM

permission waivers were returned; 1300 (57%) wished to participate, 15% refused, 12% did not participate for a wide range of practical reasons, 9% were transferred, and 7% turned out to be untraceable. However, there were no significant differences found between the URM that did participate and the URM that did not in gender (*ns*), age (*ns*), and country of origin (*ns*). A total of 920 URM participated in the study. The final sample was representative in all of the main characteristics of the total URM population aged 12 to 18 year old in 2002 in the Netherlands. The URM came from 48 countries. Two-thirds of the sample had been living in the Netherlands for a period of 18 months or less. In addition to the questionnaires mentioned above, an interview regarding mental health care was individually administered. Three research assistants administered the questionnaires during one hour.

Dutch normative sample (n = 1,059). Pupils who were peers of the URM from ten secondary and three trade schools throughout the Netherlands (schools had also taken part in the URM study) participated and functioned as a control group for the URM sample. Two weeks prior to administration of the instruments, informed consent letters were sent to the parents and adolescents asking for voluntary and anonymous participation (27 students abstained from participation). The assessment of the Dutch sample took approximately 15 minutes per class.

Procedures

There is one foundation that has the legal guardianship of all of the unaccompanied minors that reside in the Netherlands, The Nidos Foundation. This foundation has offices throughout the entire country and has almost 20 years of experience in working with unaccompanied minors. Two information packages (one for guardian and one for teacher) were sent to the supervisors of each regional office for each guardian that was responsible for one of the 920 unaccompanied minors that took part in the study. The guardians received a letter with the questionnaires informing them about the study and giving instructions concerning how the questionnaires should be filled in. The guardians were instructed in the letter and by their supervisors that they could fill in the questionnaire or ask a staff member of the living unit/ foster parent of the unaccompanied minors to do so. However, the guardian remained responsible for retuning the completed questionnaires to their supervisors which in turn sent back all the completed questionnaires from the regional office. For the first assessment period, 557 questionnaires were returned from the guardians.

The guardian was also responsible to send the information package to the teacher. Enclosed in the information package for the teacher, was a letter describing the project, questionnaires and a stamped and addressed enveloped in order to enable the teacher to return the completed questionnaires directly. The teachers received a letter with the questionnaires informing them about the study and giving instructions concerning how the questionnaires should be filled in. For the first assessment period, 496 questionnaires were returned from the guardians.

Instrument Descriptions

The self-report questionnaires 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 literal terms of the Likert scale (not=1, little=2, much=3, very much=4) was improved by using colored circles of increasing size. Items were simplified to adapt the questionnaires to the language abilities of this population, and the questionnaires were translated and presented in a bilingual form.

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, in-person 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 in 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) measures internalizing distress (anxiety and depression symptoms) and externalizing behavior (trauma-related "acting-out"). The psychometric properties have been investigated among a culturally diverse adolescent population and appeared to be satisfactory to good (Bean et al., 2004a). Internal reliability for the URM sample for the total scale, internalizing and externalizing behavior subscales was respectively .91, 92, and .69. Twelve-month test-retest reliability for the total scale was analysed with a Pearson correlation coefficient and appeared to be satisfactory ($r = .63$, $p < .001$) (Bean et al., 2004a). Inter-measure correlations with the total scores of the RATS and SLE were respectively .77 ($p < .001$) and .38 ($p < .001$)(Bean, in press). Using a confirmatory factor analysis, the two-factor structure, internalizing and externalizing, was verified in the URM sample with a loss of only .4% of the explained variance. URM who reported a need for MHC, reported using MHC, or were referred to MHC by their guardian reported a score of 52 or higher on the internalizing scale which corresponds with the 90th percentile for Dutch adolescents.(Bean et al., 2004a). URM who reported a need for MHC, reported using MHC, or were referred to MHC by their guardian reported a score of 19 or higher on the externalizing scale which corresponds with the 90th percentile for immigrant/and refugee adolescents and the 65th percentile for Dutch adolescents (Bean et al., 2004a).

The *Stressful Life Events* (SLE) checklist (Bean, Derluyn, Eurelings-Bontekoe, Broekaert, & Spinhoven, in press) 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?"). Having experiencing a 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.,in press) is a self-report questionnaire developed to assess posttraumatic stress reactions defined in the DSM-IV (American Psychiatry Association, 1994) with culturally diverse adolescents. The RATS consists of 22 items that correspond directly to the B (intrusion), C (numbing/avoidance), and D (hyper-arousal) 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 investigated among culturally diverse adolescent populations and per language version of the RATS and appear to be satisfactory to good (Bean et al., 2004c). 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 analysed with a Pearson correlation coefficient and appeared to be satisfactory ($r = .61$, $p < .001$) (Bean, et al., in press). 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). URM who reported a need for MHC, reported using MHC, or were referred to MHC by their guardian reported a score of 52 or higher on the RATS total scale which corresponds with the 97th percentile for Dutch adolescents (Bean et al., 2004c).

Mental Health Questionnaire for adolescents

The self-perceived need for, knowledge of and satisfaction with MHC services was measured using an interview of 23 items. The interview was individuality conducted with the URM after they had filled in the other three questionnaires to ensure that the questionnaire would be filled in properly. The research assistants always stressed that the questions were about receiving help for problems regarding "thinking and feeling" and not about practical problems. This interview was translated in the above mentioned languages so that the URM could read along in their own language if that was necessary or for clarification. Examples of the questions are: Do you think that you have problems (emotional) that you need help for?, Would you like to contact someone that could help you (with your emotional problems)?, Have you already been to a "(mental) health professional" (for your emotional problems)?. Dutch adolescents were asked to only fill-in these same three questions so that comparison could be made between the two groups.

Child Behavioral Checklist (CBCL)

The Dutch version of the CBCL/4/18; 1991 Profile-(Achenbach, 1991)-Dutch translation (Verhulst , van der Ende & Koot, 1996) was used to standardize the assessment of the behavior and emotional problems of unaccompanied minors through the observations of guardians. The CBCL has been found to be a reliable and valid instrument to be utilized by other informants than parents (Albrecht et al., 2001; Dutra et al., 2004). The CBCL scores for this study were dichotomized. The cutoff point was a *T score* of 60 or above for both the Internalizing and Externalizing scales. This cut off point has been established among Dutch adolescents and indicates a score which falls on or above the clinical borderline range (Verhulst et al., 1996). The validity and reliability of the Dutch CBCL for normative and clinical populations is thoroughly described in Verhulst et al. (1996). The psychometric properties for the CBCL in this study did not differ from those of Verhulst and colleagues (Bean, Mooijaart, Eurelings-Bontekoe & Spinhoven, in press).

Mental Health Questionnaire for guardians

The need for mental health care among the unaccompanied minor as perceived by the guardian, the referral process to mental health services and the satisfaction with the utilized mental health care was measured using a checklist of 23 items. The guardians were also asked to fill in 10 questions about themselves and their experience with working with adolescents.

Teacher's Report form (TRF)

The Dutch version of the TRF 4/18; 1991 Profile-(Achenbach, 1991)-Dutch translation (Verhulst , van der Ende & Koot, 1997) was used to standardize the assessment of the behavioral and emotional problems of unaccompanied minors through the observations of teachers. The TRF scores for this study were dichotomized. The cutoff point was a *T score* of 60 or higher for both the Internalizing and Externalizing scales. This cut off point has been established among Dutch adolescents and indicates a score which falls on or above the clinical borderline range (Verhulst et al., 1997). The validity and reliability of the Dutch CBCL for normative and clinical populations is thoroughly described in Verhulst et al. (1997). The psychometric properties for the TRF in this study did not differ from those of Verhulst and colleagues (Bean, Mooijaart, Eurelings-Bontekoe & Spinhoven, submitted)..

Mental Health Questionnaire for teachers

The need for mental health care among the unaccompanied minor as perceived by the teacher and the referral process to mental health care services were measured using a checklist of 6 items. The teachers were also asked to fill in 10 questions about themselves and their experience with working with adolescents.

Statistical Analysis

Descriptive statistics were used to give summary descriptions of the socio-demographic characteristics of the samples (Table 1). Differences in socio-demographic and MHC variables between URM and Dutch samples were determined by using the Chi-square test and t-test. Effect sizes were calculated using Cohen's *d* (Cohen , 1988). A maximum of ten percent of the missing items was allowed to still be able to extrapolate the total or subscale scores.

Probability values for all analyses were set at <.05. The statistical power analysis was performed in relation to the variable in which the smallest number of subjects was expected, i.e. self-perceived unmet need. With respect to the other variables (reported need for MHC services, willingness for MHC services, and reported use of MHC services), larger number of subjects are to be expected (Sears, 2004; Sheffield , Fiorenza, Sofronoff, 2004; Zwaanswijk et al., 2003b). On the basis of previous research (Zwaanswijk et al., 2003b) it was hypothesized that at least approximately 5% of the Dutch adolescents would report an unmet need and that the proportion of URM reporting an unmet need would be at least twice as high. In order to detect a between group difference with a medium effect size (Cohen's d = .50) with power of 80% and a two-tailed significance level of <.05, a minimum of 50 Dutch adolescents and 100 URM with an unmet need are required. Subsequently, at least 1000 normal Dutch adolescents and 1000 URM would need to be included in the study in order to obtain the minimum number of subjects which report an unmet need.

Multivariate logistic regression was used to assess the correlates of the binary dependent variables in the following models; (1) Self-reported need for services, (2) Guardian's report; need for services, (3) Teacher's report; need for services, (4) Service use; URM report, (5) Referral; Guardian report, and (6) Unmet need of URM. The binary independent variables that appeared in all models are: gender (1=female), age (1=16 years or older) , family member living in the Netherlands (1=has family member), length of stay in the Netherlands (1=13 months or longer), receives 24 hour adult supervision (1=receives less than 24 hour supervision), number of years of school attendance (1= 6 years or more), total number of reported Stressful life events (SLE's) (1=7 or more SLE'S), score falling above preliminary cut-off for total RATS (1=52 or higher), score falling above preliminary cut-off for HSCL-37A (1=52 or higher), and score falling above preliminary cut-off for Externalizing score (1=19 or higher). In addition, the CBCL Internalizing and Externalizing reports (*T-scores* > 60) from the guardian and the TRF Internalizing and Externalizing reports (*T-scores* > 60) from the teachers, were entered into the regression analysis for respectively the (2) guardians report of need and (3) teacher report of need because these variables were relevant in informant specific models.

Results

Demographic information about unaccompanied minors and teachers

The distribution of gender across the two adolescent samples will be addressed first (Table 1). The distribution of boys and girls in the URM sample deviated from that in the Dutch sample ($x^2(1) = 53.04$, $p < .001$) with a higher proportion of boys in the URM sample. The results from a t-test showed that the mean age for both groups did not differ significantly from each other (t (1942) = 1.21, *ns*).

Table 1 represents the demographic background information for the URM, Dutch sample, URM teachers and URM Guardians. The most frequent countries of origin were Angola, Sierre Leone, Guinea and China. Most of the unaccompanied minors came from Africa (80.8%). 44.9% of the unaccompanied minors sample had received educational training for more than 5 years.

On the average one guardian filled in a questionnaire for 2 unaccompanied minors, however because of the large and quick turnover rate of guardians and rapid transfers of the URM, it was not possible to establish the exact number of guardians that took part in the study. The guardian population consisted of mostly females (77.6%) with a mean age of 36 years. The greater majority of guardians were born in the Netherlands. A large portion of the guardians had received the equivalent of a Bachelor's degree in Social Work.

The teachers could reply anonymously if they chose to do so. Therefore, it was also not possible to establish the exact number of teachers that took part in the study. We were able to estimate that approximately 400 teachers took part in the study. The teacher population consisted of mostly females (68.1%) with a mean age of 46 years. The greater majority of teachers were born in the Netherlands. Most of the teachers had received the equivalent of a Bachelor's degree in Teaching.

Table 1.
Summary Characteristics

		Unaccompanied minor	Dutch adolescents	Guardians	Teachers
N		920	1059	557	496
Gender					
	Male	71.3%	57.0%	22.4%	31.9%
	Female	28.7%	43.0%	77.6%	68.1%
Age in years					
	Mean	15.48	15.72	36.27	45.97
	SD	1.52	1.54	8.96	8.72
	Range	10-18	10-21	20-64	23-64
Country of Origin					
Netherlands		0.0%	89.8%	78.9%	90.3%
Angola		43.9%			
Iran/Afghanistan/Iraq		4.4%			
Eritrea/Ethiopia		2.7%			
Somalia		2.1%	-		
Sierra Leone		7.9%			
Guinea		6.7%			
Other African Countries		14.0%			
China/Tibet		8.6%			
Other Countries		9.6%	10.2%	21.1%	7.8%
Referral of URM to MHC services				11.7%	
Need for MHC		57.8%	8.2%	(URM)18.1 %	(URM)29. 8%
Willingness for MHC		72.2%	11.7%		
Utilization of MHC		12.7%	16.1%		
Unmet Need		48.7%	4.5%		

Self-reported mental health need of URM

57.8% of the URM reported a need for help for their emotional distress (Table 1). This percentage is in sharp contrast with the Dutch adolescents of which only 8.2% reported such a need. Twenty-one percent of the guardians of URM and almost 30% of the teachers of URM reported a need for professional MHC for the URM in their care. There was 11.7% of the URM referred to MHC services by the guardian. Moreover, 12.7% of the URM had used a type of professional MHC in the Netherlands (16.1% utilization rate for Dutch adolescents). Using the same definition for "unmet need" as Zwaanswijk and colleagues (2003b) (self-reporting a need for MHC services, but not having obtained it) 4.5% of the total Dutch adolescent sample reported an unmet need. This proportion does not deviate extensively from the 3.8% found by Zwaanswijk and colleagues (2003b). In great contrast, 48.7% of the total URM population reported having an unmet MHC need.

In examining only the cases in which information concerning the need for MHC for URM was supplied by all three informants (n = 288), the guardian and/or teacher perceived the need for MHC among only 30.6% of the URM that themselves had reported a need for MHC. In addition, the guardian and/or the teacher perceive the need for MHC among 12.2% of the URM that themselves had reported being uncertain if they needed help. In only 6.3% of the cases there was agreement between all three informants (URM, teacher and guardian) about the need for MHC.

Table 2.
Comparisons between total URM and Dutch adolescents' samples

Scale		*N*	*M(SD)*	*t(df)*	*d*
HSCL-37A Total					
	URM	835	66.33 (14.70)	13.74*** (1477)	.66
	Dutch	1058	58.00 (10.73)		
HSCL-37A Internalizing					
	URM	828	50.78 (12.93)	4.04***(1884)	1.00
	Dutch	1058	39.81 (9.26)		
HSCL-37A Externalizing					
	URM	852	15.49 (3.27)	-15.25***(1892)	.68
	Dutch	1058	18.19 (4.46)		
Stressful life events Total					
	URM	894	6.17 (2.61)	34.46***(1476)	1.31
	Dutch	1058	3.05 (2.18)		
RATS total					
	URM	799	49.21 (11.54)	28.31***(1745)	1.67
	Dutch	1059	32.17 (9.09)		

***$p < .001$

Comparisons in need, unmet need, willingness, and actual use of MHC

In Table 2, the between group differences (Dutch normative adolescents and URM) are shown for the HSCL-37A total, Internalizing, Externalizing scales, the total number of experienced SLE's and the RATS questionnaire. URM clearly reported significantly higher mean scores for the HSCL-37A total , Internalizing, and RATS (large to very large effect sizes; range .66-1.67) than Dutch normative adolescents. URM further reported experiencing two times as many SLE's as Dutch adolescents. However, Dutch normative adolescents reported higher Externalizing scores than URM ($d = .68$).

Within the URM sample as well as in the Dutch adolescent sample, the severity of complaints and total number of reported SLE's was significantly higher ($p < .001$) among those adolescents who reported need, utilization of some form of mental health are, or had an unmet need than among adolescents that had no self-reported need, did not use services and had no unmet need (data not shown). The only exception was the HSCL-37A Externalizing scale.

The univariate tests revealed that URM that reported need, willingness to receiving MHC, utilization of some form of mental healthcare, or URM with an unmet need had significant higher mean scores (medium to very large effect sizes; range .41-1.25) than the Dutch adolescents on the HSCL-37A Internalizing, Total number of Stressful life events, and RATS total scales (see Table 3). Regarding the Externalizing scale of the HSCL-37A, Dutch adolescents who reported a MHC need reported significantly higher mean scores (large effect sizes; range .76-1.00) across all the variables (need, willingness, MHC use and unmet need) than URM. There were no significant differences found between the URM and Dutch adolescents HSCL-37A total scores on need, use or unmet need variables. Although, there was a significant difference in HSCL-37A total means scores of URM and Dutch adolescents for willingness, the effect was of medium size (.44).

The lack of a significant difference between the two samples on the HSCL-37A total scores (Dutch and URM adolescents who reported needing and were willing to receive MHC) is apparently due to the different profiles of emotional and behavioral problems that URM and Dutch adolescents seek help for, which cancel each other out in the total score of the HSCL-37A.

Correlates of mental healthcare service use

First, the binary multivariate logistic regression analyses were calculated (Model 1-See Table 4) using the determinants gender, age, family member living in the Netherlands, length of stay in the Netherlands, receives 24 hour adult supervision (not shown in Table 4), number of years of school attendance (not shown in table 3). In addition, the Internalizing and Externalizing scores from the informant specific questionnaires (HSCL-37A-URM; CBCL-guardian; and TRF- teacher) were only entered into the specific informant regression model.

There were six individual dependent variables analyzed using logistic regression; (1) Need; self perceived, (2) Need; Guardian's report, (3) Need; Teacher's report, (4) Referral; Guardian , (5) Service use; and (6 Unmet need. Overall, the independent variables in each regression model predicted significantly 5 of the dependent variables well. Only for the dependent variable (5) Service use; URM report, the regression model was not found to be significant, which implies that the factors in the model are not sufficient in predicting the service use of URM. Only URM scores falling above the preliminary cutoff for the HSCL-37A Internalizing scale were a key predictor in this model (Table 4).

For both dependent variables, "Self-reported need" and "Unmet need" of URM, the same independent variables were found to have significant odds ratios in both models (i.e. older age, having family living in the Netherlands, scores falling above the preliminary cutoff for the Internalizing subscale of the HSCL). In other words if URM were older, had no family member living in the Netherlands, had scores falling above the preliminary cutoff for the Internalizing subscale of the HSCL they were more likely to have reported a need or have had an unmet need than URM that were younger, had a family member living in the Netherlands and did not report high internalizing scores.

When examining the findings of the guardian's reports of need for professional MHC services, the significant independent variables in the model were being female, older age, living in the Netherlands without a family member, CBCL internalizing and externalizing scores. The CBCL Internalizing scores falling above/on the borderline range and living in the Netherlands without a family member were the most robust predictors in the model meaning that if a guardian perceived the emotional distress of the URM to be great and the URM had no family in the Netherlands that they were more likely to be found by the guardian to have a need for professional MHC.

The Internalizing and Externalizing TRF scores falling above in/or above the borderline range had the highest odds ratio's in the model and therefore the most significant predictors ofthe teacher's report of need for services. Furthermore, as can be seen in Table 4 older age and length of stay in the Netherlands were also significant variables in predicting whether the teacher reported that a URM was in need of professional MHC.

Finally, in the regression model in which the referral to MHC services by the guardian was examined, being female, having no family living in the Netherlands, and the Internalizing CBCL scores falling above the established borderline range were of predictive importance. Moreover, the variable CBCL Internalizing scores had the highest odds ratio implying that when the guardian considered the emotional distress of the URM to be elevated, they referred URM to professional mental healthcare services.

Entering self-reported traumatic stress experiences and reactions of URM into the Regression Models

Several independent variables were added to in the regression models (Regression model 2 in Table 4) to predict MHC need and service use. In these analyses, the RATS scores and SLE total scores were added to the URM specific need and utilization variables to see if the odds ratio would be altered.

In respect to the dependent variable "Self-reported service use", the only significant predictor remained the HSCL-37A Internalizing scores after adjusting for the RATS total score and number of SLE and the model again was not found to be significant.

Adjusting the dependent variables URM "Self-perceived need" and "Unmet need", by entering of the new independent variables (RATS and SLE) into the model had a significant effect on the model. Reporting to have experienced 7 or more SLE's was found to be the most robust predictor in both models ("Self-perceived need"; AOR = 1.8 (95% CI: 1.2- 2.6) and "Unmet need"; AOR=1.7(95% CI: 1.2- 2.3). In addition, age, without family, RATS total scores and HSCL-37A internalizing scores were found to be significant independent variables for both models. The odds ratio for age and family did not change after the adjustment for RATS and SLE total scores. However, the odds ratios for HSCL-37A internalizing scores were reduced for "Self-perceived need" and "Unmet need" respectively 22% {[(2.2/1.8)-1]*100} and 42% {[(1.7/1.2)-1]*100}.

Table 3.
Comparison of between URM and Dutch adolescents

	Reported need for MHC Services (URM, *n* = 473;Dutch, *n* = 87)			Willingness for MHC services (URM, *n* = 587;Dutch, *n* = 123)			Reported use of MHC Services (URM, *n* = 101;Dutch, *n* = 170)			Self-perceived unmet need (URM, *n* = 398;Dutch, *n* = 47)		
Scale	*M(SD)*	*t(df)*	*d*	*M(SD)*	*t (df)*	*d*	*M(SD)*	*t(df)*	*d*	*M(SD)*	*t(df)*	*d*
HSCL-37A Total												
URM	69.92 (14.39)	.88(142)	.09	67.32 (14.85)	5.03*** (290)	.44	70.71 (15.89)	3.16 (160)	.44	69.35 (14.09)	1.92 (419)	.30
Dutch	68.64 (11.78)			61.05 (11.71)			64.71 (12.47)			65.25 (11.27)		
HSCL-37A Internalizing												
URM	54.33 (12.75)	4.04***(145)	.41	51.75 (13.20)	8.29*** (216)	.71	54.79 (14.14)	5.68*** (161)	.78	53.83 (12.51)	3.80*** (415)	.59
Dutch	49.28 (10.15)			42.74 (10.11)			45.26 (10.98)			46.61 (10.19)		
HSCL-37A Externalizing												
URM	15.63 (3.22)	-5.85***(96)	1.00	15.55 (3.19)	-5.62*** (138)	.76	15.97 (3.09)	-7.14*** (258)	.83	15.55 (3.21)	-5.68*** (49)	.88
Dutch	19.37 (5.81)			18.30 (5.12)			19.44 (4.74)			18.63 (5.56)		
Stressful life events Total												
URM	6.82 (2.42)	8.13***(555)	1.21	6.39 (2.54)	11.69*** (696)	1.18	6.58 (2.64)	7.39*** (263)	.94	6.79 (2.45)	7.03*** (441)	1.09
Dutch	4.49 (2.59)			3.42 (2.42)			4.29 (2.32)			4.20 (2.39)		
RATS total												
URM	51.98 (11.08)	7.70***(526)	.90	49.75 (11.78)	12.16*** (658)	1.23	51.97 (11.60)	9.69*** (259)	1.25	51.61 (11.02)	7.17*** (420)	1.11
Dutch	41.88 (11.68)			35.47 (10.71)			37.73 (11.36)			39.47 (10.37)		

***$p < .001$

Table 4.

Logistic Regression Models Predicting Outcomes: Need for services, Service use, Referral, and Unmet need.

Variables	Reported Need; self-perceived (*n* = 696)			Reported Need ; guardian (*n* = 318)			Reported Need ; teacher (*n* = 276)			Referral ; guardian (*n* = 324)			Self-reported use; URM (*n* = 633)			Unmet need; URM (*n* = 689)		
	B	AOR	CI	B	AOR	CI	B	AOR	CI	B	AOR	CI	B	AOR	CI	B	AOR	CI
Model 1†																		
Female	-.08	.9	.7 - 1.3	.91	2.5**	1.3 - 4.9	-.01	1.0	.5 - 2.1	.64	1.9[a]	.9 - 3.8	-.28	.8	.5 -1.3	-.01	1.0	.7 -1.4
Older than 16 years	.48	1.6*	1.1 -2.3	.80	2.2[a]	.9 - 5.3	1.36	3.9**	1.6 - 9.6	.60	1.8	.7 - 4.5	-.10	.9	1.0 -2.2	.45	1.6*	1.1 -2.3
Without family in NL	.41	1.5*	1.0 -2.2	1.80	6.0***	2.0 - 17.8	-.56	.6	.3 – 1.3	.87	2.4[a]	.9 – 6.5	.42	1.5	.8 - 2.8	.33	1.4[a]	1.0 -2.0
Length of stay > 1yr. in NL	-.36	.7*	.5 -1.0	.07	1.1	.6 - 2.1	.63	1.9[a]	.9 - 3.8	.18	1.2	.6 - 2.4	.24	1.3	.8 - 2.0	-.35	.7*	.5 -1.0
HSCL internalizing >52	.80	2.2***	1.6 -3.1										.53	1.7*	1.1 - 2.7	.53	1.7***	1.2 -2.3
HSCL externalizing >19	-.26	.8	.5 -1.2										-.16	.9	.5 - 1.6	-.25	.78	.5 -1.2
CBCL internalizing *T*>60				2.3	10.18***	5.2 - 20.0				1.76	5.8***	2.8 - 11.8						
CBCL externalizing *T*>60				1.3	3.8**	1.5 - 9.8				.67	2.0	.8 - 4.7						
TRF internalizing *T*>60							2.65	14.8***	7.0 - 28.6									
TRF externalizing *T*>60							1.41	4.1***	1.7 - 9.6									
Model 1 χ^2 test, *df*	χ^2 = 76.37***, 8			χ^2 = 98.71***,8			χ^2 = 115.27***, 8			χ^2 = 44.04***,8			χ^2 = 14.49, 8, *ns*			χ^2 = 47.78***,8		

	B	AOR	CI	B	AOR	CI
Model 2†						
Female	.06	1.1	.7 - 1.5	-.21	.8	.5 - 1.4	.09	1.1	.8 -1.6
Older than 16 years	.41	1.5*	1.0 -2.2	-.10	.9	.5 - 1.6	.40	1.5*	1.0 -2.2
Without family in NL	.44	1.6*	1.1 -2.3	.47	1.6	.9 - 2.9	.34	1.4[a]	1.0 -2.1
Length of stay > 1yr. in NL	-.17	.9	.6 -1.2	.27	1.3	.8 - 2.1	.22	.8	.6 -1.1
Stressful life events Total >7	.60	1.8***	1.2 -2.6	.07	1.1	.7 - 1.8	.51	1.7***	1.2 -2.3
RATS total >52	.39	1.5*	1.0 -2.2	-.24	.8	.5 - 1.4	.35	1.4[a]	1.0 -2.1
HSCL internalizing >52	.40	1.5*	1.0 -2.2	.59	1.8*	1.0 - 3.2	.20	1.2[a]	.8 -1.8
HSCL externalizing >19	.29	.8	.5 -1.2	-.07	.9	.5 - 1.8	-.31	.73	.5 -1.2
CBCL internalizing *T*>60									
CBCL externalizing *T*>60									
TRF internalizing *T*>60									
TRF externalizing *T*>60									
Model 2 χ^2 test, *df*	χ^2 = 85.71***, 10			χ^2 = 14.08, 10, *ns*			χ^2 = 57.76***,10		

Note. AOR indicates adjusted odds ratio for all covariates; CI indicates 95% confidence interval. B= Unstandardized logit coefficients. †Independent variables 24 hr. Supervision and Years at School (not shown) not significant for all dependent variables in both models. *** p <.001. ** p <.01. * p <.05. [a] p <.10.

Discussion

This study is the first to document the need for mental healthcare, the unmet need and the correlates of service utilization of unaccompanied refugee minors. Unique to this study is that a large URM sample was compared to Dutch adolescent peers and that information concerning the MHC need and service utilization of URM was provided by several informants, i.e., legal guardians and teachers. Approximately 60% of the URM had a need for MHC with only a small percentage (11.7%) ever receiving professional mental healthcare services. This perceived need is very large when compared with rates among Dutch peers, but very comparable to other at-risk adolescent populations (e.g., Burns et al., 2004; Garland et al., 2003).

The results of this study further show that the severity of the psychological distress of URM that have a need, unmet need or that have utilized services bypasses that of Dutch peers. In the regression analyses, it was quite clear that the severity levels reported by URM and guardians play a very important role in perceived need and referral to MHC services confirming the assumption of Sebrink, and colleagues (1996). However, for the URM the number of experienced stressful life events was the most crucial predictor, as well as their symptom levels, in their self-reported need (or unmet need) for professional help. This result has also been found in the studies among children in welfare services of McMillen et al. (2005) and Burns et al. (2004).

Unfortunately the regression models of guardians and teachers could not be adjusted for the number of experienced stressful life events and psychological problems (traumatic stress reactions) reported by the URM themselves since the guardians and teachers were unaware of this information. In future studies, inclusion of this information from guardian/caregivers and teachers concerning the severity of traumatic stress reactions of URM and the recorded (verified) stressful life events that they have experienced could give more insight if guardians and teachers take the these factors into consideration when deciding if a URM needs professional MHC. For both teachers and guardians, their own appraisals of the severity of emotional distress of the URM were the most robust predictors of the need of professional MHC for URM. Furthermore, the Internalizing scores from the informant specific questionnaires were better predictors of URM utilization of MHC than Externalizing scores.

Younger age and having a family member living in the Netherlands were found in this study to be protective factors in keeping URM from having a need or using MHC services. The effect of age has been previously found in other studies to be confounded by other factors such as type of living situation (e.g., McMillen et al., 2005) and number of experienced stressful life events (e.g., Smith, Perrin, Yule, Hacam, & Stuvland, 2002). For this special population, governmental policies (financial government assistance stops at age 18) could also be a confounding factor. The association between confounding factors and age is not clear in this study and will need to be further examined in future investigations. Furthermore, the shielding effect of living with family members is also not new (Sack, Angell, Kinzie, & Rath, 1986). A (perceived) supporting social network has been found to be negatively associated with the use of professional mental healthcare services (Ten Have, Vollenbergh, Bijl, & Ormel, 2002). Living longer than one year in the Netherlands was also found to be an important factor in perceived need of URM and teachers. This result can indicate that when URM are living for longer periods in the Netherlands, they are more capable of perceiving their need and conveying it to others, perhaps due to acquiring skills that enable them to know when to ask for help. Ciarrochi and colleagues (2002) have proposed that teaching adolescents how to effectively identify and manage emotions will lead to positive help-seeking behavior such as a better ability to estimate when help is needed from their social network.

Methodological challenges

This study was limited and methodical challenging because of the unstable situation in which the URM live (frequent transfers, limited supervision) and the extreme diversity of the population. The psychological measurements that have been used in this study have been thoroughly examined in the manuals and articles mentioned earlier reporting on their validity and reliability with diverse adolescent populations. It was not apparent in the data that there

should be doubt that adolescents from one culture perceived the questions differently than another; however individual differences that did not appear in the data could have taken place.

A high non-response rate can be expected in this kind of study. Although the non-response group was quite large, at least on an objective demographic level, there were no apparent differences in the study sample and non-response group. However, here again individual subjective differences that did not appear in the data could have been present but were not apparent. For example, URM that did not want to take part in the study could have been exhibiting avoidance or withdrawn behavior to eliminate thinking or being confronted with their distress and/or past adverse experiences. Furthermore URM with more open and agreeable personality traits might have been more willing to take part in this study in contrast to more resistant or unwilling URM. Although 920 instead of at least 1000 URM were included, the statistical power of the present study to detect a difference with a medium effect size between groups with the smallest size (as expected based on participants with self-perceived unmet need) was still very high (89%) due to the larger than expected percentage of URM with self-perceived unmet need of MHS services.

No psychiatric interview was administered to verify the high severity levels found with the questionnaires due to the absence of translated standardized diagnostic interview in the languages of the URM in this study and the complex semantic challenges of ensuring "the semantic and psycholinguistic equivalence of psychiatric symptoms across cultures" (Cheng, 2001). No established mental health questionnaires for a culturally heterogeneous adolescent population, teachers or guardians in the Netherlands were known to the authors, which necessitated the creation of new measures. Furthermore, the data do not reveal that there was a misunderstanding of the nature and content of the perceived mental healthcare need among URM. However, in individual cases, misinterpretation of the question might have influenced the results concerning the self-reported need among URM of MHC.

It is recommended, as in other studies that have evaluated the mental healthcare needs of at-risk populations (Burns et al.,2004; Garwood & Close, 2001; McMillen et al., 2005), that periodical mental health assessments of URM be put into practice to ensure that their MHC needs are recognized. The ramifications of this study also indicate that the self-reported need and severity level of emotional distress of URM should be taken seriously in the decision-making process for treatment or intervention. Disagreement between informants should not be ignored, but addressed as it can be crucial information to treatment (i.e., maladaptive avoidance behavior; relationship discord) (Kramer et al., 2004; Ferdinand et al., 2004).

Furthermore, the findings of this study draw attention to the need to provide adequate living situations with adult supervision for these adolescents to attempt to alleviate daily stressors that can exacerbate their fragile mental health. URM no longer have parents that can help them learn to regulate their intense emotional reactions to the situations that they have experience or in other words to become emotional competent. The current significant adults in the lives of these young people need to be aware of their great need for MHC and high levels of emotional distress. As professionals, it is important that the caregivers of URM are adequately trained to give these adolescent psychological “tools” for their toolbox (active coping skills) (Weisz & Hawley, 2002). Receiving low threshold psycho-education (residential or school-based) programs on active coping skills can empower URM to manage the trauma and stress they have had to endure and reduce the great (unmet) need these young people have reported for mental healthcare. The school setting has been found to be experienced among refugee adolescents as a secure place (e.g, Sack et al., 1986). School-based interventions continue to play an important part in making mental healthcare services available at one point to a broad population (Farmer, Burns, Phillips, Angold, & Costello 2003) and have worked well for refugee adolescents (Rousseau, Drapeau, Lacroix, Bagilishya, & Heusch, 2005). In conclusion, it is paramount to the emotional development of URM that governmental agencies and mental healthcare services work together to implement policies that acknowledge the psychological suffering and the great need for professional MHC of this at-risk population.

Chapter 10

Adaptation and Psychological Distress Among Unaccompanied Refugee Minors

Abstract

The objective of this study is twofold; first to examine to what extent the level of psychological distress of recently immigrated adolescent Unaccompanied Refugee Minors (URM) (n = 582) influences their adaptation and attitudes in their host country and second to investigate the way in which comorbidity of severe internalizing distress and externalizing behavioral problems with traumatic stress reactions affects their adaptation. The results of the present investigation indicate that in spite of overwhelming adversity and high levels of psychological distress, the majority of adolescent URM are working on age appropriate developmental tasks such as planning their futures and receiving an education. However, 56.6% of the URM (at baseline and/or 12-months follow-up) were classified as fulfilling the diagnostic criteria for a diagnosis of post-traumatic stress disorder of which more than half also reported elevated levels of externalizing maladaptive behaviors and/or internalizing distress. Moreover, especially comorbid psychopathology appears to be negatively associated with adaptation and attitudes of URM living in the Netherlands. The discussion calls attention to the possible adverse effects of trauma exposure and psychological distress on the development and adaptation of URM.

Introduction

Biological, psychological, and social systems undergo vast changes during adolescence (Spear, 2000). During this period, wherein the possibility for internal and external conflict is quite high (Cicchetti & Rogosch, 2002), a developmental psychopathology perspective

becomes a constructive framework for clinicians and researchers. This framework has also been found to be able to incorporate the complex interplay of biological, psychological, and social factors in the development of traumatic stress reactions among children and adolescents (Lester, Wong, & Hendren, 2003; Pynoos, Steinberg, & Piacentini, 1999).

It is well established that experiencing undesirable life events is a risk factor for mental health (e.g., Cuffe, McKeown, Addy, & Garrison, 2005; Macksoud & Aber, 1996; Tiet et al., 1998). Experiencing one or more adverse life event (s) such as a catastrophic disaster (Green, 1991; Udwin, Boyle, Yule, Bolton & O'Ryan, 2000), war or political unrest (Rothe et al., 2002; Sack et al, 1993), physical/sexual maltreatment (Briggs & Joyce, 1997; DeBellis et al., 1999; Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1997) or a combination of daily stressors, relational and financial problems (Chan, 1998; Elgar, Arlett & Groves, 2003; Kendler, Karkowski, & Prescott , 1999) can lead to severe psychological distress. In addition to experiencing adverse life events, refugee adolescents that immigrate to host countries must also adapt their former lifestyle and culture to their new surroundings. The adaptation process to a new culture has been shown to take many years and to be very stressful (i.e., Vinokurov, Trickett, & Birman, 2002; Sonderegger & Barrett, 2004) which may disturb the already frail emotional stability of new immigrant refugee adolescents (Nwadiora & McAdoo, 1996).

Unaccompanied refugee minors (URM) must above all the other misfortune in their lives, endure separation (and/or loss) from parents and extended family that could have provided them with support and care in such difficult circumstances. Without the positive support of adults (which has been repeatedly found to be one of the most fundamental protective factors for mental health of children and adolescents) (e.g., Cuffe et al., 2005; Luthar, 2003; Masten, Best, & Garmezy, 1990; Macksoud & Aber, 1996; Miller, 1996), URM are per definition at a high risk for the development of emotional psychopathology and poor adjustment.

High levels of traumatic stress reactions and/or internalizing distress have been found in previous studies among refugee adolescents (e.g., Kuterovac, Dyregrov, & Stuvland, 1994; Relamuto et al., 1992; Smith, Perrin, Yule, Hacam & Stuvland, 2002; Thabet & Vostanis, 1999), URM (Felsman, Leong, Johnson, 1990; Masser, 1992; Sournader, 1998) or studies assessing the psychological distress among (western) youth living in foster care (Hukkanen, Sournader, Bergroth, & Piha, 1999; McMillen et al, 2005; Shore, Sim, Prohn & Keller, 2002). The studies reported above, all found that a high degree of traumatization was strongly associated with high levels of psychological distress reported in their samples. Furthermore, the degree of psychological adaptation of refugee adolescents appears to be negatively associated with high levels of (traumatic) stress reactions (Halcon et al., 2004; Goodman, 2004; Vizek-Vidovic, Kuterovac-Jagodic, & Arambasic, 2000). Elevated levels of (traumatic) stress reactions among all of these groups differ to a great extent from the low levels (3%-6.3%) reported among normative populations (Cuffe et al., 1998; Giacona et al., 1995).

In addition, externalizing problems have also been found to be associated with the expression of traumatic stress among western adolescent (Deykin & Buka, 1997; Famularo, Fenton, Augustyn, & Zuckerman, 1996; Wozniak et al., 1999). Behavioral problems before the age of 15 have been found to predict the development of PTSD among Vietnam veterans (Heltzer, Lee, Robbins, & McEnvoy, 1987). The literature concerning conduct problems of refugee adolescents is very limited (Raboteg-Saric, Zuzul, & Kerestes, 1994). Allwood, Bell-Dolan, and Husain (2002) found a strong association between the witnessing of organized violence and exhibiting aggressive behavior. Jensen and Shaw (1993) suggest that adolescents who have witnessed or taken part in a war are more likely to show delinquent or anti-social behavior. This opinion is however, not supported by the results of the few empirical studies concerning this topic. Four studies evaluated the delinquent and aggressive behaviors exhibited by refugee adolescents and found no evidence of excessive behavioral problems in this population group (Raboteg-Saric et al., 1994; Mollica et al., 1997; Rousseau, Drapeau, & Corin, 1998; Sourander, 1998).

The traditional higher-order latent structure of internalizing (inhibition or over controlling of emotions) and externalizing (impulsivity or under controlling of emotions) disorders has for many years been useful in ordering how professionals in developmental psychopathology have viewed emotional distress and maladaptive behaviors of adolescents (e.g., Achenbach & Edelbrock, 1984; Southam-Gerow & Kendall, 2002; Rammstedt, Rieman, Agleitner & Borkenau, 2004). There is also recent evidence that these dimensions of

psychopathology endure through time (Rogosch & Cicchetti, 2004; Visser, van der Ende, Koot, & Verhulst, 1999). In recent years, Krueger and colleagues (2001) have also (factor-analytically) confirmed the usefulness of the dichotomy in explaining the covariance among adult mental health and personality disorders. Moreover, Miller and colleagues (2003, 2004) have proceeded to put forward an internalizing/externalizing model to explain the reactions of traumatic stress among adult combat veterans. In the model of Miller et al. traumatic stress reactions (i.e., posttraumatic stress disorder) can be expressed two –dimensionally, either as externalizing behavior (i.e., substance related disorders and/or antisocial personality disorder) or as internalizing distress (i.e.,unipolar mood and anxiety disorders), depending upon the combination of the personality dimensions - negative and positive affectivity and constraint. It is important to note that although Miller et al. do not indicate that there is comorbidity between the internalizing and externalizing expression of traumatic stress, this relationship has been repeatedly documented among adolescents (e.g., DeBellis et al., 1999, Saigh Yasik, Oberfield, Halamandaris, & McHugh, 2002). Nonetheless, a broadband (Axis I) internalizing/externalizing model would seem to provide an adequate construct in which the expression of traumatic stress reactions and/or (comorbid) psychopathology could be understood among adolescents.

At-risk adolescents (such as URM) for the development of psychological distress seem to have difficulty with emotional regulation and psychosocial adaptation (Rogosch & Ciccheti, 2004; Southam-Gerow & Kendall, 2002). Consequently, before the emergence of a (diagnosed) psychological disorder, there are usually indications of adaptational compromises or failures of adolescents due to inadequate skills in managing the high demands that are made on not-fully developed extrinsic and intrinsic processes. Several authors have explained that if children and adolescents have an insufficient ability to regulate (i.e., cope with or adapt) their emotions, the development of psychological symptoms is very likely (i.e., Ciarrochi, Scott, Deane, & Heaven, 2003). However, others have found the reverse to be true, that high levels of psychopathology also can lead to the inability to adequately adapt and incompetence in the regulation of emotions (Galaif, Sussman, Chou, & Willis, 2003; Seiffge-Krenke, 2000).

A secure attachment relationship with parents is an important condition for the development of the capacity to internalize objects of attachment which in turn is a necessary prerequisite for the capacity to regulate emotions and affect. Empathetic parental reactions to and containment of child emotions, parent-child discussion of emotion, and parental expression of modulated emotions have been proposed by Eisenberg and colleagues (1998) as three ways in which parents teach their children emotional regulatory techniques. Due to the fact that URM have been separated from their parental caregivers (sometimes for long periods), they do not receive parental assistance in regulating their emotions and the high levels of anxiety and stress that they experience due to the adverse life events that they have been subjected to in their country of origin, their flight to refuge, or the problems they have to face in the host country. A lack of social support (important social supporting relationships) in working through traumatic experiences has time after time been found to be a crucial risk factor of mental health (e.g., Brewin, Andrews, & Valentine, 2000).

Social and emotional competence (effective emotional management, accurate expression of emotion, emotional awareness, and (social) problem solving skills) (Ciarrochi, Scott, Deane, & Heaven, 2003) have been found to be associated with resilience and mental health in adolescents (Masten et al., 2004). URM would seem to be at a great disadvantage in learning diverse positive emotion regulation strategies that would lead to adequate management of intense emotions, recognition of emotional distress, building trusting, supporting social networks, and competent adaptation to their surroundings (becoming social and emotional competent). This disadvantage is further enlarged due to receiving limited adult supervision/care in large-scale reception centers in host countries such as in the Netherlands.

The first objective of this study was to report on the adaptation and attitudes of URM to their current life residing in the Netherlands and how internalizing distress, externalizing behavior and traumatic stress reactions are expressed in liaison with their adaptation and attitudes. Furthermore, the adaptation of URM is examined to see if it has been compromised due to high comorbid severity levels of internalizing distress and/or externalizing behavior with traumatic stress reactions. To be able to make this examination, it was necessary to first

construct the comorbidity groups through statistically differentiating URM which reported comorbidity of traumatic stress reactions with each of the individual subtypes of broadband psychopathology, internalizing distress and externalizing behavior, as well as the simultaneous presence or absence of both psychopathology subtypes. In addition, possible socio-demographic differences between the URM target groups were considered and analyzed.

Method

Sample

Approximately 4,000 URM were randomly selected from the total population of 12,000 recorded by the Central Registrar of Nidos in 2002. Information about the study and permission waivers (available in translated versions) were sent to the guardians to discuss with the URM. Both the minor and his/her guardian gave written permission for the URM to participate. Prior to the conduction of the project, crisis intervention mental health care was arranged at facilities throughout the Netherlands in the case that an URM would experience severe emotional distress because of filling in the questionnaires. Fortunately, it was not necessary to use this mental health care network. Roughly 2,300 URM permission waivers were returned; 1300 (57%) wished to participate, 15% refused, 12% did not participate for a wide range of practical reasons, 9% were transferred, and 7% turned out to be untraceable. A total of 920 URM participated in the first assessment of the study. The final sample was representative 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 second assessment wave took place approximately 12 months after the first assessment. From the 920 URM that participated in the first assessment (TI) 9.2% of the URM were listed in the Nidos Registrar as “missing – residence unknown”. 16.5% of the 920 URM did not want to take part in the second assessment period. 9.7% of the URM did not respond to the 3 invitations that were given to them (through the post or telephone) by the researchers and guardians to take part in the study for a second time (1.6% of the URM did not take part for a range of practical reasons). Finally, 582 (63%) of the URM took part in the second assessment. In this study, only information from the 582 URM that took part in both the first and the second assessment will be analyzed.

Procedures

Ethical approval to conduct the study was given by the Medical Ethics Committee of the Leiden University Medical Center, Leiden University. There is one foundation that has the legal guardianship of all of the unaccompanied minors that reside in the Netherlands, the Nidos Foundation. This foundation has offices throughout the entire country and has almost 20 years of experience in working with unaccompanied minors. Two information packages (one for guardian and one for teacher) were sent to the supervisors of each regional office for each guardian that was responsible for one of the 920 unaccompanied minors that took part in the study. The actual testing of URM usually took place in small groups at school (10-25 young people) during school time. The URM were assessed at schools, if possible. Approximately 20% of the URM were not tested at schools. Because many URM did not attend schools or were frequently absent, URM were also assessed (in groups of 10) at the regional offices of Nidos, reception centers for refugees and residential settings. During the second assessment it was sometimes necessary to make appointments individually with the URM because of frequent transfers to other locations and wide distribution in the Netherlands. Demographic information on the URM in the Netherlands was supplied by the Nidos Foundation. In addition to the questionnaires, an interview regarding mental healthcare was individually administered. Three research assistants administered the questionnaires during one hour among a group of ± 10 URM. Refreshments (T1) and a gift certificate for the cinema (T2, worth 7.50 euro) were given to the URM during or after the administration of the instruments as a token of appreciation for their participation.

Questionnaires

The HSCL-37A, SLE, RATS and A&A questionnaires (see below) were translated into the 19 prevalent languages of URM in the Netherlands. The careful translation process and

modification of the instruments for multicultural adolescents has been described elsewhere (Bean, Derluyn, Eurelings-Bontekoe, Broekaert, & Spinhoven, in press).

The *Hopkins Symptom Checklist-37 for Adolescents* (HSCL-37A) (Bean, Derluyn, Eurelings-Bontekoe, Spinhoven, 2004a) measures internalizing distress (anxiety and depression symptoms) and externalizing behavior (trauma-related "acting-out"). The psychometric properties have been investigated among a culturally diverse adolescent population and appeared to be satisfactory to good (Bean et al., 2004a). Internal reliability for the URM sample for the total scale, internalizing distress and externalizing behavior subscales was respectively .91, .92, and .69. Twelve-month test-retest reliability for the total scale was .63 (p <.001). Mean internalizing and/or externalizing scores falling on or above the 80th percentile of URM population were classified as being "severe"(Bean et al., 2004a).

The *Stressful Life Events* (SLE) 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 a 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) is a self-report questionnaire developed to assess 22 posttraumatic stress reactions defined in the DSM-IV (APA, 1994) with culturally diverse adolescents. The psychometric properties have been thoroughly investigated among culturally diverse adolescent populations and per language version of the RATS and appear to be satisfactory to good (Bean et al., 2004c). 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). The combined use of the SLE and the RATS makes it possible to classify a probable PTSD diagnosis based on the A1, B, C and D criteria of the DSM-IV. One needs to have experienced at least one stressful life event (A1; SLE), one intrusion item, three avoidance/numbing items and two hyper-arousal items (RATS; B, C, and D) to meet the criteria requirements. An item qualifies for scoring (receives a 1) if it has been scored as "much" or "very much". If the item is scored as "not" or "little", the item receives a "0". A total sum score of 7 (at least 1 stressful life event (T1 and/or T2; only 12 cases reported having experienced at least one stressful life events at one assessment period and not both), 1 intrusion item, 3 avoidance/numbing items, 2 hyperarousal items) is the minimal score needed for a possible classification of PTSD.

The Adaptation and Attitude questionnaire (A &A) was only administered at the second assessment. This questionnaire was utilized to explore how URM were adapting to life (their adjustment to the current situation in the Netherlands) and to assess their attitudes about their current living situation. The questionnaire has 23 items in total: 2 open questions and 21 with answer possibilities (literal and visual using colored circles) of yes (1), sometimes (2) , no (0), and uncertain (3). The first 19 questions can be found in Table 1. Questions 20 and 21 are discussed in the text. Open question 22 asks the URM what her/his three most important wishes are (only Wish 1 was answered by 90% of the URM) and question 23 asks how the URM pictures his/her life in 10 years.

In order to investigate whether it would be possible to analyze the A & A questionnaire in a more comprehensive way without losing too much information, explorative factor-analyses were performed. A factor-model analysis was performed using the Diagonally Weighted Least Squares estimation method on the polychoric correlation matrices and the asymptotic covariance matrices with the LISREL 8.71 program for structural equation modelling (Jöreskog & Sörbom, 1996). Three items were a priori excluded from the analyses because the content of the questions was not an attitude (question 20, 21) or could not be affected by an attitude (question 15- URM are in principal not allowed to work when seeking

asylum). Question 6 was also excluded during the analysis because it behaved erratically in the model. The other questions between 1-19 were entered as binary variables (1= yes). Due to the content of questions 3 and 5, these questions were scored reversely.

Wish 1 for the A & A scale was coded "1" for either professional/future or altruistic oriented wishes. Question 23 was coded "1" if an URM had answered with mentioning a positive future or indicating that he did not know but relied on God. A one-factor model did not fit the data well. Therefore, it was necessary to refine the model into three factors (general adaptation, security, and work attitudes) which were theoretically based. The model, after refinement (no errors were allowed to freely correlate) fits the observed data (A & A three-factor model, Santorra-Bentler-$\chi^2(149) = 420$; AGFI = .94; PNFI = .82; CFI = .96; RMSEA = .06). The internal consistency (Kuder-Richardson 20) was respectively for the total, general adaptation, security, and work attitudes scales of the A&A scale; .70, .48, .68, and .61. Because the general adaptation subscale had unacceptable low reliability this scale will not be further used in the analyses.

The total A&A score (minimum 0- maximum 19) can be calculated by counting if the adolescent reported "yes" on questions 1, 2, 4, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, "not yes" on questions 3 and 5, reported with respect to wish 1 a wish pertaining to future professional goals or altruism, and thought that his/her life would be better in 10 years. Using the same scoring method describe above, the security (questions 8, 9, 10, 11, and 12), and work attitudes (questions 14, 16, 17, 18, and 19) subscales can be scored.

Statistical Analysis

Descriptive statistics were used to give endorsement percentages of the answers of URM on the A & A questionnaire (Table 1 and 2). First the individual items on the A &A questionnaire were investigated and then the scales. T-tests for independent samples were used to investigate differences with respect to the severity of T2 self-reported internalizing, externalizing problems, and traumatic stress reactions between URM who endorsed "yes" or "not yes". The magnitude of the significant differences was presented in effect sizes (*d*) (Cohen, 1988). The target groups were constructed using the Chi statistic (prevalence and confidence intervals reported) and the ratio that represents the factor by which comorbidity exceeds chance expectations was calculated by taking the observed prevalence and dividing it by the expected prevalence. After classifying URM into target groups one way AN(C)OVA's or chi-square analyses were used to compare the groups with respect to age, gender, total number of reported stressful life events and A & A (sub)scales mean scores. Post hoc comparisons were calculated pairwise using the Least Significant Differences (LSD) test. A maximum of ten percent of missing items was allowed to still be able to extrapolate the total or subscale scores. The Statistical Package for the Social Sciences (SPSS) version 12.0 was applied for the data analyses.

Results

Descriptives of the URM Sample

The URM in the T2 sample came from more than 43 different countries. 43.3% of the URM came from Angola. The remaining URM came predominantly from China (9.5%), Guinea (7.6%), Sierre Leone (8.6%), and Eritrea/Ethiopia (2.8%). The mean age of the follow-up sample at T2 was 16.5 (SD 1.5, range 10-21). 72.9% of the sample was male. 37.9% of the sample at T2 had followed more than 5 years of formal education and 29.9% had another family member living somewhere in the Netherlands. 30.5% had been transferred (at least 1 time) to another regional office sometime in the year proceeding T2. Furthermore, the majority of the follow-up sample lived independently (29.7%), in small living units (35.6%) and 19% lived in large scale reception centers. 40.9% of the sample had received a temporary residential status until their 18th birthday. Approximately 56% of the URM reported wanting to receive mental healthcare (emotional help) for the psychological distress and/or maladaptive behaviors that they had reported. Finally, the mean for the total number of experienced stressful life events reported by URM at T1 and T2 was 6.2 (SD 2.5) which is twice as high as the mean of 3.0 reported by a Dutch reference group (Bean et al., 2004b).

Adaptation and Attitudes

In Table 1, the endorsement percentages are reported for each of the first 19 closed questions. For the question 20 "I would leave my country again if I knew that I would end up in the same situation" 53% reported yes, 12.2% answered no, 29.9% answered uncertain and 4.8% answered sometimes. URM answered with more uncertainty about question 21 "I would come to the Netherlands again if I knew that I would end up in the same situation", 42.4% reported yes, 9.0% answered no, 42.0% answered uncertain and 6.6% answered sometimes. Perhaps the most striking finding from Table 1 is that 69% of the URM do not wish to return to their country of origin while 65% of the URM reported being afraid of having to return to their country of origin. In addition, only 48% of the URM felt safe when they go outside.

Table 1.
Endorsement percentages for the Adaptation & Attitude questionnaire

n = 550	Percent Endorsed			
	No	Yes	Sometimes	Uncertain
1. I want to learn to speak Dutch.	0.5	95.6	3.7	0.2
2. I like living in the NL.	1.3	74.5	21.1	3.2
3. I think that living in the NL is difficult.	27.3	17.8	48.7	6.2
4. I want to live in the NL.	6.5	79.0	5.9	8.6
5. I want to go back to my own country.	69.2	4.5	11.8	14.5
6. I want to move to a different country. Which one?_____	73.1	7.7	5.1	14.1
7. I think that I will be able to stay in the NL.	2.7	47.3	15.5	34.5
8. I am afraid that I will be sent back to my own country.	11.0	65.3	16.5	7.2
9. I feel safe where I am living (house, reception center, etc.).	7.7	72.2	17.6	2.3
10. I feel safe at school.	6.1	77.6	14.8	1.4
11. I feel safe when I am walking around outside.	15.1	48.0	32.0	4.9
12. I am satisfied with the way AMA's are cared for in the NL	9.5	61.6	23.8	5.0
13. I am satisfied with the way I am cared for in the NL	6.6	68.8	21.0	3.6
14. I want to work in the NL.	1.2	83.4	7.7	7.7
15. I already have a job in the NL.	87.7	6.1	2.7	3.4
16. I am learning a trade/going to school in the NL.	8.5	87.5	2.7	1.3
17. I want to get an education. Which education?:_____	2.4	90.9	2.0	4.6
18. I want to learn a trade. Which trade?:_____	2.9	88.5	1.3	7.3
19. I think that I am going to learn a trade. Which trade?:_____	3.6	77.9	4.0	14.4

URM at the end of the questionnaire (question 22) could write down (in their own mother tongue) which three wishes they have at this moment. All answers were translated back into Dutch by professional interpreters. 90% of the 582 URM gave only one wish, 74% gave two wishes, and 65% gave three wishes. No examples of wishes were given beforehand or mentioned on the questionnaire so that their wishes would not be influenced in anyway. The three wishes have been classified in 7 categories (see Table 2) for conciseness. Cleary, for all three wishes of the URM the most important wish was "wants to have profession/a good future". Having relationships with important others (past, present, future) was consistently the second most important and "getting a residence permit for the Netherlands or another country" was the third most important.

The answers of the URM to question 23, "How will your life look like over 10 years ?" was also back translated into Dutch from the language of the URM. The answer to this question was quite evident. 51% of the URM did not have any idea how their lives will turn out in the future. In addition, 29% of the URM indicated that their future would be getting better over the next 10 years (positive attitude). A very small minority, 3%, reported that their future would get worse than what it currently is (negative attitude). Moreover there was a group of URM (5%) that reported that they did not know how their future will turn out, but they trusted in God (Allah) that everything would turn out alright. 12% of the URM did not answer this question.

Table 2.
Endorsement percentages for all three wishes

	Percent Endorsed		
	Wish 1	Wish 2	Wish 3
1. Normal life /emotionally feel better	10.9	9.1	14.1
2. Relationships (past [deceased], present, future)	17.1	21.5	21.5
3. Residence permit	24.0	9.3	7.4
4. Professional goal /good future	26.3	43.0	37.1
5. Uncertain	10.7	1.6	2.4
6. Materialistic	4.8	5.8	7.2
7. Altruistic	6.3	9.6	10.3

Relationships between internalizing distress, externalizing behavior, traumatic stress reactions and adaptation

For the first 19 questions in the A & A questionnaire individual t-tests were calculated for T2 HSCL-37A Externalizing and Internalizing and RATS scores using two groups; (1) URM that answered "yes" and (2) URM that had answered "no", "uncertain", or "sometimes". There were 7 questions (3, 7, 9, 10, 11, 13, 14) for which significant differences for internalizing mean scores were found and effect sizes were of medium magnitude (d > .40). URM that thought life was difficult ($t(537) = 4.24$, $p < .001$), were afraid that they would be repatriated ($t(532) = 4.98$, $p < .001$), felt unsafe at home ($t(538) = 6.13$, $p < .001$), school ($t(530) = 5.02$, $p < .001$), and on the street ($t(535) = 5.44$, $p < .001$), were not satisfied with the way they were cared for in the Netherlands ($t(534) = 5.30$, $p < .001$), and did not want to work in the Netherlands ($t(539) = 3.87$, $p < .001$) all reported significantly higher Internalizing mean scores than URM which did not feel or think this way. In addition, URM that did not want to learn Dutch (question 1; $t(549) = 2.26$, $p < .05$), did not feel safe at school (question 9; $t(537) = 4.21$, $p < .001$), did not want to work in the Netherlands (question 14; $t(532) = 2.86$, $p < .01$) and did not want to learn a trade (question 18; $t(507) = 2.92$, $p < .01$) reported significant higher mean Externalizing scores (effect sizes > .40) than URM that thought or felt the opposite.

In regards to the Traumatic stress reactions (RATS questionnaire), there were only three questions for which significant differences were found (effect sizes > .40) between the URM that had answered "yes" and "not yes" on the A& A questionnaire. URM who reported that life is difficult in the Netherlands ($t(536) = 4.93$, $p < .001$), did not feel safe at home ($t(537) = 4.08$, $p < .001$), and did not feel safe at school ($t(529) = 4.31$, $p < .001$) reported significant higher RATS scores than URM who reported the opposite.

In addition, the seven answer categories of Wish 1 were examined to see if reporting a certain type of wish was connected to reporting internalizing distress, externalizing behavior, and traumatic stress reactions. In Table 3, the results of the ANOVA's are presented. URM who wished that they wanted to feel emotionally better/have a normal life reported significantly more emotional distress (INT) and traumatic stress reactions (RATS) than URM that reported wishes pertaining to professional goals (INT d = .42; RATS d = .47), materialistic needs (INT d = .58; RATS d = .90), altruistic goals (INT d = .68; RATS d = .71), and that were unsure what they wanted to wish for (INT d = .48; RATS d = .45) . URM that wished for a residence permit, also reported significantly lower traumatic stress reactions than URM who wanted a normal life/to emotionally feel better (d = .43). Moreover, URM wishing for a sort of relationship (past, present, future) reported significantly higher emotional distress and traumatic stress reactions than URM that had materialistic needs (INT d = .42; RATS d = .42) or altruistic goals (INT d = .48; RATS d = .42) as wishes. URM that wished for altruistic goals reported significantly lower externalizing behavior than URM that wished for a normal life (d = .58), a relationship (d = .51) or were unsure what they wanted to wish for (d = .40).

The four answer categories of question 23 were examined in regard to internalizing distress (INT), externalizing behavior (EXT), and traumatic stress reactions (RATS). URM that had filled in that they expected to have a negative future reported significantly higher mean scores for internalizing distress and traumatic reactions (INT - $F(3,489) = 3.15$, $p < .05$,

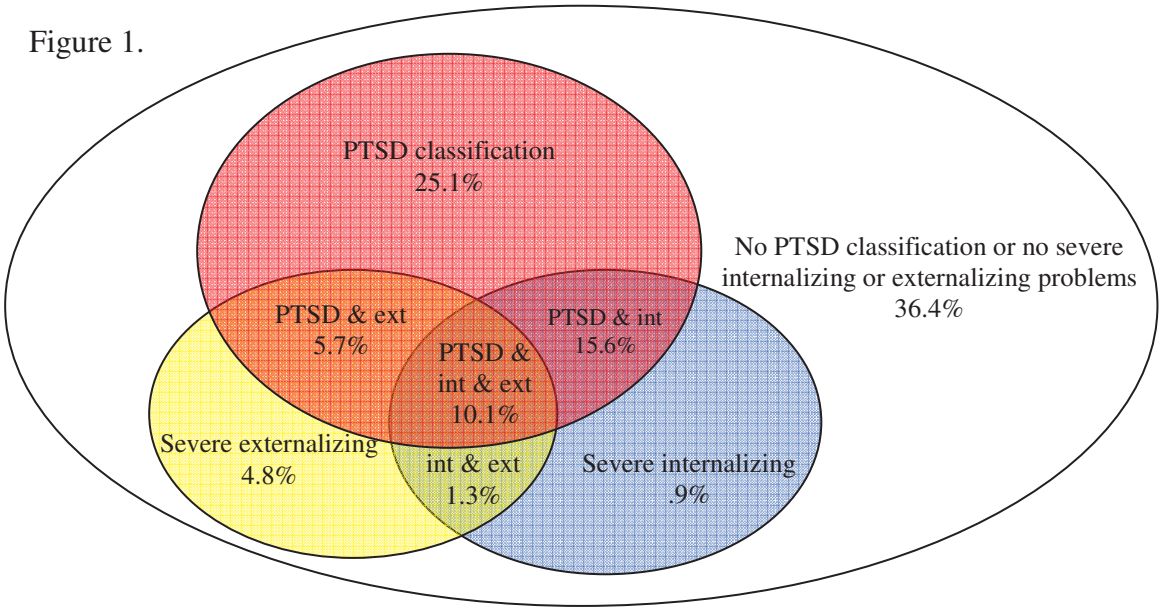
range d = .90 - .78; RATS - $F(3,488) = 2.82$, $p < .05$, range d = .98 - .74) than minors who filled in that they did not know, did not know but trusted God/Allah, or were positive about what would happen to them in ten years. The largest differences were between URM reporting a negative future perspective and those who trusted God/Allah to guide them in the future. Smallest differences were found between URM reporting a negative future and those who were unsure.

Classification of a possible PTSD diagnosis comorbid with internalizing distress and/or externalizing behaviors

25 URM had incomplete data leaving 557 URM that could be further divided into target groups. Figure 1 shows the prevalence rates for each type of psychopathology (possible PTSD, elevated internalizing distress and elevated externalizing distress) and the overlap between these types of psychopathology. 36.4% (95% CI 34.6-38.2) of the URM could not be classified as having a PTSD or reported experiencing high severity levels of internalizing or externalizing problems (internalizing or externalizing scores > = 80th percentile). In addition, 7% (95% CI 6.7- 7.3) of the URM who did not fulfill the DSM-IV criteria for a PTSD reported experiencing severe internalizing and/or externalizing psychopathology, however, the expected percentage based on chance was 16.7% (95% CI 15.9 - 17.5) resulting in a observed/expected ratio of .42.

There were 315 URM that had been classified for a possible PTSD at one or both assessment periods (56.6 % [95% CI 53.8-59.4]; see Figure 1.). In addition, there were 155 URM (27.8 % [95% CI 26.4-29.2]) that had reported high levels of internalizing distress and 122 URM that had reported externalizing behavior (21.9%[95% CI 20.8-23.0]) at one or both assessments (internalizing or externalizing scores > = 80th percentile). To assess to what extent there was a higher degree of comorbidity than expected between the three kinds of psychopathology, the Chi-square statistic was used to calculate the association between URM that could be or not be classified as fulfilling the criteria for a PTSD and URM that had or had not reported high severity levels of internalizing distress and/or externalizing behavior at one or both assessments. The results of this test were clear (χ^2 (3) = 115.62, $p < .001$): the observed values differed from the excepted values. The observed comorbidity of the URM that were classified as having a possible PTSD, and also reported high levels of externalizing problem behavior as well as internalizing emotional distress was 10.1% (95% CI 9.6-10.6). The expected percentage of comorbidity based on chance was 6.4% (95% CI 6.1- 6.7). The observed/expected ratio was 1.58 (95% CI 1.50-1.66). 15.6% (95% CI 26.3-29.1) of the URM that were classified as fulfilling the PTSD criteria reported only high levels of internalizing distress at one or both assessment periods, whereas 5.7 % (95% CI 5.4-6.0) of the URM that were classified with a PTSD also reported high externalizing problems at one or both assessment periods, the observed/expected ratio's for these two forms of psychopathology were respectively; 1.68 (95% CI 1.60-1.76) and 1 (95% CI .95-1.05). Finally, 25.1% (95% CI 23.8- 26.4) of the URM that were classified as having a PTSD did not report having high levels of externalizing or internalizing problems at one or both assessment periods.

Figure 1.



Differences between target groups on gender, age, and adverse life events

There were five target groups which emerged from the classification process reported above; (a) No PTSD classification or other subtype of psychopathology (n = 203) , (b) PTSD classification & no cormorbidity (n = 140) (T1 and/or T2), (b) PTSD classification & severe externalizing scores (n = 32) (T1 and/or T2), (c) PTSD classification & severe internalizing scores (n = 87) (T1 and/or T2), and (d) PTSD classification & both severe internalizing and externalizing scores (n = 56) (T1 and/or T2). These five target groups were chosen for further analyses regarding the adaptation of URM because; (a) the first group is distinct in consisting of URM who appear to be resilient to the development of psychopathology, (b) the second group embodies URM which seem to experience traumatic stress reactions without added comorbidity with severe internalizing and/or externalizing psychological difficulties, and (c) the last three groups can provide unique information concerning how comorbidity of the two subtypes of broadband psychopathology with (post) traumatic stress reactions (the most prevalent form of psychopathology reported among URM) influences the adaptation of URM. The other (3) groups which consisted, in total, of 39 URM who did not report being resilient or could not be classified as having a possible PTSD were not further used in the subsequent analyses because they per definition would not provide information on how traumatic stress reactions and/or comorbidity with other forms of psychopathology influence the adaptation of URM (the second objective of this study) and because of the small sizes of the individual subgroups.

Among the five target groups described above there were significant gender (χ^2 (4) = 10.10, $p < .05$) and age (F (4,513) = 8.16, $p < .001$, d range .27 - .62,) differences between the five target groups at T2. Girls were more prevalent than expected in the PTSD & severe internalizing, PTSD & severe externalizing, and PTSD & severe internalizing, and externalizing problems groups, but under represented in the remaining two groups.The mean age of URM in the PTSD & severe externalizing and No PTSD classification groups was significant lower than of the URM in the remaining three groups.

Finally, URM in the No PTSD classification group reported experiencing significantly fewer stressful life events (T2) than all other target groups (F (4,513) = 17.87, $p < .001$, d range .93 - .57) with the largest difference between URM with no PTSD classification and URM with a PTSD group with both severe internalizing and externalizing behavior.

Adjustment amidst high severity levels of traumatic stress reactions, internalizing distress and/or externalizing behavior.

In this section, the adaptation and attitudes scale scores of URM are examined with analyses of variance to see if adaptation has been compromised due to high comorbid severity levels of internalizing distress and/or externalizing behavior with traumatic stress reactions. First, there were no significant differences found for gender, age or number of reported stressful life events for the A & A total, security attitudes, or work attitude scales.

To examine differences in the ability of URM to adjust to their current environment an analysis of variance was carried out using all five target groups outlined above. Although the groups differed in size, they did not differ in variance. The analysis compared the A & A score of URM that were not classified as having a PTSD with the four PTSD groups. The results of the ANOVA (small to medium effect sizes .29-.49) show that the PTSD & both severe internalizing-externalizing, PTSD & severe internalizing and PTSD & severe externalizing groups had significantly lower adjustment & attitude mean scores than URM in the other two groups (Table 4). For the security attitude scale, the No PTSD classification group had significantly higher scores than the four PTSD groups (effect sizes ranging from .49 to .43). Moreover, the PTSD & both severe internalizing and externalizing group had significantly lower security attitude scores than the PTSD no comorbidity group (d = .23). There were no differences found between the target groups for the work attitude scale.

Table 3.
Analyses of variance for Wish 1:Internalizing, Externalizing problems, and Traumatic stress reactions

	Internalizing distress (n = 507)		Externalizing behavior (n = 514)		Traumatic stress reactions (n = 504)	
	M(SD)	*F(df)*	*M(SD)*	*F(df)*	*M(SD)*	*F(df)*
1. Normal life /emotionally feel better	56.1(14.7)	2.48(6,500)*	16.8(4.1)	2.02 (6,507)	53.3(11.1)	3.44(6,497)**
2. Relationships (past, present, future)	53.2(13.1)		16.5(3.7)		50.6(11.8)	
3. Residence permit	51.5(14.4)		15.8(3.4)		48.3(11.7)	
4. Professional goal /good future	51.0(12.7)		15.7(3.1)		47.8(11.7)	
5. Uncertain	49.4(13.6)		15.9(2.9)		47.8(13.2)	
6. Materialistic	47.7(14.2)		15.5(3.0)		43.9(9.2)	
7. Altruistic	47.6(8.4)		14.8(2.6)		45.7(9.9)	

*$p < .05$. **$p < .01$.

Table 4.
Mean Comparisons between the five target groups and the Adaptation and Attitude scales

Variable	No PTSD classification *n* =203 *M (SD)*	PTSD classification & no comorbidity *n* =140 *M (SD)*	PTSD classification externalizing *n* =32 *M (SD)*	PTSD classification & internalizing *n* =87 *M (SD)*	PTSD classification & int. - ext. *n* =56 *M (SD)*	ANOVA *F*(*df*)	ANCOVA Main effect groups *F*(*df*)
Total adaptation & attitudes	13.6 (3.4)	13.1 (3.5)	11.9 (4.0)	12.1 (4.0)	12.1 (3.6)	3.85(4,513)*	2.98(4,517)*
Security attitude	3.5 (1.4)	3.0 (1.7)	2.9 (1.5)	2.8 (1.7)	2.6 (1.8)	5.98(4,513)***	3.42(4,517)**
Work attitude	4.0 (1.3)	4.1(1.3)	3.8 (1.7)	3.9 (1.3)	3.9 (1.3)	.97(4,513)	1.21(4,517)

Note. *** $p < .001$. ** $p < .01$ * $p < .05$

Since significant differences were found between the five groups for the variables gender and age, it was necessary to control for these variables when investigating the possible differences between the five target groups in regards to their A & A scale scores. ANCOVA's were performed to assess the main effects of target group and gender on the A & A scales controlling for age. Again, although the groups differed in size, there were no significant differences detected between the variances of the groups.There were no main effects for age and gender for all A & A scales and no interaction effects for the, security and work A & A scores. Only for the total A & A scale there was a significant interaction effect found between gender and group ($F(4,517) = 2.53$; $p < .05$); girls in all four PTSD groups reporting consistently higher adaptation scores than boys and boys in the No PTSD classification and no comorbidity group reporting higher adaptation scores than girls. The effect of group on A & A scores remained significant (Table 4).

Post hoc comparisons showed that the PTSD & both severe internalizing-externalizing, PTSD & severe internalizing and PTSD & severe externalizing groups had significantly lower adjustment & attitude estimated marginal mean scores than URM in the other two groups (range d =.23-.39). For the security scale the main effect of group remained significant in the ANCOVA (see Table 4). Post hoc comparisons showed that the three PTSD comorbid groups reported lower security attitudes estimated marginal mean scores than URM in the other two groups (range d = .20-.56). Again, there were no differences found between the target groups for the work attitude scale.

Discussion

The present investigation attempted to investigate the adaptation of recently immigrated Unaccompanied Refugee Minors in association with their reported psychological distress and to what extent the adaptation of URM is compromised due to high comorbid severity levels of internalizing distress and/or externalizing behavior with traumatic stress reactions.

The results of this study indicate that in spite of overwhelming adversity and high levels of psychological distress, the majority of adolescent URM are working on age appropriate developmental tasks such as planning their futures and receiving an education. However, 56.6% of the URM (at T1 and/or T2) were classified as possibly fulfilling the diagnostic criteria for a PTSD of which 56.8% also reported high levels of externalizing maladaptive behaviors and/or internalizing distress.

Additionally, the high severity levels of psychopathology appear to be associated with the adaptation and attitudes of URM living in the Netherlands. More specifically, impaired mental health of URM was associated with not feeling secure and having negative attitudes about the current living situation. This held true predominantly for internalizing and externalizing psychological problems but less for the reporting of traumatic stress reactions. URM which had reported more externalizing behavioral problems were not motivated to work on gaining knowledge of the Dutch language or working on long-term goals (learning a trade). Externalizers have been often found to have difficulty with impulsitivity and completing long term goals. It appears that the two dimensions of psychopathology, internalizing and externalizing, are both linked with the problematic adaptation of URM to their situation. This finding emphasizes that adolescents who have experienced great adversity in their lives, do not all respond to traumatic stress/ psychopathology in a uniform way. Masten (2004) has formulated this concept as follows: “common endpoints and final pathways can emerge from diverse beginnings (equifinality) and individuals who start down the same path can end up going down many different roads over time (mulitifinality)”(pp. 311). This concept implies that prevention and treatment approaches should try to utilize appropriate individual-tailored strategies aimed at building competence (social and emotional) in unaccompanied refugee adolescents (Rogosch & Ciccheti, 2004).

A substantial number of URM (34.6%) showed resilience to the development of psychopathology and positive adjustment in the face of experiencing multiple (cumulative) stressful life events (separation from parents, loss (of family), physical and sexual maltreatment), acculturation to a new culture, and fulfilling developmental tasks. Resiliency of this level and hardy character has been previously found among Holocaust survivors (Sagi-Schwartz et al., 2003), western adolescents (Werner & Smith, 1992; McMillen, et al., 2005), immigrant adolescents (Garcia-Coll & Vazquez Garcia, 1995), and refugee adolescents

(Miller, 1996; Realmuto et al., 1992; Sack et al, 1993) attesting to the strength and restoration abilities of the human mind and spirit. Some have come to view this initial hardiness as a defensive "steeling effect" or "inoculation" to adversity in life, with possible adverse long term effects on emotional development. Only a longitudinal study which spans several developmental levels will be able to properly assess if the hardiness among URM is temporary or enduring.

Despite the hardiness of this population, almost 57% URM could be classified with a possible PTSD diagnosis. It also appears in the present study to be useful to distinguish between URM reporting traumatic stress reactions alone or in junction with high severity levels of internalizing distress and/or externalizing maladaptive behaviors

Girls appear to be more susceptible to comorbid psychopathology. In several studies, adolescent girls are found to be more vulnerable to comorbid anxiety (as well as PTSD) and depression related psychological problems than adolescent boys (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Seng, Graham-Bermann, Clark, McCarthy, & Ronis, 2005). The results of this study are therefore in line with the expectation that girls tend to report more psychological distress than boys. While URM with a younger age report more severe comorbid externalizing behavior (with traumatic stress reactions), older URM reported more traumatic reactions and/or internalizing distress. Not surprisingly, URM that had reported experiencing the most adversity (i.e., stressful life events) also reported the most severe comorbid psychopathology. Finally, the URM that were classified as having a possible PTSD and reported high levels of broadband psychopathology reported the poorest attitudes and adaptation to their current situation.

The results of the present study signifies that adolescents which can be classified as having a PTSD and report high levels of severe comorbid psychopathology (internalizing and/or externalizing) are at an enlarged risk for compromises in their adaptation and functioning. A PTSD classification alone was not severe enough to cause problems in adaptation among URM, comorbidity needed to be present to influence adaptation. Furthermore, this study calls attention to the fact that 34.6% of URM remain resilient to the development of psychopathology under extremely difficult circumstances. Nevertheless, the majority of URM suffer from traumatic stress reactions to multiple (cumulative) adverse life events that they have had to endure which has an accumulative effect. Since this is a cross-sectional study, it remains unknown whether high severity levels of psychological problems have led to adaptational compromises or whether compromises in adaptation have led to high severity levels of psychological problems. It is possible that a third factor, such as certain personality trait may underlie both the reporting of internalizing or externalizing psychopathology and type of attitudes and adaptation difficulties. Longitudinal studies measuring personality variables and the development of psychopathology and adaptation over time are needed to address this issue.

The effects of traumatic stress have been found to affect biological, psychological, and social levels of well-being and development in complicated ways (De Bellis., 1999, Pynoos et al., 1999). It is imperative to the well-being of this at-risk population that they receive low-threshold mental health care services (counseling, training in social skills, psycho-education) to be able to manage the overwhelming(negative) emotions that they experience. Since these young people do not have the privilege of learning these skills from their parents, care should be given by their foster parents or residential staff workers in their living environments to ensure that URM will be able to become emotional competent in managing their psychological distress and socially competent in building support networks and dealing with problems.

One of the largest limitations of this study is that only a limited number of questionnaires could be utilized in this study to assess the mental health and level of adjustment due to (a) the short attention spans of the refugee adolescents, (b) the amount of time needed to explain and administer the questionnaires (getting the right language version to the right adolescent), (c) the substantial amount of time and effort used by the refugee adolescents to complete only four questionnaires, and (d) the ethical issue of administering long instruments to severely traumatized individuals which might induce emotional distress. This limitation is unfortunate because only a small amount of data could be collected on the internalizing and externalizing psychological problems and adaptation of URM. A variety of measures, such as used in the Miller et al. studies (2003, 2004), could have provided more

support for the results found in the present study. Finally, this study only investigated self-reports of URM. Objective information on the mental health of URM from caregivers and other significant adult in the lives of URM could have been helpful in establishing to what extent the apparent daily functioning of URM has been compromised due to psychopathology.

It was not feasible to administer a diagnostic interview in the current study for the main reason that there was no validated psychiatric diagnostic interview available in all of the languages of (refugee) adolescents who took part in this study. Furthermore, the use of diagnostic interviews in cross-cultural studies invokes itself a host of methodological issues such as classifying culture-specific disorders and ensuring "the semantic and psycholinguistic equivalence of psychiatric symptoms across cultures"(Cheng, 2001).

This study examined the adaptation and attitudes and psychological distress of a culturally diverse population. With this amount of diversity, some discussion concerning validation of measures is required. The HSCL-37A, SLE and RATS questionnaires have been thoroughly examined and data supporting their validity and reliability with diverse adolescent populations have been collected (See Questionnaire section for a list of references). The A & A questionnaire was used for the first time for the present study to measure the adaptation and attitudes of URM residing in the Netherlands. The instrument was a first attempt to make standard comparisons on how individual URM perceive their current situation. To do this, the questions and rating scale were carefully formulated to be concrete and relevant for this specific population. Although, the preliminary psychometric results suggest that the instrument has acceptable validity and reliability, caution should be used when using this questionnaire for the following reasons.

A more refined analysis of the validity and reliability of the A &A after division into individual language versions could not be carried out because of the small sample numbers. A few questions are quite specific to the situation of URM in the Netherlands and might not be conceptually relevant for URM staying in other host countries. Additional questions pertaining to aspects such as social network, leisure activities, and individual ways of dealing with adversity might have shed more light on the positive adaptation of URM in this study. Furthermore, the internal consistency of the A & A questionnaire was only acceptable for the total, security and work scales, the internal consistency of the general adaptation scale of the A & A was unacceptably low. It is not clear how this low reliability might have influenced the results of the study. For future studies, the questions should be refined, especially for the general adaptation scale, to improve the reliability. Moreover, it seems that URM that had a clear positive answer, differed repeatedly from URM with an uncertain or negative answer. A dichotomous answer category might be more helpful in future investigations in clarifying the answers of URM. For this present study the post hoc answer categories for theWish question (22), appear to provide useful information in defining risk groups of URM. However, only one researcher categorized the wishes of the URM ruling out the possibility to examine the inter-rater reliability of the categorization of wishes into the seven categories that were used. Future research will need to examine if the scoring of the wishes into seven post hoc categories as established in this study can be replicated.

In conclusion, the adaptation of one third of the Unaccompanied Refugee Minors residing in the Netherlands seems to be compromised due to comorbid psychopathology in relation to traumatic stress reactions. Moreover, another third (34.6%) seem to be resilient to the development of psychopathology albeit that they have experienced great adversity in their short lives. Future investigations will need to examine if the emotional resiliency and adaptation compromises found in this study are temporary or are enduring among URM. It is also important to distinguish if untreated comorbid severity levels of internalizing distress reported among URM evolve into externalizing behavior or visa versa. Finally, it is crucial that the long-term effect (e.g., integration, repatriation, reception settings, and asylum procedures) of governmental policies on the mental health and adaptation of refugee minors be thoroughly examined to be able to tease out the causes of psychological distress and adaptation compromises among these youth in their host countries.

Chapter 11

Discussion

This dissertation had four objectives; (1) to expound on the possibility to validly and reliably use standard psychological questionnaires in assessing the psychological distress of a culturally heterogeneous sample of Unaccompanied Refugee Minors (URM); (2) to determine the prevalence, severity and course of the psychological distress of URM living in the Netherlands; (3) to establish the needs, unmet need, and use of mental healthcare services among URM in the Netherlands; and (4) to evaluate to what extent the severity of psychological distress of URM is associated with their psychological adaptation in the Netherlands. Furthermore this dissertation was divided into two overarching parts; (a) the validation of psychological instruments to assess the mental health of Unaccompanied Refugee Minors (objective 1) and (b) to determine prevalence, severity and course of the psychological distress and the mental healthcare needs, as well as attitudes and adaptation of URM living in the Netherlands (objectives 2, 3, and 4).

This discussion, will briefly describe the design and sample of the main study. The discussion continues by highlighting the findings of Part 1 and addressing to what extent the first objective of the study was achieved. Then, the key findings of Part 2 are presented while examining to what degree the remaining three objectives were realized. The methodological limitations of the study will be touched upon and then the chapter proceeds to first bring forward the general implications of this study, and specifically for the clinical setting. Finally, the discussion concludes with suggestions for future research among Unaccompanied Refugee Minors.

Design and sample

The central study of this dissertation (URM and the Dutch Mental Healthcare Services) was epidemiological in scale, used multiple informants, and consisted of two assessment periods (follow-up study) with an interval of twelve months inbetween. The infrastructure that exists in the Netherlands, one foundation- Nidos- which provides legal guardianship to all URM residing in the Netherlands, made it possible to draw a representative sample of the total population of URM between the ages of 11-17 years and to carry out such a large scale study among URM. In other countries, this unique infrastructure does not exist making it (almost) impossible to gather information on the mental health of URM on such a large scale and utilizing information from different informants.

The main study took place throughout all provinces of the country during the years 2002-2004. Questionnaires were filled in by URM, their legal guardians, and teachers at both assessment periods after written consent was given by URM and their legal guardian. A total of 920 URM took part in the first assessment in 2002-2003 which was ten percent of the total URM population residing at that time in the Netherlands. During the second assessment period (2003-2004), 582 URM from the original 920 filled in the questionnaires for the second time. The URM that participated in the first assessment period had lived in the Netherlands between 4 and 24 months and represented approximately 50 different countries in total. Male-female ratio was approximately 70-30%. The average age was 16 years. Angola, China, Siërra Leone and Guinee were the most represented countries of origin in the sample. Prior to the start of the project, crisis mental healthcare was arranged at mental healthcare facilities throughout the Netherlands for URM if they experienced psychological distress as a direct result of participation in this research project. Fortunately, it was not necessary to make use of the crisis care. Before the actual project started in May 2002, a pilot study was conducted to (re-) test the research protocol and instruments (Bean, 2002b).

Part 1: Assessment of psychological distress among a heterogeneous URM population (Chapters 2-6)

Validation of self -report measures

Chapters 2 thru 4 report on the validation process (development/modification) for the three self-report questionnaires; Hopkins Symptom Cheklist-37 for Adolescents (HSCL-37A) to measure internalizing and externalizing maladaptive behaviors, Stressful Life Events (SLE) to inventory the type of adverse life experiences, and Reactions of Adolescents to Traumatic Stress (RATS) which assesses the type of traumatic stress reaction(s). In the introduction of this dissertation, it was stated that the conceptual, scale, and norm equivalence of the assessment instruments that are utilized in a cross-cultural study should be evaluated. The scale equivalence of the self-report questionnaires was evaluated in chapter 2, specifically dealing with the practical feasibility of assessing psychological distress with a culturally diverse sample. From this chapter, it is apparent that when modifications are made to the standard lay-out (Likert scale, wording of questions, and bilingual presentation of items) and sufficient time is taken before the assessment begins to explain to the adolescents how to fill in a self-report questionnaire, scale equivalence can be reached for adolescents from a wide variety of cultures and backgrounds.

Chapter 3 and 4 investigate the conceptual and norm equivalence of the self-report questionnaires by using four large independent heterogeneous adolescent samples (thoroughly described in these two chapters) to examine the psychometric properties of the three self-report instruments. It was apparent from the endorsement percentages that the items on the questionnaires were relevant to the adolescents which filled in the questionnaire. Furthermore, it appears that in comparison with the other adolescent populations the magnitude and intensity of traumatic stress reactions and psychological distress (anxiety and depressive complaints) was greater for URM than for all other samples. In addition, adolescents having a Dutch or Belgian background reported a greater magnitude and intensity of maladaptive behavior (such as use of alcohol and drugs and having arguments) than adolescents coming from non-western countries which reported more emotional distress (i.e., sad, lonely, afraid). Only comparison of means and standard deviations were reported in this dissertation, the norms (percentiles) have been documented in the manuals of the pertaining instruments. The large differences in magnitude and intensity of types of reported psychological problems of adolescents from different populations led to the necessity to provide norms for each individual population, to fulfill the criteria for norm equivalence. It is crucial for future research with these instruments that the sensitivity and specificity be examined with a cultural sensitive diagnostic interview among adolescents from a range of different cultures.

The factorial validity, construct, content and criterion validity, internal consistency, test-retest reliability were all found to be satisfactory to good in spite of the heterogeneous nature of the sample populations. This finding is quite remarkable considering that many adolescents coming from developing countries have not had the same experiences (educational opportunities, economical stability, and parental guidance) as western adolescents have (Gibbons, 2004). It appears that the modified questionnaires that were used in this project are able to measure the constructs of psychological distress, maladaptive behaviors, and traumatic stress reactions among adolescents originating from different cultural backgrounds. However, the items/questionnaire were selected for this specific study because of their "cultural receptiveness" among adolescents coming from different societies (Chapters 2, 3, and 4 describe why these instruments were chosen). It would be premature to extrapolate the findings obtained with the self-report questionnaires used in this study to others if the conceptual, norm, and scale equivalence of those questionnaires were not thoroughly evaluated.

When all three of these instruments are utilized, a broad range of relevant traumatic events and trauma related psychopathology (emotional distress, maladaptive behaviors, and traumatic stress reactions) can be assessed among culturally diverse refugee adolescents facilitating the periodic monitoring of the mental health of URM. The periodic monitoring would not only allow for improved detection of psychological distress among URM, it also would make the application of timely and appropriate mental healthcare interventions

possible. This point is of the utmost importance because the significant adults in the lives of URM are not able to always accurately perceive their psychological distress (Chapter 8).

Validation of psychological measures for URM using adult informants

The well-known Child Behavioral Checklist (CBCL-Chapter 5) and Teacher's Report Form (TRF- Chapter 6) were utilized respectively with the legal guardians and teachers of URM to measure the psychological distress of URM from the perspective of significant adults. These two questionnaires have eight lower order subscales; withdrawn, somatic, anxious/depressed, social problems, thought problems, attention problems, delinquent, and aggressive. In addition, they have two broadband subscales, internalizing and externalizing which encompasses five of the eight subscales.

It was essential to assess the mental health of URM from the viewpoint of adults because they can give a more "objective" opinion and can also provide complimentary information that might (or might not) substantiate the self-reports of the adolescents. Certain types of maladaptive behaviors can be more accurately perceived by significant adults because of the nature of the behavior. For example, adults often report externalizing problems of adolescents more reliably than the adolescents themselves. However, it is well known that significant adults in the lives of adolescents under report internalizing problems in comparison with the report of adolescents themselves, because the adult is unaware of the emotional distress.

As has been commented on in these two chapters, there is much debate surrounding the construct validity of the CBCL and TRF, especially in a cross-cultural context. These instruments are the most widely used instruments to measure psychopathology in research among children and adolescent throughout the world, albeit that each of the 69 translations has not (yet) been validated and it is unknown if the translation process has followed the three overarching types of equivalence mentioned above. Nevertheless, the psychometric properties of these two questionnaires were thoroughly evaluated for use among URM and the psychometric properties were found to be moderate to good.

The results of the hierarchical confirmative factor analyses for both the CBCL and TRF support a one-factor and a two-factor structure equally well, not diverging from other studies. However, the Thought problems subscale of the TRF could not be verified suggesting that some of the problem behavior reported by teachers of unaccompanied minors differs from that of guardian reports or that the item constellation of the TRF is different for teachers of unaccompanied minors.

Moreover, the fit of the original individual eight first-order factor models of the a priori CBCL and TRF subscales were found to be moderate, however showing good to moderate internal consistency, construct and concurrent validity (except for the Thought scale of the TRF). This finding would emphasize that for the URM population, the broadband internalizing and externalizing scales would appear to be more valid and reliable than the eight subscales. The CBCL and TRF have emerged in this dissertation to be both reliable and valid measures for use by, respectively, guardians or teachers to assess the maladaptive emotional and behavior problems of unaccompanied refugee minors.

In summary, the initial psychometric properties of the self-report, guardian report and teacher report questionnaires were good, despite the large amount of heterogeneity in the URM sample. It appears that the first objective of this dissertation has been achieved. This finding is of primary importance in the evaluation of the mental health of URM and lays the foundation on which further research can be done using these instruments. As far as is known, this is the first study in which the psychometric properties of self-report, guardian and teacher reports of the mental health of a culturally diverse population of URM have been thoroughly examined.

Part II: Severity of psychological distress, mental healthcare needs and psychological adaptation among URM in the Netherlands (Chapters 7-10)

Theoretical considerations

URM, just as any other adolescent, have the right to life and to be able to develop to their fullest potential (Article 6, CRC, 1991). The results of Chapter 7 and 8 indicate that the mental health and the emotional development of URM as a specific adolescent population are

at great risk. Having experienced a great number of adverse life events and being of an older age proved to be salient (risk) factors for psychological distress of URM throughout this dissertation. Due to the vast and pervasive effects of traumatic stress upon the entire development of children and adolescent, (emotional, cognitive, biological, and neurological) these findings are not unexpected and have been discussed in Part II of this dissertation. However, what has not been discussed in this dissertation is the *cognitive* ability of URM to understand their current situation and psychological distress based on theoretical underpinnings.

From a western perspective, adolescents should be cognitively functioning at the formal operations stage (reasoning abstractly) (Piaget, 1972). Regarding their moral reasoning abilities, they should be thinking at the post-conventional level (developing their own moral principles) (Kohlberg & Gilligan, 1971). However, most of the studies that have been performed to test these theories have been done among western adolescents (10% of the total adolescent population of the world) (Gibbons, 2004). There are studies that have shown that individuals, who come from developing countries, since they have not enjoyed higher educational opportunities, might function at lower levels or different levels of cognitive and moral reasoning than western individuals (see Berry, Poortings, Segall, & Dansen and/or Gielen, 2004 for a discussion).

Furthermore, Elkind (1967) proposed adolescence is still a time when individuals fail to put their own thoughts into the perspective of others (egocentricity). The young person acknowledges the thoughts of others, however "he/she fails to differentiate between the objects toward which the thoughts of others are directed and those which are the focus of his/her own concerns" (Elkind, 1967, p.184). Moreover, adolescents that experience traumatic stress reactions and depressive symptoms have been found to engage in rumination and catastrophic thinking (Pynoos, Steinberg, & Picentini, 1999) as well as a generalized sense of hopelessness (Nolen-Hoeksema, Girgus, & Seligman 1986; Salmon & Bryant, 2002) which all can inhibit clear cognitive reasoning. Furthermore, hyperarousal, one of the symptom clusters of the DSM-IV diagnosis for PTSD, can interfere with the ability to concentrate, and in turn in the ability to retain (new) information.

As outlined above, the adolescence period itself is one in which cognitive processing of information is not yet at a level as that of an adult. Therefore, it is plausible that URM would be functioning at a different (lower) cognitive level than their western adolescent peers, that their thinking and appraisal might be distorted by their negative affect, and that their ability to retain (new) information is limited due to concentration difficulties. The findings of Part II of the dissertation should be seen in the light of these theoretical considerations. The cognitive functioning and moral reasoning of URM will need to be scientifically examined in future research to be able to fully understand how the cognitive functioning and moral reasoning of URM influences their perception of emotional well-being, functioning in educational settings, and adaptation to their current situation in a host country.

Associations between subjective and environmental factors and psychological distress

In this dissertation, subjective factors (such as feeling safe) (Chapter 10) and/or environmental factors (such as the type of residential setting, living with a family member, not being transferred, following formal education) (Chapter 8) also played an important role in the reporting of psychological distress by URM. These environmental and subjective factors might either have a positive or negative association with the development of the mental health of URM. The protection of the physical integrity and security of URM is a basic condition that should be met irrespective of the form of residential setting provided in their reception so that the process of stabilisation of psychological problems can begin. Less emotional problems were found among URM which lived in small-scale residential settings with permanent adult supervision (with kinship/non-kinship foster care or small children groups) than URM from other types of residential settings with less personal supervision. This could mean that the mental health of URM might be improved when they are housed in small-scale residential settings. Having family members in the Netherlands was found to be a protective factor for the mental health of URM. This finding underlines keeping child-families (children from the same family) together and/or other family members in the Netherlands.

The results of this study further indicated that remaining in one residential setting also protected the mental health of URM. Staying in one environment for a long period of time gives URM the possibility of building and sustaining social contacts, attending one school, and/or continuing psychosocial interventions or treatments that have been initiated. Young people who attended school reported lower psychological distress scores then the URM which did not (Chapter 10). Working on acquiring a trade (profession) is essential in all cultures and is a key development task of adolescence. Following a vocational training gives structure, creates stability, and gives URM the peace of mind that they will be able to provide for their own (and familial) material needs in the future. The URM which showed the least amount of interest in receiving an education also reported higher externalizing problem behavior (Chapter 10). It is possible that URM with an inclination to "act out" their distress are not capable of making and completing long term goals because of a low tolerance for frustration. Special attention should be given to URM with externalizing problem behavior so that they will receive appropriate guidance in the acquisition of skills which will enable them to structure to their lives.

Prevalence, course and severity of psychological distress

This dissertation has brought forward and established that this specific adolescent population appears to be a high risk of developing chronic mental health problems (problems such as chronic anxiety, depression, and traumatic stress reactions) (Chapter 7 and 8). High severity levels reported at the first assessment period were the most important predictors of the severity levels of psychological distress at the second assessment, confirmed by guardians and teachers (Chapter 8). This indicates that URM might not eventually be able to function self-sufficiently and/or to be able to fully (re) integrate into society (the Netherlands or another country). The nature of the psychological distress of URM may form a serious impediment in the daily functioning of these young people and in their further development, both on the short and long term (Sack et al., 1993). In several studies, the effects of (organized) violence have been observed to penetrate the entire lifespan (Sagi-Schwartz et.al., 2003) and the well-being of sequential generations (Transgenerational effect) (Danieli, 1980;Rosenheck & Nathan, 1985; Solomon, 1998; Rosthenthal, 1998).

A great amount of literature concerning the stimulation of resiliency among children and adolescents signifies that a safe, stable, supporting and pedagogical environment is vital for healthy psychological development (e.g., Rutter, 1979; Garmezy, Mast, & Tellegen, 1984; Haggerty, Sherrod, Garmezy, & Rutter, 1994; Tiet et al., 1998). It is therefore probable that if URM are allowed to live and mature in a residential setting which provides pedagogical support, stability, and is cognitively stimulating, the social and emotional adjustment of URM can be strengthened.

Mental healthcare needs of URM

The majority (60%) of URM suffering from high levels of psychological distress also have reported mental healthcare needs (Chapter 9). This percentage is in stark contrast with the 8% of their Dutch peers who reported to suffer from psychological distress or reported maladaptive behaviors. URM who reported a need also reported significantly higher levels of internalizing distress and traumatic stress reactions than the Dutch adolescents with a mental health need which reported significantly more externalizing behaviors (Chapter 9). Furthermore, although URM reported a greater need, Dutch adolescents with a mental health need reported more use of mental healthcare services.

In the (Dutch) report written on the present study "URM and the Dutch MHS" (Bean, Eurelings-Bontekoe, & Spinhoven, 2005), 70% of the URM indicated that they have spoken with someone concerning their psychological problems (data not mentioned in this thesis). This act, in itself, requires a certain degree of trust. People who have experienced traumatic events can have their trust in others be shattered (Janoff-Bulman, 1992). To function competently in any society, it is important to have trust in others. Acknowledging psychosocial problems to someone else is a very big step in a process which can lead to adequate care (a sign of independence). URM spoke with their guardians or teachers about their problems, but also with friends, lawyers, teachers, general practitioners, and religious leaders. Both URM and guardians reported that loneliness was one of the most endorsed symptoms (Chapter 8). It is important that URM are assisted and actively stimulated to build a

social network to prevent isolation. Such a network consists, preferably, of young people and adults from their own culture and young people and adults from the Dutch society. In a strong social network, URM can (again) learn to trust others. Moreover, a social network can serve as a source of emotional support during an extremely difficult period in the lives of URM.

The significant adults in the lives of the URM (guardians, residential staff, and teachers) are often not aware of the mental healthcare needs or the pervasiveness (70%) of the psychological distress among URM leaving the greater portion (50%) of the mental healthcare needs of URM unmet (Chapter 9). As has been reported earlier, this phenomenon is the norm instead of the exception in research among adolescents which may have a negative effect on the long term mental health of adolescent into adulthood. It appears that the third objective of this dissertation has been adequately met; the determination of the mental healthcare needs, unmet needs and use of URM.

Adaptation and attitudes of URM to their current situation in the Netherlands

In chapter 10, the majority of URM living in the Netherlands have reported positive attitudes about their experiences in the Netherlands. The most important wish of many URM was to work on a good future/obtain a profession (trade). Half of the URM in this study were uncertain about their futures for the coming 10 years. If URM reported negative attitudes, they also reported more often high levels of internalizing distress or externalizing maladaptive behaviors. Furthermore, URM who wished for a normal life/to feel emotional better reported higher levels of all types of psychopathology.

The results of chapter 10 further describe a theoretical framework in which the high severity levels of psychological distress can be placed. It was apparent that approximately one third of the URM in this study did not report severe levels of traumatic stress reactions or another type of psychopathology. However, some of those who did report severe traumatic stress reactions (57%) did so in conjunction with severe internalizing distress, externalizing distress or both forms of broadband psychopathology. In this chapter, the conclusion is reached that in spite of overwhelming adversity and high levels of psychological distress, the majority of adolescent URM are working on age appropriate developmental tasks such as planning their futures and getting an education. Nevertheless, the positive adaptation of the group of URM which reported high severity levels of comorbid psychopathology seems to be compromised. In this study it was not clear which came first, the high severity levels of psychological problems which in turn led to adaptational compromises or compromises in adaptation which led to high severity levels of psychological problems. In future studies, it will be necessary to sort the direction of the association between mental health and adaptation among URM.

Methodological Limitations

This research project, just like every project, has its specific methodological limitations. The first, and perhaps most important one is that no standardized diagnostic interview was utilized to be able determine to what extent URM meet the criteria as described in DSM-IV for psychiatric disorders. Because of this limitation, the sensitivity and specificity of all the instruments that were used in this study could not be ascertained. The second limitation was the language barrier(s) and limited concentration capacity of URM which prohibited the administration of additional questionnaires (for personality traits, social functioning, and/or psychological adaptation skills) that could have further verified the present findings or enlarged the implications of the study.

Thirdly, only two assessment periods were utilized in this research project. Evaluating pre-study (before flight to refuge) psychopathology, which has been regularly found as an important predictor of mental health, could have shed more light on the developmental processes that lead to resilience or vulnerability. However, that information would have been extremely difficult to collect among URM which have lost their parents and come from countries where that sort of information is not documented or has been lost due to war/political unrest.

Fourth, there was no way to substantiate that the reported stressful life events among URM were actually experienced. A reliable source that could have corroborated the experiences would have strengthened the validity of the reports of URM. Finally, this study was quantitative in nature. Obtaining quantitative basic information on the mental health of

URM was of great practical importance for those involved in the mental healthcare-giving chain of URM. However, qualitative information is necessary to better understand how the diverse cultural backgrounds of URM affect their resilience and developmental processes.

General Implications

The results of this dissertation raise at least one very essential question; how do host countries such as the Netherlands need to address the great psychological and mental healthcare needs of URM? Is it realistic or practical to refer large numbers of URM which are residing in the Netherlands to mental healthcare facilities and expect that their needs will be fulfilled and that their severity levels of psychological distress will be reduced? To be able to answer this question, it is important to briefly reflect on the knowledge that has been collected over the years concerning the nature of traumatic stress reactions and the effectiveness of the currently utilized treatment methods for psychiatric complaints.

A leading expert in clinical research of long-term cognitive, behavioral, emotional, social, and physiological effects of neglect and trauma among children and adolescents concluded that ".. We fail maltreated children in many ways, not the least of which is an appalling lack of effective therapeutic services for these children. Most of these children have limited access to therapeutic services. Those who do get therapy get too little, too late; how can we possibly expect 45 minutes a week with a therapist to heal a child after years of chaos, threat, humiliation, degradation, and terror?" (Perry, 2006, p. 29). At this moment, there is little scientific evidence which substantiates that curative methods for the treatment of long-term (chronic) traumatic stress reactions are effective among refugee adolescents (AACAP, 1998; Lustig et al., 2004). Cognitive Behavioural Therapy (CBT) is the most studied and has been found to be the most effective type of treatment. Recently there have been several studies published using manual-based CBT interventions with adolescents in general (e.g., Cloitre, Koenen, Cohen, & Han, 2002; De Rosa, et al., 2005; Ford, Marisol Cruz, Mahoney, 2005; Miller, Rathus, & Linehan, in press). Furthermore, there has been an increase in the literature on school-based psychosocial interventions for refugee and immigrant youth (e.g., Entholt, Smith, & Yule, 2005; Layne et al., 2001; O'Shea, Hodes, Down, & Bramley, 2000; Neugebauer, 2003; Stein et al., 2003; Rousseau, Drapeau, Lacroix, Bagilishya, & Heusch, 2005). Only a few interventions among refugee adolescents have thoroughly examined the (positive) effect of the intervention on the mental health of refugee children (e.g., Entholt, Smith, & Yule, 2005; Rousseau et al., 2005; Stein et al., 2003). However, Salmon and Bryant (2002) have suggested that before cognitive restructuring can take place in treating PTSD among children and adolescents, basic emotional regulation skills need to be available. One cannot presume *a priori* that URM have a repertoire of emotional regulation skills or are emotional competent enough to be able to begin CBT treatment of traumatic stress reactions. Furthermore, it is clear that URM have been exposed to multiple stressors and continue to live in an unstable situation which can (and frequently does) exacerbate the already high distress levels (this dissertation).

There is a lack of empirical studies to support the use of (expressive) therapies such as play, sand, puppets/dolls, art, music, and psycho-motor (uses movement as a therapeutic tool for stimulating psychological and emotional functioning). However, there are documented accounts in the literature of the successful application of these therapies in alleviating psychological suffering among traumatized children and adolescents (see Boyd Webb, 2006 for a discussion). These alternative approaches might also be attractive (and ultimately effective) among URM from cultures in which "talking" about problems is not customary (Kohli & Mather, 2003). Perhaps flexibility and knowledge of many treatment methods on the part of the therapist (team) will allow for tailored-made treatments that are appropriate for strengthening the self-efficacy and mental health of individual URM.

The research findings concerning the biological changes which can take place after trauma should not be underestimated and suggest that trauma exposure can have long-lasting effects on all levels of brain activity which can influence the further (neuro)development of the individual (Yehuda & McFarlane 1997; Pynoos, et al., 1999; Perry & Azad, 1999; Perry, 2006; Heim, Meinschimidt, & Nemeroff, 2003;Charney, 2004). These findings imply that the whole developmental process of URM can be severely altered if no intervention takes place.

In the trauma literature, it has been documented that only a small minority of persons who have experienced traumatic events ever go on to develop psychiatric problems or have impaired functioning. (Kessler, Sonnega, Bromet, Hughes & Nelson, 1995; Cuffe, Addy, Garrison, Waller, Jackson, McKeown, & Chilappagari, 1998). Some have explained the vulnerability to the development of PTSD through a relationship between attachment style and traumatic stress reactions; adult child abuse survivors who were insecurely attached developed more PTSD symptoms (e.g., Muller, Sicoli, & Lemieux, 2000). Muller and colleagues (2000) go further and suggest that individuals which have an insecure attachment or PTSD both have problems with the regulation of affect. However, there is a dearth of research substantiating this relationship among refugee children and adolescents (Punamaki, 2002). Furthermore, due to the fact that the attachment style, family structure (primary caregivers), and age when separated from parents of URM in the present study was unknown, it would only be speculative to report on how early attachment might have played a role in the development of chronic traumatic stress reactions among URM.

After experiencing adverse experiences, some people show positive personality changes (traumatic growth) or experience new meaning in life and/or develop new life goals (Linley & Joseph, 2004). Vulnerability or growth (resilience) can also occur among URM. Most of the URM have a strong survival instinct and reported working on age appropriate developmental goals. Their survival skills are probably one of the most important reasons that they made it to the Netherlands, while others did not. Many of these young people go to school, take part in all kinds of types of extra-curricular activities and are busy planning their futures. Nevertheless, experiencing so many (sequential) adverse events within a very vulnerable developmental period in their life, loss of family, limited cognitive development, limited emotional regulating skills, a limited social network, and great uncertainty surrounding their future can result in a fragile balance between their personal capabilities for resilience and overwhelming intense emotions that confront them daily. The high severity levels of psychological distress that have been found in this study among URM might in part be due to undeveloped intrinsic processes of URM being overwhelmed by unavoidable external hardship and stress.

Large-scale referral of URM to mental healthcare facilities would only seem to be partly satisfactory in answering the question how to provide adequate mental healthcare services to a specific culturally diverse traumatized population. Rather, it is perhaps more realistic to provide large-scale care at a low-threshold level in the direct environment of URM. In this discussion, it has been suggested that a stable, secure and supporting environment could relieve some of the distress URM experience and provide a secure base from where they can further grow. However, as already outlined, treating the chronic traumatic stress reactions of URM is complex. To be able to facilitate long-term psychosocial adaptation among URM, it is first imperative that the caregivers of URM provide a secure and stable environment. Secondly, caregivers will need to be able to teach URM social skills, emotional regulation techniques and promote self-reflection and relaxation to learn to manage their traumatic stress reactions in their lives. Only after these skills have been acquired, can complex interventions such as mastering intrusive thoughts and memories and cognitive re-structuring be offered through caregivers/professional caregivers that have been trained to provide such specific care. At this moment, this approach seems the most far-reaching and appropriate form of psychosocial care for this population for the following reasons:

1. The mental healthcare which is offered to URM in this way will be more accessible and reach more children and adolescents. Accessible care must be appropriate to the needs and experiences of URM (Hodes, 2001; Kohli & Mather, 2003),

2. In the direct living environment of URM, it is possible to enlarge the “emotional and physical availability” of the caregiver for the URM. This availability is essential for creating a secure and stable environment (Schofield & Brown, 1999). Also this availability forms a protective barrier against adverse events (Howe, Brandon, Hinings, & Schofield, 1999, 275),

3. If a secure and stable environment has been created in which URM feel comforted and supported, more complex interventions can be conducted by caregivers (Howe et al., 1999, p. 279-291),

4. In this form of mental healthcare, the caregivers of URM can be trained by mental health professionals and receive periodic supervision from professionals to teach them how they can instruct URM to manage their (chronic) traumatic stress reactions. Using this approach, the experience and knowledge of the mental health professionals would be disseminated on a wide-scale reaching the entire population.

Clinical Implications

URM in the Netherlands who experience severe psychiatric problems and are temporarily impaired in their daily functioning will, of course, still need to be able to rely on the regular professional mental healthcare services for assistance. However, several adaptations in the current referral system, such as adequate diagnostic assessments and early identification (screening) for psychological distress or maladaptive behaviours are greatly needed to assist guardians in making more accurate and effective referrals. Moreover, developing "evidence-based" treatment methods in the Dutch mental healthcare services will lead to effective interventions that can treat URM in a more appropriate and efficient manner. A similar call to therapists "..to develop and evaluate innovative treatments designed to address more complex symptom presentations (of PTSD).. .(and) …interventions that intentionally target subpopulations of traumatized individuals who have thus far been underrepresented in PTSD efficacy research" has been recently published in a review article of PTSD treatment efficacy (Spinazzola, Blaustein, and Van der Kolk, 2005)

Unfortunately, there have been many URM that have not received adequate supervision by pedagogically competent residential staff or effective interventions to timely treat their high severity levels. These young people could (still) arrive on the doorstep of a mental healthcare institution for a variety of reasons. A couple reasons are; they have not learned how to come to terms with their great losses, psychological distress, traumatic stress reactions and/or and have not been able to form their own identity, a crucial development task of adolescence. Persons who suffer from long-term effects of traumatic stress reactions and have never gotten sufficient help can experience being overwhelmed and become submerged in feelings of helplessness, hopelessness, shame, guilt, feeling estranged from others, becoming withdrawn from social relations and mistrusting others (Van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005; Perry, 2006). Daily social functioning can be seriously disturbed. In the case of former URM, they may have become parents themselves. The pregnancy might have taken place under severely stressful conditions, social isolation and little or no medical care. These conditions can have an adverse effect on the development of both mother and (un)born child (Belsky & Vondra, 1989; Lewis, 1992). Moreover, there can be an accumulation of problems due to the unprocessed loss experiences of URM which leads to inappropriate emotional regulation and in turn can lead to disorganized attachment in their own children (Allen, Hauser, & Borman-Spurell, 1996).

Identity problems are also a possible consequence of living in years of uncertainty. In the uncertain situation in which URM (have) had to live, they could not properly form their identity and how they wanted to live and/or plan their life. They simply did not (do not) know where they would be living and under what conditions. For URM who are allowed to integrate in the Dutch society, the question also remains when they will ever be considered as a "real" Dutch citizen, postponing the formation of their identity as a Dutch citizen. Previous research has shown that when someone does not feel that they are accepted into the host culture that they can develop depressive symptoms (Phinney, Locher, & Murphy, 1990). Mental healthcare professionals should be aware of the specific mental health needs of former URM.

In conclusion, using a "stepped care[1]" approach where intensive mental healthcare is offered if a pedagogically, stable, and secure residential environment is not adequate in

[1] according to the principles of the stepped care-program, the recipient of care , in the first place, receives the most effective, non-intrusive , economic and shortest form of treatment which fits the nature and the seriousness of the problem. If the minimum intervention has had an insufficient effect, more intensive intervention it then applied (www. Trimbos.nl, 2004).

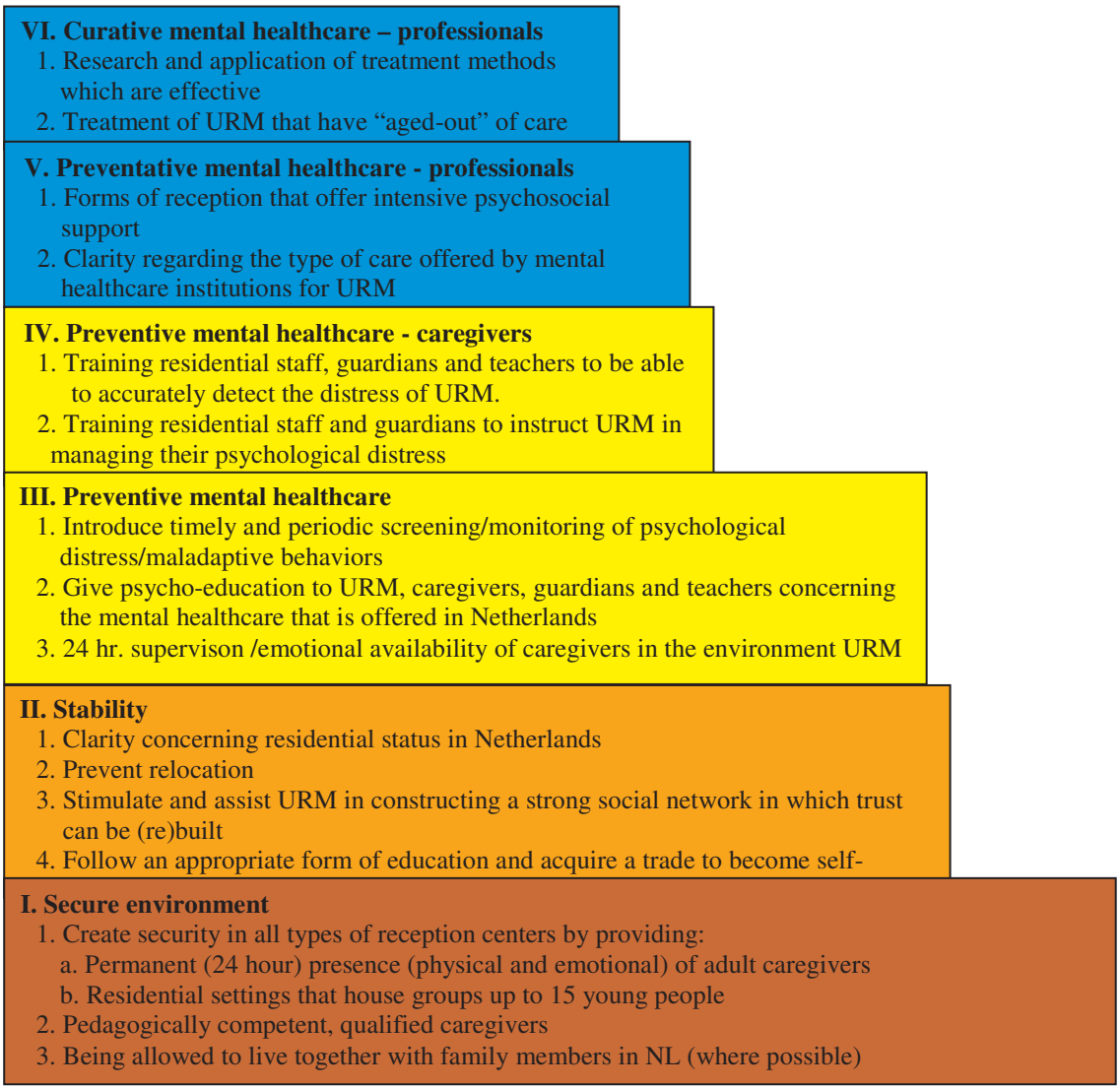
alleviating the psychological distress of URM, adequately addresses the ***nature*** of the psychological problems of URM and the ***need for*** specialized mental healthcare when severe compromises have taken place in the daily functioning and adaptation of URM.

The recommendations that have been listed throughout this entire discussion form guiding principles for the protection and promotion of the mental health of URM. The recommendations are summarized in a visual "stepped care" model below. In this model, the intensity of the care corresponds with the level of severity of psychological distress and needs of URM. The model begins under on and ends at the top of the page.

To reduce the psychosocial distress of URM there are no fast and easy solutions at hand. As is often said by the organization War Child, "you can take a child out of war, but how do you take war out of a child?" From the results of this study, it is apparent that structural adaptations in the reception of URM, the early detection of psychological distress through monitoring of symptoms, and developing effective treatment methods which can be disseminated in the residential settings of URM should promote an atmosphere in which the levels of psychological distress among URM can be reduced/managed and their mental healthcare needs can be fulfilled.

Visual summary of a Stepped Care Approach to Protect and Promote the Mental Health of URM

Figure 1.



Future research directions

1. To be able to carry out more complex studies, it is crucial that psychological instruments that assess many levels of psychological and cognitive functioning be translated and validated for culturally diverse adolescents. This process is expensive and time-consuming, but is essential to be able to obtain reliable and valid results in future research projects.
2. In this dissertation, the significant adults in the lives of URM are not always able/ capable of accurately assessing the mental healthcare needs of URM. Introducing an early and periodic screening protocol for URM through a research project, could have a positive impact on the adults' ability to timely perceive the psychological distress of URM.
3. Furthermore, the “stepped care” approach has been recommended in this dissertation to be able to structure the mental healthcare services for URM. If this method is applied, it is important that the approach is examined by means of a research project to determine if it is more efficient and effective then the mental healthcare that is currently being provided.
4. A priority for future research in the field of the mental healthcare which concerns URM is the adaptation/development of treatment methods or interventions which are effective in alleviating the psychosocial distress of URM. It is imperative to their well being that clinicians undertake research studies in which the effectiveness of their treatments can be evaluated. In doing so, referrer's of URM can be informed and be kept up-to-date with the types of treatments that mental healthcare professional utilize and encourage URM to take part in effective treatments.
5. There has been little research done in the countries of origin of URM residing in the Netherlands. To enhance our understanding of the effects of immigration and separation from parents on the mental health of URM, a comparison study should take place between orphans and adolescents with parents still living in the country(s) of origin and URM from the same country(s) residing in the Netherlands.
6. There is a lack of information regarding the daily lives of URM from the moment they arrive unto they are repatriated or integrate into Dutch society. Qualitative ethnographic research would allow for a better understanding of how individual URM deal with life in a host country and better show the way they handle the positive experiences and adversity in their lives.
7. Conducting a multi-disciplinary longitudinal study which spans at least one developmental stage would be of great worth in determining psychiatric diagnoses among URM, educational performances, social functioning, (re)integration into society and adaptation skills. Such information would give in-depth insight into how we are able to strengthen the individual psychological development of an URM to promote resilience and limit vulnerability.

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Summary

This dissertation “Assessing the Psychological Distress and Mental Healthcare Needs of Unaccompanied Refugee Minors in the Netherlands” has systematically documented the assessment of the mental health and mental healthcare needs of URM living in the Netherlands between the years 2002-2004.The main objectives were (a) to validate psychological assessment instruments to be capable of validly and reliably assessing the mental health of URM; (b) to establish the prevalence and nature of the psychosocial distress of URM, (c) their mental healthcare needs, and (d) their psychological adaptation in the Netherlands.

Chapter 1 introduces the topic of the dissertation by presenting the (historical) background information on the URM population in the Netherlands and the methodological problems in conducting research among a culturally diverse population. In addition, the objectives, description of the URM sample and design of the main study are discussed. The main study of this dissertation (URM and the Dutch Mental Healthcare Services) was epidemiological in scale, used multiple informants, and consisted of two assessment periods (follow-up study) with an interval of twelve months. The project took place throughout all the provinces of the country. Questionnaires were administered to URM, their legal guardians, and teachers. A total of 920 unaccompanied refugee minors took part in the first assessment in 2002-2003 which was ten percent of the total URM population residing at that time in the Netherlands. During the second assessment period (2003-2004), 582 URM from the original 920 filled in the questionnaires for a second time. The guardians and teachers of URM also filled in questionnaires twice. The URM that participated had lived in the Netherlands between 4 and the 24 months. Male-female ratio was approximately 70-30%. The average age was 16 years. Angola, China, Siërra Leone and Guinee were the most represented countries in the sample.

Chapter 2 evaluated the practical feasibility of using self-report instruments in assessing the influence of traumatic stress reactions on the mental health of a culturally heterogeneous group of adolescents. This chapter describes how the self-report questionnaires utilized in this study were developed to be “multi-cultural” and “adolescent friendly”. Culturally diverse adolescents participated in their school classrooms during school time. URM consistently reported significantly higher scores on the Reactions of Adolescents to Traumatic Stress questionnaire (RATS) and Stressful Life Events checklist (SLE) than all other groups. Girls reported having more traumatic stress reactions than boys irrespective of the group they belonged to. The number of reported stressful life events was strongly related to the total score on the RATS. It can be concluded on the basis of this chapter that through modifications to the standard layout of psychological instruments, adolescents from a range of backgrounds and cultures can complete self-reports. Furthermore, URM appear to be at significant higher risk for traumatic stress reactions than refugee adolescents living with a family member, immigrants or Dutch native adolescents.

Chapter 3 provides preliminary psychometric properties of the Hopkins Symptom Checklist-37 (HSCL-37A) which was modified for this study. The HSCL-37A is a modification of the well-known HSCL-25 and assesses symptoms of internalizing and externalizing problems that have been associated with reactions to trauma. The confirmative factor analyses, per language version, support the two-factor structure of internalizing and externalizing behavior. The total and subscales show good internal consistency and acceptable test-retest reliability in spite of the heterogeneous sample populations. The construct, content and criterion validity of the HSCL-37A were also examined and found to be good. On the basis of this chapter it can be concluded that the HSCL-37A is a reliable and valid instrument to be used among culturally diverse refugee adolescents to assess emotional distress and maladaptive behaviors.

The preliminary psychometric properties of the Reaction of Adolescents to Traumatic Stress questionnaire (RATS) and of the Stressful Life Events questionnaire (SLE) for refugee adolescents were discussed in Chapter 4. Confirmatory factor analyses of the RATS, per language version, support the three-factor structure of intrusion, avoidance/numbing and hyperarousal. The total and subscales of the RATS show good internal consistency, and good (content, construct, and criterion) validity. It was concluded that the RATS is reliable and a valid instrument for assessing traumatic stress reactions of cultural diverse adolescents.

The well-known Child Behavioral Checklist (CBCL - Chapter 5) and Teacher's report form (TRF - Chapter 6) were utilized respectively with the legal guardians and teachers of URM residing in the Netherlands to measure the psychological distress of URM. The psychometric properties of these two questionnaires were thoroughly evaluated for use with URM. The guardians filled in and returned 478 CBCL's during the first assessment period. The teachers filled in and returned 486 TRF's during the first assessment period. The results of the hierarchical confirmative factor analyses for both the CBCL and TRF support a one-factor and a two-factor structure of externalizing and internalizing scales equally well. However, the Thought problems subscale of the TRF could not be verified suggesting that some of the problem behavior reported by teachers of unaccompanied minors differs from that of parent reports or that the item constellation of the TRF is different for teachers of unaccompanied minors. Moreover, the fit of the original individual eight first order factor models of the a priori CBCL and TRF subscales was found to be moderate. The total, internalizing, and externalizing scales show good internal consistency. The construct and concurrent validity of the CBCL and TRF were also examined and found to be moderate to good. The CBCL and TRF appear in this dissertation to be both reliable and valid measures for use by, respectively, guardians or teachers to assess the maladaptive emotional and behavior problems of unaccompanied refugee minors.

In Chapter 7, comparisons are made of the severity of the psychological distress, behavioral problems and traumatic stress reactions, and trauma experiences of Unaccompanied Refugee Minors (URM) with Immigrant/Refugee (I/R) and Dutch (Natives) adolescents with parental caregivers. 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 Dutch adolescents and immigrant/refugee samples in reporting psychological distress, behavioral problems, and traumatic stress reactions, girls reporting more psychological distress and traumatic stress reactions and boys reporting more externalizing behavior. 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. It is concluded in this chapter that URM are at a significantly higher risk for the development of psychopathology than refugee adolescents living with a family member, immigrants or Dutch adolescents.

The focus of Chapter 8 was on the one year follow-up investigation which specifically addresses the course, and predictors of the psychological distress and maladaptive behaviors of URM living in the Netherlands. Reports of guardians, teachers and URM were all used in this chapter. The self-reported psychological distress of URM is severe, has a chronic nature, and was confirmed by reports from the legal guardians and teachers. A dose-response relationship was also found here between the number of experienced life events and the level of psychological distress. The predictive strength of psychopathology at baseline was evident in the regression analyses for psychological distress at follow-up as reported by each informant. Concordance in reports between the multiple informants was poor; however this rate of disconcordance does not deviate from previous studies. This chapter is the heart of the dissertation and further enhances and enlarges the knowledge of mental health among refugee adolescents. The discussion in this chapter explores how appropriate mental healthcare could be arranged for URM living in the Netherlands.

Chapter 9 is the first study to address the need for mental healthcare (MHC) and the patterns of utilization of MHC services among Unaccompanied Refugee Minors (URM). Information concerning the well being, mental healthcare need, and utilization of services of URM was collected form three informants, the minors themselves, their legal guardians, and their teachers (n = 496). The well-being, need and utilization of MHC services of URM was compared with those of a representative Dutch adolescent sample (n = 1059). The findings of

this study indicated that URM that report a mental healthcare need (58%) also report higher levels of emotional distress than Dutch adolescents who report a similar need for MHC (8%). In addition, guardians and teachers detect emotional distress and mental healthcare needs in only a small percentage (30%) of URM. The referral of URM to mental healthcare services does not appear to be driven by the reported needs of the URM, but by the need and emotional distress as observed and perceived by guardians. This resulted in the fact that 48.7% of the URM total sample reported that their need for mental healthcare was unmet.

Chapter 10 is the last chapter of the results section (Part 2) of the dissertation and centers on a twofold objective. The first aim is to examine to what extent the cumulative trauma that recently immigrated adolescent URM have experienced influences their adaptation and attitudes in their host country and second to investigate the emotional or behavioral expression of their traumatic stress reactions. The results described in this chapter indicate that in spite of overwhelming adversity and high levels of psychological distress, the majority of adolescent URM are working on age appropriate developmental tasks such as planning their futures and receiving an education. However, 57% of the URM (at T1 and or T2) were classified as possibly fulfilling the diagnostic criteria for a PTSD diagnosis of which 57% also reported comorbid externalizing maladaptive behaviors and/or internalizing distress. Moreover, comorbid psychopathology appears to be associated with the negative adaptation and attitudes of URM living in the Netherlands.

The discussion of the dissertation in Chapter 11 reiterates the unique character of this study. The infrastructure that exists in the Netherlands - one foundation, Nidos, which provides legal guardianship - made it possible to carry out such a large scale study among URM. In other countries, this infrastructure does not exist making it impossible to gather information on the mental health of URM from so many informants. The reliability and validity of all of the measures that were utilized in this study were thoroughly examined and found to be good. The chronic and high level of psychological distress that the URM reported was verified by their guardians and teachers on two separate occasions. The severity level of the psychological distress of the URM is strongly related to the number of experienced stressful life events and the need for professional help.

Furthermore the discussion emphasizes that URM, appear to be inclined to ask for mental healthcare when they experience high levels of psychological distress. The URM who reported needing professional mental healthcare (60%) reported higher levels of psychological distress than the Dutch adolescents who had also reported that they needed professional help for their problems (8%). Finally, in spite of overwhelming adversity and high levels of psychological distress, the majority of adolescent URM appear to be adapting well to their situation in the Netherlands by working on age appropriate developmental tasks, however they do so under great emotional suffering as approximately 60% could be classified during the first or second assessment as fulfilling the diagnostic criteria for the DSM-IV Post Traumatic Stress Disorder.

This dissertation has brought to light the psychological distress and mental health needs of URM living in the Netherlands. Moreover, the nature of the psychological distress (internalizing) of URM can form a serious impediment in the daily functioning of these young people and in their development, both on the short and long term. It is important that URM receive long-term psychosocial supervision and guidance for their psychological distress. This is necessary, because URM have no parents who can teach them positive and active ways to manage their anxiety, grief, feelings of uncertainty, and painful memories. They must therefore be taught by other significant adults which psychological tools will help them to deal with their anxiety, help them deal with their intrusive (traumatic) memories, and learn to manage stress that will occur in life. Through this training, these young people will be helped to develop positive adaptation strategies and use them appropriately. They must also be allowed to live in an environment where there is stability and continuity, competent residential staff workers, and physical safety. It is not constructive for their mental health that they are continuously transferred to new living arrangements.

Finally, the implications of the results for the current situation in the Netherlands are addressed. Diverse implications form the foundation of the recommendations which are guiding principles for the protection and promotion of the mental health of URM in the Netherlands. The recommendations are described briefly in a “stepped care” model, underlining that the intensity of the mental healthcare must correspond with the severity level

of psychological distress and the needs of individual URM. The thesis ends with some suggestions for further research necessary to expand and deepen our knowledge on the mental health and mental healthcare needs of refugee adolescents.

The most important policy recommendations described in this dissertation are:

1. Creating an environment that is secure and stable in each type of residential setting for URM. The chance that an intervention will have any impact on the high levels of emotional distress is limited as long as these young people have no relief and rest in their daily lives.

2. Letting URM have educational opportunities to finish their training/education is crucial. They will then be capable of caring and providing for themselves in the future. The emotional security of knowing they will be allowed to complete their education/trade can reduce anxiety.

3. Giving URM psychological "tools" so that they will learn how to deal with the painful memories, traumatic events, stress and fear that they must live with. They do not have the privilege of having parents raising them who can teach them these skills. After acquiring these basic skills URM will then be able to develop (and eventually use) active and positive adaptation and emotional regulation strategies.

4. Monitoring and early screening (on a regular basis) of the psychological distress of URM to evaluate their well-being and to be able to adequatly address their psychosocial needs.

5. Develop and research treatment methods (techniques) which are effective for reducing psychological distress and traumatic stress reactions among URM.

In conclusion, the findings of this dissertation call specific attention to the capability of assessing the psychological distress of a cultural heterogeneous adolescent sample, validly and reliably. Moreover, this dissertation has confirmed that URM which have experienced many sequential (cumulative) stressful life events as a result report high chronic severity levels of psychosocial problems (predominantly anxiety, depression, and traumatic stress reactions). The reports from their guardians and teachers confirm the reports of the URM. Chronic maladaptive social and emotional adaptation skills can develop as a consequence of inadequate supervision and guidance. Through adequate supervision, URM would have the opportunity be able to learn to manage the great amount of overwhelming emotional distress they experience and must daily confront in their lives. It is of the utmost importance for their mental health that URM are not denied their right to adequate and effective mental healthcare services which is imperative to allow them to develop into socially and emotionally competent adults who are capable of being self-sufficient.

Samenvatting

In dit proefschrift getiteld “De Psychische Klachten en Zorgbehoeften van Alleenstaande Minderjarige Asielzoekers die in Nederland Verblijven”, zijn de geestelijke gezondheid en de behoeften aan geestelijke gezondheidszorg van Alleenstaande Minderjarige Asielzoekers systematisch in kaart gebracht. De belangrijkste doelstellingen waren (a) psychologische meetinstrumenten valideren om de geestelijke gezondheid van AMA's op een valide en betrouwbare manier te kunnen meten; vaststellen van (b) de omvang en aard van de psychosociale klachten van AMA's; (c) de behoeften aan geestelijke gezondheidszorg onder AMA's en (d) de mate van psychologische adaptatie van AMA's in Nederland.

Hoofdstuk 1 introduceert het onderwerp van het proefschrift door de (historische) achtergrond over AMA's in Nederland te beschrijven en behandelt de methodologische problemen in het uitvoeren van onderzoek onder in cultureel opzicht zeer diverse bevolkingsgroepen. Verder worden de doelstellingen, beschrijving van de steekproef en het ontwerp van de studie besproken. Het ontwerp van de studie (AMA's en de GGZ) is epidemiologisch van opzet, gebruikt meerdere informanten en bestaat uit twee meetmomenten (vervolgstudie) met een tijdsinterval van twaalf maanden. Het project is in alle Nederlandse provincies uitgevoerd. De vragenlijsten zijn voorgelegd aan AMA's, hun wettelijke voogden en hun leerkrachten. In totaal hebben 920 AMA's aan het eerste meetmoment (2002-2003) deelgenomen. Dit aantal komt overeen met tien procent van het totale aantal AMA's dat in die tijd in Nederland verbleef. Tijdens het tweede meetmoment (2003-2004) hebben 582 AMA's van het oorspronkelijke aantal van 920 AMA's de vragenlijsten voor de tweede keer ingevuld. De voogden en de leerkrachten van AMA's hebben de vragenlijsten ook twee keer ingevuld. AMA's die hebben deelgenomen verbleven tussen de 4 en de 24 maanden in Nederland. De verhouding tussen jongens en meisjes was ongeveer 70-30%. De gemiddelde leeftijd was 16 jaar. Siërra Leone, Angola, China, en Guinee waren de meest vertegenwoordigde landen in de steekproef.

De hoofdstukken twee tot en met zes vormen Deel 1 van het proefschrift. Deel 1 heeft betrekking op de eerste doelstelling van dit proefschrift, namelijk psychologische meetinstrumenten valideren om de geestelijke gezondheid van AMA's op een valide en betrouwbare manier te meten. Hoofdstuk 2 zet de praktische haalbaarheid uiteen van het gebruik van psychologische zelfrapportage instrumenten met als doel de invloed van traumatische stress op de geestelijke gezondheid van een cultureel heterogene groep van adolescenten te meten. Dit hoofdstuk beschrijft verder op welke wijze de in deze studie gebruikte zelfrapportage vragenlijsten zijn aangepast om ze “multicultureel” en “adolescent vriendelijk” te maken. Alle jongeren hebben tijdens schooltijd deelgenomen aan het onderzoek. In vergelijking tot alle andere groepen rapporteren AMA's consistent hogere scores op de Reacties van Adolescenten op Traumatische Stress vragenlijst (RATS) en de stressvolle ingrijpende levensgebeurtenissen vragenlijst (SLE). Meer meisjes dan jongens rapporteren traumatische stressreacties. Het aantal gerapporteerde ingrijpende levensgebeurtenissen heeft een sterke invloed op de totale score op de RATS. Op grond van de bevindingen uit dit hoofdstuk kan geconcludeerd worden dat door het aanbrengen van wijzigingen in de standaard lay-out van psychologische instrumenten, het haalbaar is adolescenten met verschillende achtergronden en vanuit verschillende culturen zelfrapportage instrumenten te laten invullen. Vervolgens is gebleken dat AMA's een significant hoger risico hebben op de ontwikkeling van traumatische stress reacties dan vluchtelingenadolescenten die met een familielid in Nederland verblijven, eerste of tweede generatie immigranten of Nederlandse autochtone adolescenten.

Hoofdstuk 3 beschrijft de voorlopige psychometrische eigenschappen van de Hopkins Symptoom Vragenlijst-37 voor adolescenten (HSCL-37A). De HSCL-37A is een aanpassing

van de bekende HSCL-25 en meet zowel internaliserende als externaliserende symptomen die als reactie op een trauma kunnen optreden. De confirmatieve factoranalyse, uitgevoerd per taalversie, bevestigt de twee factorstructuur van internaliserende en externaliserende problemen. De totaalschaal en subschalen hebben een goede interne consistentie en acceptabele test-hertest betrouwbaarheid, ondanks de heterogeniteit van de steekproef. De construct, inhouds- en criteriumvaliditeit van de HSCL-37A zijn ook onderzocht en als goed te kenmerken. Op basis van de resultaten van het onderzoek, beschreven in dit hoofdstuk, kan geconcludeerd worden dat de HSCL-37A een betrouwbaar en valide meetinstrument is voor het vaststellen van de ernst van emotionele problemen en maladaptief gedrag bij vluchtelingenadolescenten met zeer diverse culturele achtergronden.

In hoofdstuk 4 worden de psychometrische eigenschappen van de RATS en de SLE behandeld voor wat betreft vluchtelingenadolescenten. De confirmatieve factoranalyse van de RATS, uitgevoerd per taalversie, bevestigt de drie factorstructuur van intrusie, vermijding/afstomping en hyperarousal. De totaalschaal en subschalen van de RATS hebben een goede interne consistentie en een goede inhouds-, construct- en criteriumvaliditeit. De RATS kan worden beschouwd als een betrouwbaar en valide instrument voor het meten van de ernst van traumatische ervaringen en stressreacties van vluchtelingenadolescenten met een zeer diverse culturele achtergrond.

Bij verzorgers en leerkrachten van AMA's zijn de CBCL (een bekende gedragsvragenlijst voor ouders van kinderen [hoofdstuk 5]) en de TRF (gedragsvragenlijst voor leerkrachten [hoofdstuk 6]) afgenomen om de emotionele en gedragsproblemen van AMA's in kaart te brengen. Voor gebruik bij de verzorgers en leerkrachten van AMA's, zijn de psychometrische eigenschappen van deze twee vragenlijsten grondig geëvalueerd. Tijdens het eerste meetmoment hebben 478 voogden de CBCL ingevuld en hebben 486 leerkrachten de TRF ingevuld. De resultaten van de hiërarchische confirmatieve factoranalyse voor zowel de CBCL als TRF bevestigt een één-factor en een twee-factor structuur van externaliserende en internaliserende problemen even goed. De subschaal “denkproblemen” van de TRF kan echter niet worden geverifieerd, wat erop zou kunnen duiden dat dit specifieke probleemgedrag door de leerkrachten van AMA's anders wordt waargenomen dan door verzorgers of dat de itemconstellatie van de TRF voor leerkrachten anders is. Bovendien is de “fit” van het oorspronkelijke individuele eerst orde factor model van de acht subschalen van de CBCL en TRF matig. De totaalschaal, internaliserende en externaliserende schalen hebben een goede interne consistentie. De construct en concurrente validiteit van de CBCL en TRF zijn ook onderzocht en matig tot goed gevonden. De CBCL en TRF lijken in dit proefschrift zowel betrouwbaar als valide om via voogden en leerkrachten de maladaptieve emotionele en gedragsproblemen te meten bij alleenstaande minderjarige asielzoekers.

In hoofdstuk 7 is een vergelijking gemaakt tussen Alleenstaande Minderjarige Asielzoekers (AMA's), Immigranten/ Vluchtelingenjongeren - met verzorgers (I/R), en Nederlandse adolescenten - met verzorgers (autochtonen) met betrekking tot de ernst van hun klachten, van de gedragsproblemen en de traumatische stress reacties en het aantal meegemaakte traumatische ervaringen. AMA's rapporteren aanzienlijk meer internaliserende problemen, traumatische stressreacties, en stressvolle levensgebeurtenissen dan de andere twee groepen. Geslacht speelt bij zowel de Nederlandse adolescenten als de immigranten/vluchtelingen groep een belangrijke rol in het rapporteren van psychische klachten, gedragsproblemen en traumatische stressreacties; meisjes rapporteren meer psychische klachten en stressreacties, terwijl jongens meer gedragsproblemen rapporteren. Uit deze vergelijking blijkt dat alleen bij AMA's, oudere jongeren een hoger klachtenniveau rapporteren. De autochtonen geven meer externaliserende problemen aan dan de andere twee groepen. AMA's rapporteren tweemaal zo veel ingrijpende levensgebeurtenissen te hebben ervaren dan I/R en Nederlandse jongeren. In dit hoofdstuk is vastgesteld dat AMA's een beduidend hoger risico lopen voor het ontwikkelen van psychopathologie dan vluchtelingenadolescenten met een familielid, immigranten of Nederlandse adolescenten.

De nadruk van hoofdstuk 8 ligt op het vervolgonderzoek. Meer specifiek zijn de prevalentie, beloop en belangrijke voorspellers van de psychische klachten en het maladaptieve gedrag van AMA's die in Nederland verblijven in kaart gebracht. In dit hoofdstuk is gebruik gemaakt van de bevindingen van de voogden, de leerkrachten en de AMA's. De door AMA's gerapporteerde psychische klachten zijn van ernstige en chronische aard en dit wordt bevestigd door zowel de voogden als de leerkrachten. Een dosis-respons

relatie is gevonden tussen het aantal ervaren ingrijpende levensgebeurtenissen en het niveau van psychische klachten. Psychopathologie tijdens het eerste meetmoment (gerapporteerd door alle informanten), is de belangrijkste voorspeller voor psychopathologie bij de vervolgmeting. Echter, de mate van overeenstemming in het rapporteren van psychische klachten tussen de verschillende informanten is gering. Overigens wijkt deze bevinding niet af van vorige studies die de concordantie van klachtenrapportage door verschillende informanten in kaart brachtten. Dit hoofdstuk vormt de kern van het proefschrift en draagt bij aan de vergroting van de kennis over de geestelijke gezondheid van vluchtelingadolescenten. De discussie in dit hoofdstuk besteedt aandacht aan de wijze waarop de geestelijke gezondheidszorg in Nederland beter toegesneden zou kunnen worden op de behoeften van in Nederland verblijvende AMA's.

Hoofdstuk 9 vormt de eerste studie waarin de behoefte aan geestelijke gezondheidszorg en het gebruikmaken van de diensten van de GGZ door AMA's in kaart is gebracht. Op basis van drie informatiebronnen is informatie verzameld over het welzijn, de geestelijke gezondheidszorgbehoeftes en het gebruikmaken van diensten van de GGZ door AMA's: de minderjarigen zelf, hun wettelijke voogden en hun leerkrachten. Het geestelijke welzijn van de AMA's, hun zorgbehoeften, en het gebruikmaken van de diensten van de GGZ zijn vergeleken met die van een representatieve Nederlandse autochtone adolescentie groep (n = 1059). De bevindingen van de studie wijzen erop dat AMA's die een behoefte aan geestelijke gezondheidszorg hebben (57,8%), meer emotionele problemen rapporteren dan Nederlandse adolescenten die eveneens aangeven een behoefte aan GGZ te hebben (8,2%). Overigens nemen de voogden en de leerkrachten de emotionele problemen en zorgbehoeften van de AMA's slechts bij een beperkt percentage van hen waar (30%). De verwijzing van AMA's naar de geestelijke gezondheidszorg lijkt niet gebaseerd te zijn op de door de AMA's zelf gerapporteerde behoeften, maar op basis van de door de voogd waargenomen en geobserveerde behoeften. Als gevolg hiervan rapporteerde 48,7% van de AMA's dat hun behoefte aan geestelijke gezondheidszorg onvervuld was.

Hoofdstuk 10 is het laatste hoofdstuk van de sectie over de resultaten van het proefschrift (Deel 2) en heeft een tweevoudige doelstelling. Het eerste doel is te onderzoeken in welke mate psychische klachten de adaptatie van AMA's in hun gastland kunnen beïnvloeden en het tweede doel is te onderzoeken in welke mate comorbiditeit van emotionele of gedragsprobleem met traumatische stress reacties de aanpassing van AMA's in Nederland kan beïnvloeden. De resultaten die in dit hoofdstuk worden beschreven wijzen erop dat, ondanks de vele ingrijpende levensgebeurtenissen die AMA's hebben meegemaakt en hun hoge psychische klachtenniveau, de meerderheid van AMA's aan leeftijdsgeschikte ontwikkelingstaken werkt zoals het plannen van een toekomst en het volgen van onderwijs. 57% van de AMA's (op T1 en/of T2) voldoet aan de criteria voor een mogelijke diagnose van een posttraumatische stressstoornis (PTSS), waarvan bovendien 57% aangeeft verhoogde klachtenniveaus van externaliserend maladaptief gedrag en/of internaliserende emotionele problemen te hebben. Bovendien lijkt comorbiditeit van psychopathologie de positieve aanpassing en de attitudes van AMA's negatief te beïnvloeden.

De discussie van het proefschrift (hoofdstuk 11) herhaalt het unieke karakter van deze studie. De infrastructuur die in Nederland bestaat, dat wil zeggen één stichting - Nidos - die de wettelijke voogdij heeft over alle in Nederland verblijvende AMA's, heeft het mogelijk gemaakt om een dergelijke grootschalige studie onder AMA's uit te voeren. In andere landen bestaat deze infrastructuur niet. Daardoor is het elders bijna onmogelijk uit zoveel bronnen informatie over de geestelijke gezondheid van AMA's te verzamelen. De betrouwbaarheid en de validiteit van de in deze studie gebruikte psychologische instrumenten zijn grondig onderzocht en de instrumenten zijn geschikt bevonden voor toepassing bij deze populatie. Het chronische en hoge klachtenniveau van psychische problemen dat van AMA's is gerapporteerd, is op twee aparte meetmomenten door hun voogden en leerkrachten geverifieerd. De ernstige aard van de psychische problemen van AMA's is sterk gerelateerd aan het aantal ervaren ingrijpende levensgebeurtenissen en hun behoefte aan geestelijke gezondheidszorg. Verder is geconstateerd dat AMA's zelf vinden geestelijke hulp nodig te hebben wanneer zij een hoog psychisch klachtenniveau ervaren. AMA's die een behoefte hebben aan geestelijke gezondheidszorg (60%), rapporteren een hoger klachtenniveau dan de Nederlandse adolescenten die ook een dergelijke zorgbehoefte rapporteren (8%). Tot slot, ondanks de vele meegemaakte ingrijpende levensgebeurtenissen en een hoog psychisch

klachtenniveau, lijkt de meerderheid van AMA's zich goed aan de situatie in Nederland aan te passen en bezig te zijn met leeftijdsgeschikte ontwikkelingstaken. Zij doen dit, terwijl hun emotioneel lijden groot is, aangezien ongeveer 60% van de jongeren tijdens het eerste en/of tweede meetmoment aan de criteria voor een mogelijke DSM-IV Posttraumatische Stressstoornis voldoet.

Dit proefschrift heeft de psychische klachten en de geestelijke gezondheidsbehoeften van AMA's die in Nederland verblijven in kaart gebracht. De aard van de psychische klachten van AMA's (internaliserend), kan zowel op de korte als lange termijn het dagelijkse functioneren van deze jonge mensen ernstig belemmeren en hun ontwikkeling verstoren. Het is belangrijk dat AMA's adequate supervisie en begeleiding voor hun psychische klachten en gedragsproblemen ontvangen. Dit is noodzakelijk, omdat AMA's geen ouders hebben die hun kunnen leren om te gaan met angst, verlies, verdriet, onzekerheid en pijnlijk herinneringen. Zij moeten deze vaardigheden van andere volwassenen leren, zodat ze beter in staat zijn om te gaan met hun angst, intrusieve (traumatische) herinneringen en met de spanningen in hun leven. Door deze vaardigheden aan AMA's te leren, is de verwachting dat deze jongeren positieve aanpassingsstrategieën kunnen ontwikkelen en hier passend gebruik van kunnen gaan maken. Bovendien moeten zij de gelegenheid krijgen in een omgeving te leven waarin hun fysieke veiligheid gewaarborgd is, waarin er stabiliteit en continuïteit is en waarin er bekwame begeleiders beschikbaar zijn. Voortdurende overplaatsing is niet bevorderlijk voor hun geestelijk welzijn.

Tot slot worden de implicaties van de resultaten van de studie voor de huidige situatie in Nederland besproken. De diverse implicaties vormen richtlijnen en zijn leidende principes voor de bescherming en de bevordering van de geestelijke gezondheid van AMA's. De aanbevelingen worden in het kort beschreven in een zogenoemd “stepped care” model, dat het belang benadrukt de intensiteit van de te verlenen geestelijke gezondheidszorg af te stemmen op de ernst van de psychische klachten en de behoeften van de individuele AMA. Het proefschrift eindigt met enkele aanbevelingen voor verder onderzoek, dat noodzakelijk wordt geacht om de kennis op het terrein van de geestelijke gezondheid en de geestelijke gezondheidszorgbehoeften van vluchtelingadolescenten uit te breiden en te verdiepen.

De belangrijkste beleidsaanbevelingen die in dit proefschrift worden beschreven zijn:

1. Een veilige en stabiele omgeving creëren voor AMA's, rekening houdend met de diverse woonvormen. De kans is gering dat een geestelijke gezondheidsbehandeling (of interventie) een positieve invloed zal hebben op het hoge klachtenniveau van emotionele problemen zolang deze jongeren geen rust in hun dagelijks leven hebben.

2. Het is essentieel dat AMA's een vak/ opleiding volgen en afmaken. Zij zullen dan in de toekomst in staat zijn in hun eigen levensonderhoud te voorzien. De emotionele veiligheid van de wetenschap dat zij hun opleiding/vak kunnen afmaken, kan hun bezorgdheid verminderen.

3. AMA's moeten psychologische “hulpmiddelen” in handen krijgen om te leren omgaan met pijnlijke herinneringen aan traumatische gebeurtenissen en spanningen. Zij hebben niet het voorrecht ouders te hebben die hen deze vaardigheden kunnen aanleren. Na het verwerven van deze basisvaardigheden zullen AMA's actieve en positieve aanpassingstrategieën kunnen ontwikkelen (en er uiteindelijk gebruik van kunnen maken).

4. Monitoring en vroegtijdig screening (op regelmatige basis) van de psychische problemen van AMA's kan bevorderlijk zijn voor het adequaat beoordelen van hun klachten en hun psychosociale behoeften.

5. Ontwikkelen van methodes en behandelingen (technieken) die effectief zijn om de psychische klachten en traumatische stressreacties van AMA's te verminderen.

Tot slot, de bevindingen van dit proefschrift tonen aan dat het mogelijk is om de psychische klachten van een cultureel zeer diverse adolescentengroep op een geldige en

betrouwbare wijze te meten. Bovendien heeft dit proefschrift bevestigd dat AMA's veel opeenvolgende (cumulatieve) ingrijpende levensgebeurtenissen hebben meegemaakt en als gevolg hiervan ernstige en chronische psychosociale problemen rapporteren (voornamelijk angst, depressieve, en traumatische stressreacties). De rapportages van hun voogden en leerkrachten bevestigen de rapportages van de AMA's zelf. Chronische maladaptieve sociale en emotionele aanpassingsvaardigheden kunnen zich als gevolg van ontoereikende supervisie en begeleiding ontwikkelen. Door adequate supervisie te ontvangen kan aan AMA's de gelegenheid worden geboden te leren omgaan met de grote hoeveelheid overweldigende emoties waarmee zij in hun dagelijks leven geconfronteerd worden. Het is voor de geestelijke gezondheid van AMA's van uitermate groot belang dat hun het recht op adequate en doeltreffende geestelijke gezondheidszorg niet ontnomen wordt, omdat dit noodzakelijk wordt geacht om zich te kunnen ontwikkelen tot sociale en emotioneel competente volwassenen die in staat zijn in hun eigen levensonderhoud te voorzien.

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And last, but not least my husband Rob. Ten years ago, we started our journey together. Without your sacrifice and support, these last years would have been unbearable. Thank you for always, always being there when I needed you.

Tammy

Curriculum Vitae

Tammy Bean, born in 1971 in Elkhart, grew-up in Northern Indiana (Amish and Mennonite country). She graduated from a small high school, Northwood in 1990. After a year of following pre-medicine classes at Messiah College, Pennsylvania, she participated in an exchange program in Hong Kong for one year, 1991-1992. She resumed her education majoring in Psychology at Goshen College in Indiana. During her study, she worked with severely emotionally disturbed adolescents at several mental healthcare facilities as a mental health worker from 1992 to 1995. She graduated with a Bachelor's degree in the Arts from Goshen College in 1995.

Again her travels took her abroad for another exchange program, this time to the Netherlands (1995-1996). However, after a short stay in the States in 1996, she returned to the Netherlands (and her future husband) and began Dutch language classes at Leiden University in 1997. In the fall of 1997, she was allowed to begin taking regular classes in Psychology. Tammy wished to specialize in Clinical Child and Adolescent Psychology in 1998 and was allowed to assemble her own “afstudeerrichting (classes)” because Leiden University did not offer it standard. During her study, she also worked at the International Child Development Initiatives in Leiden to assist in setting up a Youth Monitor for The Hague “Jong in Den Haag”.

At the start of 1998, since she had always had a great interest for other cultures, adolescents with troubled backgrounds, and after living for several years in the multicultural city of The Hague, she knew she wanted to develop/modify a psychological instrument to measure posttraumatic stress by refugee and immigrant youth. Tammy wrote to De Vonk/Stichting Centrum '45(unit for the treatment of refugees and asylum-seekers that suffer from the consequences of organized violence) in 1999 and was allowed to do her Master level internship at De Vonk/Stichting Centrum '45 and to carry out a research project in schools throughout the Hague, in which she could develop/modify a psychological instrument to measure traumatic stress reactions by adolescents. She graduated *cum laude* for her Master's in Science from Leiden University in Clinical Child and Adolescent Psychology in 2000.

She was asked in 2000 by Professor J.N. Schreuder (former director of Stichting Centrum '45, a mental healthcare center which treats people suffering from the consequences of organized violence) to re-write a research proposal and carry out a project with Unaccompanied Refugee Minors which she did. This project (2001-2004) was financed by Achmea Victim and Society Foundation, the Health Research Development Counsel (ZON-Mw), and Centrum '45. The writing of this dissertation (2005 until mid-2006) was totally financed by Achmea Victim and Society Foundation. Tammy also worked as a research consultant with the Omega Healthcare Center in Graz, Austria on several European projects since 2000.

Tammy continues her work with traumatized children and adolescents in a Post-Doctoral Research Fellowship in Child/Adolescent Psychiatry at the University of Pittsburgh School of Medicine, Western Psychiatric Institute and Clinic. The focus of the Post-Doctoral Fellowship is on treatment implementation and mental health services research with children and youth.

Appendix 1

Number of URM arrivals and legal guardianships for the years 1988 to 2005

Year	Number of Arrivals in the Netherlands (source; INS)	Number of legal guardianships (source; Nidos)
1988	Unknown	280
1989	376	427
1990	476	646
1991	727	794
1992	860	1017
1993	1755	1613
1994	2622	2989
1995	1939	3515
1996	1562	3705
1997	2660	4897
1998	3507	6728
1999	5009	9135
2000	6705	11947
2001	5951	12637
2002	3232	10528
2003	1261	7028
2004	452	4625
2005	428	3343

Appendix 2

Hopkins Symptom Checklist 37 for Adolescents (HSCL-37A); English version

Centrum '45 English **HSCL-37A**

Below is a list of different feelings and behaviors of young people. Please tell us how often you have had these feelings or have acted a certain way today or within the **past month** by filling in the circle which most applies to you.

● = ***never*** ● = ***sometimes*** ● = ***often*** ● = ***always***

		●	●	●	●
		never	sometimes	often	always
1	Suddenly sacred for no reason	o	o	o	o
2	Feeling restless, can't sit still	o	o	o	o
3	Becoming angry easily	o	o	o	o
4	Drinking alcohol when I go out in the weekend	o	o	o	o
5	Feeling fearful	o	o	o	o
6	Blaming myself for things	o	o	o	o
7	Bullying or threatening others	o	o	o	o
8	Smoking cigarettes	o	o	o	o
9	Faintness, dizziness or weakness	o	o	o	o
10	Crying easily	o	o	o	o
11	Destroying or breaking things that belong to others	o	o	o	o
12	Nervousness or shakiness inside	o	o	o	o
13	Loss of sexual interest	o	o	o	o
14	Starting fights	o	o	o	o
15	Feeling low in energy, slowed down	o	o	o	o
16	Heart pounding or racing	o	o	o	o
17	Poor appetite	o	o	o	o
18	Intentionally hurting someone	o	o	o	o
19	Trembling	o	o	o	o
20	Difficulty falling asleep, staying asleep	o	o	o	o
21	Arguing often	o	o	o	o
22	Feeling tense or keyed up	o	o	o	o
23	Feeling hopeless about the future	o	o	o	o
24	Feeling no interest in things	o	o	o	o
25	Drinking alcohol during the week	o	o	o	o
26	Headaches	o	o	o	o
27	Feeling blue	o	o	o	o
28	Using sleeping pills or sedatives	o	o	o	o
29	Spells of terror or panic	o	o	o	o
30	Feeling lonely	o	o	o	o
31	Thoughts of ending my life	o	o	o	o
32	Feeling of being trapped or caught	o	o	o	o
33	Worrying too much about things	o	o	o	o
34	Stealing things	o	o	o	o
35	Feeling everything is an effort	o	o	o	o
36	Feelings of worthlessness	o	o	o	o
37	Using drugs (hash, XTC, speed, coke, LSD)	o	o	o	o

Appendix 3

Stressful Life Events (SLE); English version

Centrum '45 English **SLE**

Instructions Below is a list of very stressful life events that sometimes happen to people. If you have experienced any of these events, please fill-in the circle. If you would like to clarify or add something to the questions, you can do that at the end of the list by 'further comments'.
Thank you.

		Yes	No
	Stressful life events concerning the family		
1	Have there been drastic changes in your family *during the last year*?	O	O
2	Have you ever been separated from your family against your will? (By a stranger, police officer, soldier, fleeing your homeland)	O	O
3	Has someone died in your life that you really cared about?	O	O
	Experiences with illness, accidents and disasters		
4	Have you had a life threatening medical problem?	O	O
5	Have you been involved in a serious accident? (for example involving a car)	O	O
6	Have you ever been involved in a disaster? (For example: flood, hurricane, fire, tornado, avalanche, earthquake, hostage situation, chemical disaster?)	O	O
	War		
7	Have you ever experienced a war or an armed military conflict going on around you in your country of birth?	O	O
	Physical and sexual mistreatment		
8	Has someone ever hit, kicked, shot at or some other way tried to physically hurt you?	O	O
9	Did you ever see it happen to someone else in real life? (Not just on television or in a film)?	O	O
10	Has someone ever tried to touch your private sexual parts against your will or forced you to have sex?	O	O
	Other		
11	Did you experience any other very stressful life events where you thought that you were in great danger?	O	O
12	Did you experience any other very stressful life event where you thought that someone else was in great danger?	O	O

13. **Not listed above but you found the event very frightening:** .....
.....
.....

Comments:.....
.....

Appendix 4

Reactions of Adolescents to Traumatic Stress (RATS); English version

Centrum '45 English **RATS**

Instructions: Sometimes young people have certain problems after experiencing stressful life events. The following questions are about these problems. Please read the questions carefully. Read every sentence and think if you have been bothered during ***the past four weeks*** by this problem. Then fill-in the circle that applies to you.

● = ***not*** ● = ***a little*** ● = ***much*** ● = ***very much***

		●	●	●	●
		not	a little	much	very much
1	I think often of the event(s) even if I do not want to. (for example; pictures of the event(s) pop into your head)	O	O	O	O
2	I have bad dreams or nightmares about the event(s)	O	O	O	O
3	I have the feeling that the event(s) is happening all over again.	O	O	O	O
4	I feel afraid or sad (upset) if I think about the event(s).	O	O	O	O
5	I find myself sometimes acting as I did at the time of the event(s).	O	O	O	O
6	When I think about the event(s), I have strong feelings in my body (headaches, stomachaches, heart beating fast).	O	O	O	O
7	I try to not to think or to talk about the event(s).	O	O	O	O
8	I try to push away my feelings about the event(s).	O	O	O	O
9	I try to stay away from people, places, or things that remind me of the event(s).	O	O	O	O
10	I have forgotten important things about the event(s).	O	O	O	O
11	I feel all alone.	O	O	O	O
12	I do not feel close to the people around me.	O	O	O	O
13	I have trouble expressing my feelings.	O	O	O	O
14	I am not interested in things like sports, friends, school, and family.	O	O	O	O
15	I do not think positively about my future. (that I will find a partner, get a good job)	O	O	O	O
16	I have trouble falling asleep.	O	O	O	O
17	I have trouble staying asleep or I wake up too early.	O	O	O	O
18	I have trouble concentrating or paying attention. (At school or at home).	O	O	O	O
19	I am alert (always watching out or on guard for things that I am afraid of).	O	O	O	O
20	I startle easily when I hear a loud sound or when something surprises me.	O	O	O	O
21	I often have arguments with others (family, friends, and teachers).	O	O	O	O
22	I have angry outbursts. (So angry that I throw things, hit, kick, or scream.)	O	O	O	O

Appendix 5

The Adaptation and Attitude Questionnaire (A & A); English version

Centrum '45 English A & A

I

In this questionnaire you will find questions about life in the Netherlands. There are a few questions about your future. Please fill in the circle that fits you or write down your answer.

You can write any comments you have at the end of the questionnaire by 'comments'

	Nederland	Yes	Some-times	No	I don't know
1	I want to learn to speak Dutch.	o	o	o	o
2	I like living in the Netherlands.	o	o	o	o
3	I think that living in the Netherlands is difficult.	o	o	o	o
4	I want to live in the Netherlands.	o	o	o	o
5	I want to go back to my own country.	o	o	o	o
6	I want to move to a different country. Which one?_____	o	o	o	o
7	I think that I will be able to stay in the Netherlands.	o	o	o	o
8	I am afraid that I will be sent back to my own country.	o	o	o	o
	Safety				
9	I feel safe where I am living (in my house, in the AZC-reception center).	o	o	o	o
10	I feel safe at school.	o	o	o	o
11	I feel safe when I am walking around outside.	o	o	o	o
	Reception				
12	I am satisfied with the way AMA's are cared for in the Netherlands.	o	o	o	o
13	I am satisfied with the way I am cared for in the Netherlands.	o	o	o	o
	Education/Work				
14	I want to work in the Netherlands.	o	o	o	o
15	I already have a job in the Netherlands.	o	o	o	o
16	I am learning a trade/going to school in the Netherlands	o	o	o	o
17	I want to get an education. Which education?:_____	o	o	o	o
18	I want to learn a trade. Which trade?:_____	o	o	o	o
19	I think that I am going to learn a trade. Which trade?:____ _____	o	o	o	o
	Other				
20	I would leave my country again if I knew that I would end up in the same situation.	o	o	o	o
21	I would come to the Netherlands again if I knew that I would end up in the same situation.	o	o	o	o

22 Imagine that you could make three wishes. What would you wish for?

1.
2.
3.

23 How do you think that your life will be after the next 10 years?

24 Comments:

Appendix 6

Mental Healthcare Questionnaire; English version

You have just filled in a questionnaire over your possible symptoms, or difficult experiences that you have had in your life. When we say the word symptom (problem) we are talking about how your feel emotionally (for example; always sad) how you physically feel (for example; not sleeping well, having nightmares) and what you think (for example; always thinking bad things, worrying a lot). When people have a lot of these kinds of problems or have experienced difficult things, they sometimes would like to have help.

When we talk about help, we are talking about giving advice, care, medicine or others things that could help you to feel better. This interview is meant to find out if you would like help or not and if you have gotten help already.

If you have already gotten help, we would like to know what you thought about it. Then we can learn how improve helping young people.

Just like explained before, you don't have to answer the questions. It is voluntary. If you would like to stop during the study, just say so. All of the information that you tell us will only be used in this study.

1. Do you think that you have problems that you need help for?
   a. Yes
   b. No
   c. I do not know
   d. I do not understand the question

2. Do you know that there are people that can help you if you have symptoms (problems)?
   a. Yes
   b. No
   c. I do not know
   d. I do not understand the question

3. Would you like to contact someone that could help you?
   a. Yes
   b. No
   c. I do not know
   d. I do not understand the question

4. Have you already told someone that you have symptoms (problems)?
   a. Yes
   b. No
   c. I do not know
   d. I do not understand the question

4a. If you have talked to someone, who was it?
   a. Mentor
   b. Foster parents
   c. Teacher
   d. Guardian (Nidos person)
   e. Doctor
   f. Friend
   g. Someone from the church, mosque, other religion
   h. Family member
   i. Lawyer
   j. Someone from your country
   k. Vluchtelingwerk
   l. Someone else

5. Do you know what is meant in Dutch with the words 'health professional'?
   a. Yes
   b. No
   c. I do not know
   d. I do not understand the question

6. How do you think you can problems can be stopped?
   a. Go to the doctor
   b. Take medicine
   c. Talk to someone about their problems
   d. Do not think about your problems
   e. Other_____
   f. I do not know
   g. I do not understand the question

7. What do you think that a 'health professional' does in the Netherlands?
   a. Talk
   b. Give Medicine
   c. Make drawings
   d. I do not know
   e. I do not understand the question
   f. other ideas_____

8. Do you know that you do not have to pay for the help that you would get for your symptoms (problems) from an health professional?
   a. Yes
   b. No
   c. I do not know
   d. I do not understand the question

9. Has someone asked you or told you to go to a 'health professional'?
   a. Yes
   b. No
   c. I do not know
   d. I do not understand the question

9a. If they did, who was it?
   a. Mentor
   b. Foster parent
   c. Teacher
   d. Guardian (Nidos person)
   e. Doctor
   f. Friend
   g. Someone from the church, mosque, other religion
   h. Family member
   i. Lawyer
   j. Someone from your country
   k. Vluchtelingwerk
   l. Someone else

10. Would you like to go with someone to a 'health professional'?
   a. Yes
   b. No
   c. I do not know
   d. I do not understand the question

10a. If yes, why?
   a. Support
   b. Because I am not understood there
   c. Because I do not know how to go there
   d. Other_____
   e. I do not know

10b. If yes, who would you like to go with?
   a. Mentor
   b. Foster parent
   c. Teacher
   d. Guardian (Niodsperson)
   e. Doctor
   f. Friend
   g. Someone from the church, mosque, other religion
   h. Family member
   i. Lawyer
   j. Someone from your country
   k. Vluchtelingwerk
   l. Someone else

11. Have you already been to a 'health professional'?
   a. Yes
   b. No
   c. I do not know
   d. I do not understand the question

12. What kind of 'health professional' have you gone to?
   a. School psychologist
   b. Hospital
   c. Doctor
   d. RIAGG
   e. ABRI
   f. AMOG
   g. Phoenix
   h. De Vonk
   i. Pharos
   j. Social work
   k. Other_____
   i. I do not know

13. Did you think that the help you got was good (did the help that you got end your problems?)
   a. Yes
   b. No
   c. I do not know
   d. I do not understand the question

14. Do you feel at ease with your 'health professional'?
   a. Yes
   b. No
   c. I do not know
   d. I do not understand the question

15. Are you satisfied with the help that you got?
   a. Yes
   b. No, I wanted_____
   c. I do not know
   d. I do not understand the question

16. Would you like a different 'health professional'?
   a. Yes
   b. No
   c. I do not know
   d. I do not understand the question

16a. If yes, why?
- a. Different sex
- b. Different skin color
- c. Different culture
- d. Different religion (mosque, church)
- e. Other reasons_____

17. How often have you been to the 'health professional'?_____

18. Have you always talked to the same 'health professional'?
- a. Yes
- b. No- I have talked to several different people
- c. I do not know

19. How many people have you talk to about your problems at the same place?___

20. Was a translator present?
- a. Yes
- b. No
- c. I do not know
- d. I do not understand the question

20a.If yes, did you think that the translator translated well (could you communicate well with the translator)?
- a. Yes
- b. No
- c. I do not know
- d. I do not understand the question

21. Did you stop going to the 'health professional'?
- a. Yes
- b. No
- c. I do not know
- d. I do not understand the question

21a. If yes, why did you do that?
- a. I have less problems/ I feel better
- b. I thought that others would think I was crazy
- c. I did not have time
- d. I did not feel at easy
- e. I did not think it helped
- f. I do not know
- g.Other reasons_____

22. Did you tell others (friends, family) that you go to a 'health professional'?
- a. Yes
- b. No
- c. I do not know
- d. I do not understand the question

22a. If no, why not?
- a. I just do not want to
- b. I think my friends-family would think I was 'crazy'
- c. I do not trust others
- d. I do not know
- e. other reasons_____

22b. If yes, why (reasons)_____

23. What do you think about the accessibility of the location of the 'health professional'?
- a. Is easy to find
- b. Is difficult to find
- c. Difficult with public transportation
- d. takes a lot of time
- e. Do not know
- f. I do not understand the question

24. Does family live in the Netherlands?
- a.Yes
- b. No

24a. If yes, who?

a. sister
b. brother
c. father
d. mother
e. aunt
f. uncle
g. niece/cousin
h. nephew/cousin
i. other_____

25. How many years have you gone to school?

a. 0 years
b. 1year
c. 2 years
d. 3 years
e. 4 years
f. 5 years
g. 6 years
h. 7 years
i. 8 years
j. 9 years
k.10 years
l. 11 years
m.12 years
n. older than 12 years