

Hopkins Symptom Checklist-37A for Adolescents (HSCL-37A)

User's Manual

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1. Introduction

There are a limited number of reliable and valid diagnostic instruments that can be used with refugee adolescents to measure psychosocial problems (Kouratovsky, 2002). This is the main reason for the development of the Hopkins Symptom Checklist-37 for Adolescents (HSCL-37A). The questionnaire should be administered with the goal of screening adolescents that are at risk for psychosocial and emotional distress.

The known literature on this topic has provided us with a depiction of the prevalence rates of psychosocial symptoms that are reported by refugee adolescents (Boothby, 1988; Felsman, Leong, Johnson & Felsman, 1990; Masser, 1992; Sack, Clark, Him, Dickason, Goff, Lanham & Kinzie, 1993; Macksoud & Aber, 1996; Miller, 1996; Veer, van der, 1998; Sourander, 1998; Becker, Weine, Vojvoda & McGlashan, 1999; Berthhold, 1999; Lustig, Kia-Keating, Knight, Geltman, Ellis, Kinizie, Keane & Saxe, 2004). The most frequently reported symptoms are somatic complaints, anxiety, depression, and posttraumatic stress reactions. These symptoms are reported by the adolescents themselves, by their parents and by important others such as their teachers. Refugee adolescents may report other symptoms than their parents and teachers report (Zivcic, 1993; Mollica, Poole, Son & Murray, 1997; Vervuurt & Kleijn, 1997; Almqvist & Brandell: 1997; Rousseau & Drapeau, 1998; Forsberg, 1999). Caretakers often report a lower prevalence of internalizing problems than the adolescents themselves. It may be difficult for caretakers; teachers and professional caregivers to determine to what extent the adolescents suffer from psychological distress.

On the other hand, it is not as difficult for significant adults in the lives of adolescents to notice externalizing problems, which often disturb the lives of the people closest to the adolescent. Adolescents with conduct problems are referred much sooner/more often to professional mental health care organizations than adolescents with internalizing problems (Wu, Hoven, Bird, Moore, Cohen, Alegria, Dulcan, Goodman, McCue-Horwitz, Lichtman, Narrow, Rae, Reiger & Roper, 1999). Antisocial behavior and substance abuse are examples of externalizing behavior. Literature concerning the conduct problems of refugee adolescents is very limited (Raboteg-Saric, Zuzul & Kerestes, 1994). 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 the known literature concerning this topic. Four studies evaluated the delinquent and aggressive behaviors refugee adolescents exhibited and found no evidence suggesting excessive behavior problems in this population group (Raboteg-Saric et al., 1994; Mollica et al. 1997; Rousseau en Drapeau, 1998; Sourander, 1998). Ajdukovic (1998) implied that adolescents, who have been severely traumatized, such as refugee adolescents, might temporarily show more risk behavior such as reckless sexual activity, substance abuse and truancy. She suggests that this kind of maladaptive behavior may be seen as a kind of coping mechanism. Chronic externalizing behavior may lead to anti-social attitudes, substance abuse, and depressive symptoms (such as a low self-esteem and negative mood) (Reid, Patterson & Snyder, 2002). Social isolation and repeated criminal activity may result from chronic externalizing behavior.

This questionnaire should not be used alone (without other instruments and information from other sources) to make a complete diagnosis. The questionnaire should be used for screening purposes to indicate which adolescents (between the ages of 12 and 18 years) are at risk for the development of psychopathology. The use of many different kinds of psychological instruments and observations are required to make a thorough and accurate diagnosis.

The instrument is suited for making a quick inventory of symptoms experienced by refugee adolescents. The screening instrument can be used by psychologists, psychiatrists, school psychologists, school doctors, etc. who are capable of professionally assessing the well-being of adolescents. Academics with experience in using standardized diagnostic techniques may also use this instrument. The instrument may also be used in a research setting and for the monitoring of symptoms during a specified period. In all settings, one must be aware that the questionnaire may trigger emotional distress. Follow-up care should be arranged prior to the administration of the instrument. The integrity of the adolescents must be protected at all times.

It was necessary to make modifications to the existing questionnaire to make it both “adolescent friendly” and “multi-cultural”. Instead of using only words for the rating scale, use has been made of colored circles that increase in size. The Dutch items have been composed using the “Vocabulary List for 12 to 15 year olds” (Projectbureau OVB Rotterdam, 1992), to make the questionnaires suitable for the reading level of this population. The items have been kept as short as possible and have been written for a primary level of reading. All language versions are bilingual, the foreign language in the first column and English in the second column. The questionnaires are available in 19 different languages: Dutch, English, French, Russian, Arabic, Amhaars, Albans, Mongols, Badini, Farsi, Dari, German, Turkish, Somali, Portuguese, Spanish, Servo-Croatian, Chinese (Mandarin), and Soerani. Adolescents have the opportunity to read and answer the questions in their native language.

Questions were formulated in simple English and kept to a limited numbers of words in order to minimize the effects of language barriers. Earlier research has shown that refugee adolescents have a limited concentration span (Bean, 2000; Vervuurt & Kleijn, 1997). The time required to complete the questionnaire should be limited. Questionnaires yield less diagnostic information than extensive structured interviews; however, they are not as intrusive. Questionnaires have also been proven to be of practical value with multicultural population groups.

The main objective of this questionnaire is to identify possible psychosocial symptoms of refugee adolescents between the ages of 12 and 18 years. The range of psychosocial symptoms of refugee adolescents requires a broad diagnostic examination to establish a thorough and complete diagnosis.

2. Psychometric properties of the Hopkins Symptom Checklist 37 for Adolescents (HSCL-37A)

2.1 Construction of the scale

The HSCL-37A is a questionnaire, which originated in the United States. The questionnaire comes from an item pool, developed by Karloff, Kleman and Frank of the John Hopkins University. The original version consisted of 41 questions from the Cornell Medical Index of 1949. The most common version of the HSCL item pool is the SCL-90 (Derogatis et al., 1974, Arrindell & Ettema, 1986). In 1987, the HSCL-25 was translated into Cambodian, Laotians and Vietnamese for use with refugees (Mollica, Wyshak, Marneffe, Khuon & Lavelle, 1987). In 1994, the Harvard Refugee Program gave Centrum '45 (of which De Vonk is a sub-division) permission to make modifications to the HSCL-25 and to translate the HSCL-25 for research involving different cultural groups. As of 1995, the Hopkins Symptom Checklist (HSCL-25) has been part of the intake procedure at De Vonk (treatment center for refugees and a sub-division of Centrum '45). The result is that De Vonk has been able to gain a lot of experience with this questionnaire (Kleijn et al., 2001). The Hopkins Symptom Checklist is used internationally to measure psychiatric symptoms (Hesbacher, Rickels, Morris, Newman & Rosenfeld; 1980; Winokur, Winokur, Rickels & Cox 1984; Felsman, Jeong, Johnson & Felsman, 1990; Hansson, Nettelbladt, Borguist & Nordstrom, 1994; Davies, Norman, Cortese & Malla, 1995; Mouanoutoua & Brown, 1995; Mghir, Greed, Raskin & Katon, 1995; McKelvey, & Webb, 1997; Shrestha, Sharma, Van Ommeren, Regmi, Makaju, Komproe, Shrestha & de Jong, 1998; Mollica, Sarailic, Chernoff, Lavelle, Sarajilic-Vukovic & Massagli; 2001 Afana, Dalgard, Berjtness & Grunfeld, 2002; Kaaya, Fawzi, Mbwanbo, Lee, Msamanga & Fawzi, 2002; Lie, 2002). The instrument contains 10 items of the HSCL-90 anxiety cluster, 13 items of the depression cluster, and 2 somatic items (which fall under the depression cluster). A cluster for externalizing behavior has been put together based on 12 questions. These 12 questions correspond with the eight criteria of conduct disorder and the two criteria of the oppositional-defiant disorder, as defined in the DSM-IV (APA, 1994). The questionnaire has 37 questions that are answered by the adolescent him/herself. This instrument is called the Hopkins Symptom Checklist-37 for Adolescents. This questionnaire is available in 19 different languages. A short description of the different clusters of the HSCL-37A is as follows:

Internalizing cluster

Sub-cluster Anxiety

The anxiety cluster is comprised of symptoms clinically associated with a high anxiety level (Derogatis et al., 1974). It includes symptoms such as nervousness, tension, and restlessness, but also more specific symptoms such as panic attacks and a pounding/racing heart. This cluster measures the level of generalized anxiety. The items of the anxiety cluster are:

1. Suddenly scared for no reason
2. Feeling restless, can't sit still
5. Feeling fearful
9. Faintness, dizziness or weakness
12. Nervousness or shakiness inside
16. Heart pounding or racing
19. Trembling
22. Feeling tense or keyed up
26. Headaches
29. Spells of terror or panic

Sub-cluster Depression

The depression cluster is comprised of a number of symptoms usually associated with the clinical syndrome of depression. Two items (nr. 17. 'Poor appetite' and nr. 20. 'Difficulty falling asleep, staying asleep') have been added to the original cluster of Derogatis (Winkur et al., 1984). The items of the depression cluster are:

6. Blaming myself for things
10. Crying easily
13. Loss of sexual interest
15. Feeling low in energy, slowed down
17. Poor appetite
20. Difficulty falling asleep, staying asleep
23. Feeling hopeless about the future
24. Feeling no interest in things
27. Feeling blue
30. Feeling lonely
31. Thoughts of ending my life
32. Feeling of being trapped or caught
33. Worrying too much about things
35. Feeling everything is an effort
36. Feelings of worthlessness

Externalizing behavior

Different authors (Newman, 1976; Pynoos & Nader, 1993; Ajdukovic, 1998) have established that adolescents may temporarily show increased risk behavior (externalizing behavior) following the witnessing/experiencing of a traumatic event. A cluster has been added to the original instrument (HSCL-25) in order to measure this kind of externalizing behavior. The questions in this cluster correspond with the eight criteria of conduct disorder and the two criteria of oppositional-defiant disorder, as defined in the DSM-IV (APA, 1994). The items of the externalizing cluster are:

3. Becoming angry, easily
4. Drinking alcohol when I go out in the weekend
7. Bullying or threatening others
8. Smoking cigarettes
11. Destroying or breaking things that belong to others
14. Starting fights
18. Intentionally hurting someone
21. Arguing often
25. Drinking alcohol during the week
28. Using sleeping pills or sedatives
34. Stealing things
37. Using drugs (hash, XTC, speed, coke, LSD)

3. Short description of the researched populations

3.1 Unaccompanied refugee minors research population

The national and longitudinal research project "Alleenstaande Minderjarige Asielzoekers en de GGZ (Unaccompanied refugee minors and Dutch Mental Health Care)" (2001-2004) was conducted among unaccompanied refugee minors living in The Netherlands and their guardians, teachers and among professional mental health care providers. The goal of the project was to determine the level of psychological distress of unaccompanied refugee minors, their need for mental health care, the availability of mental health care for this group and, finally, the association between all of these factors. The results of the research project give insight into the way accessibility of professional mental health care can be improved for unaccompanied refugee minors.

The process of screening, diagnosing, admission, and treatment can be facilitated by creating a way to recognize high-risk groups within the population. A secondary aim of this research project was validating and standardizing a screening instrument for this population group.

Great care was taken in the design of this research project. Prior to the start of the project, 24-hour crisis care was arranged at mental health care services throughout the Netherlands for unaccompanied refugee minors that might emotionally decompensate as a direct result of participation in this research project. There was no need to make use of the pre-arranged crisis care.

Unaccompanied refugee minors were only allowed to participate in this project after both they themselves and their legal guardians had given written permission for participation. Large amounts of resources were required to compose a representative population group. 1103 unaccompanied refugee minors participated in this research project between January 2002 and April 2003. 499 adolescents completed the questionnaires for a second time in the period between September 2003 and December 2003. Approximately 10% of the unaccompanied refugee minors between the ages 12 and 18, living in The Netherlands, participated in this research project (Nidos year report, 2002). This percentage was more than sufficient to gain a representative sample of the total unaccompanied refugee minors population group (Bean, 2002).

The adolescents completed the questionnaires in small groups (approx.10) during school hours. The school is a neutral environment; providing structure for the administration of questionnaires. A small group of adolescents completed the questionnaires at refugee reception centers or at the regional offices of the Nidos Foundation. If the adolescents did not attend school or were absent, the questionnaires were then completed at reception centers or at home. Three interviewers were always present to conduct a short interview and provide clarification for the questions.

| | Unaccompanied refugee minors research project* | Percentage |
|-----------------------|---|-------------------|
| N | 1103 | |
| Sex | | |
| M | 809 | 73% |
| F | 292 | 27% |
| | | |
| Age | | |
| Mean Age | 15, 81 years | |
| S. D. | 1,97 | |
| Range | 8-21 years | |
| | | |
| Land of Origin | 53 different countries | |
| Angola | 480 | 43% |
| Sierra Leone | 105 | 10% |
| China/Tibet | 90 | 8% |
| Guinea | 86 | 7% |
| Afghanistan | 35 | 3% |
| Congo/ Zaire | 35 | 3% |
| Eritrea/Ethiopia | 32 | 3% |
| Somalia | 23 | 2% |
| Irmak/Iran | 20 | 2% |
| Mongolia | 15 | 1% |
| Turkey | 15 | 1% |
| Other countries | 165 | 15% |

*differences in number are the result of missing data

3.2 Belgium Newcomers Research in International school in Belgium (referred to as the Belgium newcomers research in this manual) Written by Ilse Derluyn, Department of Orthopedagogy, University of Gent

This doctorate research project was conducted by the Department of Orthopedagogy at the University of Gent (Belgium). The goal of this project was to gain insight into the prevalence rates of behavioral and emotional problems amongst foreign speaking, newcomer, minors, without the support of significant others. The setting was the 'Newcomers classes- for non-Flemish speaking newcomers' in the secondary education (11- to 18-year olds). In these classes, foreign-speaking adolescents can learn Flemish during a period of one full school year.

This project was conducted in the period between November 2002 and May 2003. Thirty-seven of the forty-two secondary schools with 'Newcomers classes' were asked to take part in this project. Three schools declined; 34 schools agreed to participate in the project. Information about the project was provided to the schools that took part in the project. The schools also received an informed consent letter to give to the parents of the young people who would take part in the study.

The research project took place in classical setting, during school hours. First, the goals and procedure of the project were explained. Informed consent forms were handed out in duplicate to each newcomer; one for the researcher to keep and one for the newcomer to keep. The latter gave pupils the possibility to contact the researcher for further explanations if necessary. Pupils could complete the questionnaires at their own pace and where possible in their own native language. The researchers' presence (minimally two persons per class) provided the possibility for individual support of adolescents when needed. Completing the questionnaires usually took 1½ to 2 hours per class.

1294 foreign speaking newcomers completed the questionnaires. This is a large percentage of the total population of foreign speaking newcomers in Newcomers classes; the total number of pupils in 'Newcomers classes- for non-Flemish speaking newcomers' in the secondary education was 1341 on the 1st of October 2003 and 1982 on the 1st of June 2003 (F. Roekens, Department of Education, Ministry of the Flemish Community, personal announcements 03/07/2003).

| | Belgium newcomers research* | Percentage |
|------------------------|------------------------------------|-------------------|
| N | 1294 | |
| Sex | | |
| M | 683 | 54% |
| F | 584 | 46% |
| Age | | |
| Mean Age | 15,41 years | |
| S.D. | 1.88 | |
| Range | 10-26 years | |
| Land van Origin | 111 different countries | |
| Morocco | 180 | 14% |
| Ghana | 135 | 11% |
| Turkey | 120 | 9% |
| Angola | 40 | 7% |
| Tsjetsjenia | 38 | 3% |
| Bulgaria | 37 | 3% |
| Iran | 36 | 3% |
| Kosovo | 32 | 2% |
| Former Yugoslavia | 30 | 2% |
| China | 28 | 2% |
| Poland | 27 | 2% |
| Afghanistan | 26 | 2% |
| Armenia | 26 | 2% |
| Iraq | 24 | 1% |
| Congo | 23 | 1% |
| Albania | 23 | 1% |
| Slovakia | 20 | 1% |
| Somalia | 19 | 1% |
| Other countries | 422 | 33% |

*differences in number are the result of missing data

3.3 "WeN! Welzijn en Nieuwkomers. A research project to test the effectiveness of the teaching method "Welcome to School." (Hereafter referred to as the CED Rotterdam research) A program for teachers to promote the well-being of newcomers of 12 and 16 years old in secondary education. This research project was conducted by W. de Vos and R. Doelman of Cedille (research section of the Centre for Educative Care Giving) in Rotterdam

Welcome to School (WoS) is a program of 21 lessons that can be offered in 'international newcomers classes' and in the initial secondary education. Schools and teachers can positively influence and promote the well-being of newcomers, migrants, and refugee adolescents by using this program. WoS enables teachers to identify and evaluate the psychosocial symptoms of these adolescents, after which referral to the correct professional mental health care is possible. The goal of this research project was to determine under which conditions WoS can best be implemented and used by schools. The project took place at 15 secondary education schools. Questionnaires were completed in groups of 10-15 adolescents.

The project was started in 2003; with the second assessment, taking place 6 months after the questionnaires had initially been completed. 444 adolescents completed the HSCL-37A during the first assessment.

| | CED Rotterdam Research* | Percentage |
|-----------------------|--------------------------------|-------------------|
| N | 444 | |
| Sex | | |
| M | 245 | 59% |
| F | 173 | 41% |
| Age | | |
| Mean Age | 15.08 | |
| S.D. | 1.90 | |
| Range | 11-22 | |
| Land of Origin | 53 different countries | |
| Morocco | 58 | 14% |
| Turkey | 41 | 10% |
| Afghanistan | 32 | 8% |
| Angola | 59 | 14% |
| China | 22 | 6% |
| Iraq | 13 | 3% |
| Somalia | 18 | 4% |
| Former Soviet Union | 10 | 2% |
| Portugal | 10 | 2% |
| Other countries | 154 | 37% |

*differences in number are the result of missing data

3.4 Regular administration of the questionnaires during the intake of potentially psychiatric clients (traumatized refugees) at De Vonk (henceforth to be referred to as the De Vonk research).

De Vonk is a psychiatric treatment centre for traumatized refugees and is a subdivision of Centrum '45. Mainly adult refugees, and occasionally unaccompanied refugee minors or children of the adults, are being treated at De Vonk for trauma related psychiatric disorders.

The Hopkins Symptom Checklist (HSCL-25) has been part of the admission procedure at De Vonk since 1995. De Vonk has therefore been able to gain a lot of experience with this questionnaire (Kleijn et al., 2001). The HSCL-25 questionnaire measures anxiety and depression with good reliability (Cronbach alpha .82 -.92).

824 clients have completed the questionnaire at De Vonk. The questionnaire has been translated into 20 different languages. The translations of the HSCL-25 at De Vonk show small differences with the translations of the HSCL-37A (this is the questionnaire used in all the other researches and described in this manual).

The research population of De Vonk differs from the other research populations in this manual in a number of aspects. All of the De Vonk clients are adults, are potentially psychiatric clients and this population has completed the original HSCL-25. Care is therefore required when making comparisons between the different groups.

| | De Vonk | Percentage |
|------------------|------------------|-------------------|
| N | 811 | |
| Gender | | |
| M | 592 | 73% |
| F | 219 | 27% |
| Age | | |
| Mean age | 34.0 year | |
| S.D. | 9.1; | |
| Range | 14.9-70.4 | |
| Coutry of origin | | |
| Iran | 145 | 18% |
| Bosnia | 87 | 11% |
| Iraq | 83 | 10% |
| Afghanistan | 54 | 6% |
| Azerbeidzjan | 41 | 5% |
| Armenia | 35 | 4% |
| Kosovo | 32 | 4% |
| Somalia | 26 | 3% |
| Turkey | 26 | 3% |
| Other countries | 280 | 36% |

3.5 Belgium indigenous research

Written by Ilse Derluyn, Department of Orthopedagogy, University of Gent

Seventeen randomly chosen secondary schools (11 to 18 year olds), in five Flemish provinces, participated in the Belgium indigenous research project. The study-choice and distribution of these schools across the five Flemish provinces can be found in the table below. 617 adolescents completed the questionnaires.

This project was conducted in the period between January 2003 and May 2003. Information about the project was provided to the schools who participated in the study. The schools also received an informed consent letter to give to the parents of the young people who would take part in the study.

The research project took place in classical setting, during school hours. First, the goals and procedure of the project were explained. Informed consent forms were handed out in duplicate to each pupil; one for the researcher to keep and one for the pupil to keep. The latter gave pupils the possibility to contact the researcher if further explanations were desired. Pupils could complete the questionnaires at their own pace. The researchers' presence (minimally two persons per class) provided the possibility for individual support of adolescents when needed. Completing the questionnaires usually took half an hour per class

Each school received a short report of the findings at their school.

| | Belgium reference research* | Percentage |
|-------------------------------|-----------------------------|------------|
| N | 617 | |
| Sex | | |
| M | 336 | 55% |
| F | 279 | 45% |
| Age | | |
| Mean | 16.46 years | |
| S.D. | 1.92 | |
| Range | 13-21 years | |
| Province | | |
| Antwerp | 95 | 15% |
| Flemish-Brabant | 65 | 11% |
| Limburg | 71 | 12% |
| East -Vlaanderen | 268 | 43% |
| West-Vlaanderen | 118 | 19% |
| Education | | |
| General secondary education | 180 | 30% |
| Technical secondary education | 301 | 50% |
| Trade secondary education | 121 | 20% |
| Land of origin | | |
| Belgium | 604 | 99% |
| Other countries | 2 | 1% |

* Differences in totals are the result of missing data

6. Dutch indigenous research

A secondary aim of the research project "Unaccompanied refugee minors and the Mental Health Care Services" was the validating and standardizing of the screening instrument for refugee and migrant adolescents in general, and specifically for unaccompanied refugee minors. To accomplish standardization, it was important to have a representative group of indigenous Dutch adolescents, to which the scores of the unaccompanied refugee minors could be compared. The prevalence rates of the psychological symptoms of the unaccompanied refugee minors can then be better placed in the correct context.

Thirteen secondary schools, scattered throughout The Netherlands participated in the Dutch indigenous research project, starting January 2004 and ending in February 2004. These schools had a limited number (approximately 10%) of foreign students. Schools were also approached if they had unaccompanied refugee minors who had already taken part in the study "Unaccompanied Refugee Minors and the Mental Health Care Services". Asking the schools that participated in the previous research project to participate in this project made the groups more comparable. Ten of the schools had taken part in the study "Unaccompanied Refugee Minors and the Mental Health Care Services".

Approximately 100 adolescents per school completed the screening instrument. The adolescents were between 12 and 21 years of age. Participation was voluntarily and anonymous and took place in groups of +/- 25. Prior to the administration of the questionnaires letters of approval were sent to the parents. Completing the questionnaires took roughly 15 minutes.

Each school received a short report of the findings at their school.

| | Dutch indigenous research* | Percentage |
|--------------------------------|----------------------------|------------|
| N | 1059 | |
| Sex | | |
| M | 583 | 57% |
| F | 442 | 43% |
| Age | | |
| Mean | 15.72 years | |
| S.D. | 1.54 | |
| Range | 13-21 years | |
| Province | | |
| South Holland | 201 | 19% |
| North Holland | 134 | 13% |
| Utrecht | 102 | 10% |
| Gelderland | 224 | 21% |
| Groningen | 97 | 9% |
| Friesland | 169 | 16% |
| Limburg | 99 | 9% |
| Overijssel | 33 | 3% |
| Land of birth | | |
| The Netherlands | 951 | 90% |
| Other countries (46 countries) | 105 | 10% |
| Native language | | |
| Dutch/dialect | 885 | 84% |
| Other languages | 169 | 16% |

* differences in number are the result of missing data

4. Results

4.1. Factor-analytic scale construction

The factor structure of the HSCL-37A was tested by means of Simultaneous Components Analysis (SCA).

The original 25 anxiety and depression items of the HSCL were kept in one cluster. This was done based on the results of a factor analysis on many different items and clinical opinions made by several experienced clinicians. A confirmatory factor analysis with help of the Multiple Group Method (MGM) was conducted to determine to what extent the original cluster and the new cluster of externalizing items could be confirmed in the research populations described earlier in this manual. The Simultaneous Components Analysis (SCA) computer program was used in this process. For more information about the MGM-procedure, one can read Kiers (1990).

A Principal Component Analysis (PCA) of the correlation matrix, of the original 25 items of the HSCL plus the 12 externalizing items, yielded a two-component model that explained 29.6% of the variance for the total group of 1102 respondents. A MGM analysis with orthogonal rotation revealed that the two multiple group components explained 29.1% of the variance (a loss of .5 %).

In table 4.1 the means, standard deviations, and component weights of the 37 items on the multiple group components are listed, as well as the percentage of explained variance per component in the MGM. The items in bold font are the highest loading in certain clusters (table 4.1). Each cluster had a minimal component weight above .30 and the weight of the items on the other components is generally lower. The original HSCL-25 can be confirmed in the sample population. This also applies to the twelve new items. The use of the American clusters in the Dutch version seems to be validated.

Separate MGM analyses were conducted on the Portuguese and French versions of the instruments. Due to the limited number of completed questionnaires in Chinese, English, Badini, Servo-Croatian, Albanese, Turkish, Soerani, Dutch, Arabic, Dari, Farsi, Amhaars, Somali, Mongols and Russian, no individual MGM's could be conducted for these languages. One MGM Analysis was conducted for the total of these languages (see appendix). The two-factor model is also confirmed in all the separate MGM analyses per language group and population group (see appendix).

Table 4.1

| URM population | | | | |
|--|-------------|-------------|--------------------------|------------|
| HSCCL-37A for Adolescents (SCA) | | | | |
| Item | Mean | S.D. | Component weights | |
| | | | 1 | 2 |
| N=806 | | | | |
| Internalizing | | | | |
| 1. suddenly scared | 1.86 | .77 | .49 | .16 |
| 2. restless | 2.02 | .76 | .47 | .29 |
| 5. feeling fearful | 2.08 | .82 | .52 | .21 |
| 9. dizziness | 1.84 | .67 | .55 | .29 |
| 12. nervousness | 1.92 | .71 | .58 | .27 |
| 16. pounding heart | 1.87 | .73 | .54 | .28 |
| 19. trembling | 1.66 | .56 | .56 | .32 |
| 22. feeling tense | 1.87 | .65 | .59 | .23 |
| 26. headache | 2.36 | .62 | .59 | .15 |
| 29. spells of terror | 1.73 | .71 | .58 | .51 |
| 6. blame | 1.76 | .85 | .49 | .25 |
| 10. crying | 1.99 | .82 | .56 | .21 |
| 13. loss sexual interest | 1.51 | .63 | .31 | .11 |
| 15. low in energy | 1.90 | .68 | .56 | .30 |
| 17. poor appetite | 2.02 | .67 | .46 | .23 |
| 20. sleeping problems | 2.51 | 1.02 | .56 | .29 |
| 23. hopeless future | 2.43 | 1.21 | .56 | .23 |
| 24. interest in things | 1.89 | .82 | .43 | .28 |
| 27. feeling blue | 2.52 | .79 | .64 | .21 |
| 30. lonely | 2.55 | .46 | .66 | .22 |
| 31. suicide | 1.87 | .97 | .57 | .33 |
| 32. trapped | 1.85 | .90 | .66 | .25 |
| 33. worrying | 2.34 | 1.06 | .53 | .23 |
| 35. everything effort | 2.32 | .95 | .59 | .18 |
| 36. worthlessness | 1.99 | .97 | .63 | .29 |
| Externalizing | | | | |
| 3. angry easily | 2.03 | .80 | .44 | .45 |
| 4. alcohol weekend | 1.26 | .35 | .12 | .51 |
| 7. bullying | 1.28 | .34 | .21 | .52 |
| 8. smoking cigarettes | 1.30 | .56 | .19 | .50 |
| 11. destroying things | 1.18 | .20 | .18 | .45 |
| 14. starting fights | 1.23 | .30 | .23 | .56 |
| 18. hurting someone | 1.13 | .16 | .20 | .53 |
| 21. arguing | 1.43 | .45 | .34 | .56 |
| 25. alcohol week | 1.17 | .27 | .10 | .49 |
| 28. sleeping pills | 1.26 | .46 | .37 | .36 |
| 34. stealing | 1.11 | .15 | .14 | .51 |
| 37. using drugs | 1.04 | .08 | .13 | .45 |
| Explained variance per component | | | 8.27 | 4.51 |

Inter-correlations

Table 4.2 shows the inter scale correlations. In table 4.2, all of the correlations have a mean “effect size” of at least .40 (a medium effect). One correlation is large (effect size > .50). It can be concluded that the clusters are not independent of one another.

Table 4.2

| | | | |
|---------------|----------------|----------------|----------------|
| | Anxiety | Depression | Internalizing |
| Depression | .79** N=836 | | |
| Externalizing | .41** N=887 | .41** N=838 | .43** N=806 |

Note: ** p <.001

4.2 Reliability

Internal consistency reliability

The internal consistency reliability (Cronbach's alpha) of the HSCL 37-A supports distinct clusters. Results can vary from 0 (no underlying correlation) to 1 (maximal correlation). An alpha between .6 and .8 is considered reasonable and an alpha of .8 or higher is considered good.

The reliability, as measured in the "Unaccompanied refugee minors" research project, of all the items of the HSCL-37A, is 0.91; this is an exceptionally high alpha, despite the high degree of heterogeneity in the group. The alpha for the internalizing (anxiety and depression) cluster is 0.91 and for the externalizing (aggressive behavior and substance abuse) cluster .69 (see table 4.3, 4.4 and 4.5).

Table 4.3

**Alpha coefficients
Unaccompanied refugee
minors research**

| | Alpha coeff. | M Inter-item r | Range item total r |
|------------------------|--------------|----------------|--------------------|
| HSCL-37A total score | (N=806) .91 | .42 | .08-.62 |
| HSCL-37A internalizing | (N=836) .92 | .53 | .32-.64 |
| HSCL-37A anxiety | (N=932) .84 | .53 | .48-.60 |
| HSCL-37A depression | (N=879) .87 | .50 | .29-.61 |
| HSCL-37A externalizing | (N=948) .69 | .32 | .19-.40 |

Table 4.4

| Alpha coefficients | Belgium newcomers research | CED Rotterdam research | De Vonk research | Belgium indigenous research | Dutch indigenous research |
|------------------------|----------------------------|------------------------|------------------|-----------------------------|---------------------------|
| HSCL-37A total score | (n=783) .90 | (n=248) .93 | n.a. | (n=545) .87 | (n=875) .87 |
| HSCL-37A internalizing | (n=944) .90 | (n=258) .93 | (n=749) .91 | (n=545) .89 | (n=885) .91 |
| HSCL-37A anxiety | (n=1080) .80 | (n=346) .84 | (n=749) .87 | (n=545) .76 | (n=908) .80 |
| HSCL-37A depression | (n=1055) .85 | (n=316) .88 | (n=749) .86 | (n=545) .85 | (n=899) .87 |
| HSCL-37A externalizing | (n=948) .69 | (n=333) .70 | n.a. | (n=545) .73 | (n=911) .76 |

Table 4.5

| Unaccompanied Refugee Minors | | | Belgium newcomers | | |
|--|-----|--------------|--|-----|--------------|
| Alpha coefficients for each language version | | | Alpha coefficients for each language version | | |
| HSCL-37A | N | Alpha coeff. | HSCL-37A | N | Alpha coeff. |
| Portuguese | 366 | .91 | Portuguese | 25 | .73 |
| French | 135 | .90 | French | 50 | .91 |
| English | 87 | .88 | English | 137 | .90 |
| Chinese | 73 | .91 | Chinese | 27 | .95 |
| Arabic | 15 | .95 | Arabic | 114 | .91 |
| Dari | 17 | .92 | Dari | * | * |
| Farsi | 13 | .91 | Farsi | 31 | .85 |
| Amhaars | 14 | .92 | Amhaars | * | * |
| Somali | 13 | .94 | Somali | * | * |
| Mongols | * | * | Mongols | * | * |
| Russian | 21 | .93 | Russian | 93 | .93 |
| Dutch | 29 | .90 | Dutch | 66 | .86 |
| Soerani | * | * | Soerani | * | * |
| Turkish | * | * | Turkish | 113 | .92 |
| Albans | * | * | Albans | 24 | .91 |
| German | * | * | German | 16 | .90 |
| Spanish | * | * | Spanish | 47 | .84 |
| Servo-Croatian | * | * | Servo-Croatian | 16 | .91 |

* N.A. due to a shortage of completed questionnaires

Stability

Test-retest reliability of an instrument is an assessment of the degree to which test scores remain stable over time. The design for a study of test-retest reliability involves two administrations of the same test to the same individuals, with a time interval separating the two measurements. The time interval most often used in the literature, between first and second assessments, is about 8 weeks. The time interval for the research described in this manual was longer due to certain research goals.

Dutch Unaccompanied refugee minors research

The test-retest reliability of the HSCL-37A was determined in a sub-group of the unaccompanied refugee minors population. On December 31, 2003, 495 adolescents had completed the HSCL-37A twice. The time interval between the first and second assessments was twelve months. The stability coefficients (r_2) are all higher than .50 and show the HSCL-37A clusters to be reasonably reliable (see table 4.6).

Comparisons between the cluster means of the first and second assessment show significant increases ($p < .05$) for the total score, the internalizing cluster and the externalizing cluster. The effect size was calculated to determine the power of the difference. The effect size was small for all the clusters. This means that though the t-test showed a significant difference the effect size of the difference is small ($< .10$ - Cohen, 1988). Other clusters show no significant increases or decreases in score.

CED Rotterdam research

The test-retest reliability of the HSCL-37A was also determined in a sub-group of the CED Rotterdam research. 125 adolescents completed the HSCL-37A twice. The time interval between the first and second assessments was six months. The stability coefficients (r_2) are all higher than .5 and show the HSCL-37A clusters to be reasonably reliable (table 4.6).

Comparisons between the cluster means of the first and second assessment show no significant changes in score.

Table 4.6

| Unaccompanied refugee minors research | Stability coefficients | CED Rotterdam research | Stability coefficients |
|---------------------------------------|------------------------|------------------------|------------------------|
| HSCL-37A total score | (n=439) .63** | HSCL-37A total score | (n=120) .64** |
| HSCL-37A internalizing | (n=432) .64** | HSCL-37A internalizing | (n=116) .64** |
| HSCL-37A anxiety | (n=451) .63** | HSCL-37A anxiety | (n=125) .62** |
| HSCL-37A depression | (n=452) .61** | HSCL-37A depression | (n=109) .62** |
| HSCL-37A externalizing | (n=451) .55** | HSCL-37A externalizing | (n=125) .54** |

Note: ** $p < .001$

Table 2.6a

| Unaccompanied refugee minors research | N | Mean I | S.D. I | Mean II | S.D. II | T value | Sig | Effect size |
|---------------------------------------|-----|--------|--------|---------|---------|---------|-----|-------------|
| HSCL-37A total score | 439 | 65.82 | 14.86 | 67.45 | 14.97 | 2.68 | .01 | .01 |
| HSCL-37A internalizing | 432 | 50.51 | 12.92 | 51.55 | 13.05 | 1.97 | .05 | .01 |
| HSCL-37A anxiety | 452 | 19.34 | 5.29 | 19.66 | 5.34 | 1.46 | .15 | .01 |
| HSCL-37A depression | 427 | 31.34 | 8.44 | 31.96 | 8.44 | 1.71 | .09 | .01 |
| HSCL-37A externalizing | 451 | 15.17 | 3.12 | 15.92 | 3.41 | 5.09 | .00 | .08 |

Table 2.6b

| CED Rotterdam research | N | Mean I | S.D. I | Mean II | S.D. II | T value | Sig | Effect size |
|------------------------|-----|--------|--------|---------|---------|---------|-----|-------------|
| HSCL-37A total score | 120 | 57.33 | 14.14 | 56.93 | 15.52 | .35 | .73 | .00 |
| HSCL-37A internalizing | 116 | 41.99 | 12.11 | 40.82 | 12.25 | 1.23 | .22 | .01 |
| HSCL-37A anxiety | 125 | 16.64 | 5.16 | 16.31 | 5.02 | .83 | .41 | .02 |
| HSCL-37A depression | 109 | 25.46 | 7.79 | 24.76 | 7.90 | 1.06 | .29 | .01 |
| HSCL-37A externalizing | 125 | 15.23 | 3.37 | 15.63 | 4.09 | 1.23 | .22 | .03 |

4.3 Validity

The validity of an instrument or of a procedure is the degree to which an instrument measures what it claims to measure. The validity of an instrument can be divided into three forms: 1.) content validity, 2.) construct and 3.) criterion-based validity. The validity of the HSCL-37A will be discussed in this section of the manual.

Content validity

Content validity is a measure of the relevance of the items with regard to that behavior which it aims to measure. The HSCL-37A claims to measure internalizing and externalizing behavior. The choice of items to measure internalizing distress (anxiety and depression) is 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 DSM-IV is used internationally for the diagnosis of psychiatric patients. The content validity of the HSCL-37A is 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. The HSCL-37A attempts to measure anxiety, depression, and externalizing behavior. The factor analysis discussed earlier in this manual confirms the two-factor model of internalizing and externalizing behavior and indicates a good factorial validity. The research described in this manual is applicable for heterogeneous groups. The constructs of anxiety, depression, and externalizing behavior have been confirmed for all groups. It can be concluded from the different research projects, described in this manual, that the constructs of anxiety, depression, and externalizing behavior are valid for many cultures.

Next to the HSCL-37A, the following instruments were also administered to the different research groups:

1. Reactions to Traumatic Stress Checklist (Bean, Eurelings-Bontekoe, Derlyun, & Spinhoven 2004)
2. Stressful Life Events checklist (SLE) (Bean, 2000)
3. Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997)

The SDQ is a short self-report instrument consisting of 25 items (5 items regarding emotional symptoms, 5 items regarding behavioral problems, 5 items regarding hyper-activity, 5 items regarding relationship problems and 5 items regarding pro-social behavior). The SDQ is suited for adolescents between the ages of 11 and 18. This instrument has been translated into 20 different languages. There is currently no manual available with an overview of the psychometric properties of this instrument. The SDQ is used in studies with several well known other behavioral questionnaires; the Rutter Questionnaire (Rutter, 1967) and the Youth Self Report (YSR) (Achenbach, 1991). Different studies (R. Goodman, 1997; R. Goodman & S. Scott, 1999; R. Goodman et al., 2003) have shown the SDQ to be as reliable and valid as the Rutter Questionnaire and the YSR.

Based on theory the following relationships are to be expected between the HSCL-37A clusters and the other mentioned clusters:

- 1.) A positive relationship between the clusters internalizing behavior and anxiety and the ZIL-A, SDQ's emotional problems cluster.
- 2.) A negative relationship between the externalizing cluster and the SDQ's pro-social behavior cluster.
- 3.) A positive relationship between the externalizing cluster and SDQ's behavioral problems cluster.
- 4.) A positive relationship between the internalizing cluster and the total score of the SLE (number of stressful life events a person has experienced).

Table 4.7 shows the correlations between the HSCL-37A clusters, the RATS clusters and the total scores of the Unaccompanied refugee minors research project and the correlations between the HSCL-37A clusters, the SDQ clusters, the RATS clusters and the total scores of the Belgium newcomers research. The scales internalization and anxiety show strong positive correlations with the RATS clusters and the SDQ's emotional problems cluster, as expected based on theory. The externalization cluster and the SDQ's pro-social behavior cluster show a weak negative correlation. The positive relationship between the externalizing cluster and the SDQ's behavior problem cluster is reasonably strong. The relationship between the internalizing cluster and the number of experienced stressful life events is positive and significant.

Table 4.7

HSCL-37A correlations with the other instruments – Dutch Unaccompanied refugee minors research

| | RATS total | RATS intrusion | RATS Av/num. | RATS hyper. | SDQ total | SDQ emo. | SDQ behav. | SDQ hyper. | SDQ rel. | SDQ proso. | SLE total |
|-------------------------------|------------------|-------------------|------------------|------------------|--------------|-------------|---------------|---------------|-------------|---------------|------------------|
| HSCL -37A total score | (n=900) .77 | (n=921) .67** | (n=905) .60** | (n=921) .75** | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | (n=962) .27** |
| HSCL-37A internalizing | (n=897) .79** | (n=917) .71** | (n=903) .61** | (n=916) .74** | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | (n=957) .28** |
| HSCL-37A externalizing | (n=910) .35** | (n=934) .21** | (n=914) .28** | (n=937) .41** | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | (n=982) .08** |
| HSCL-37A anxiety | (n=908) .72** | (n=936) .66** | (n=915) .52** | (n=936) .69** | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | (n=981) .26** |
| HSCL-37A depression | (n=895) .77** | (n=915) .69** | (n=900) .61** | (n=914) .71** | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | (n=957) .25** |

Note : ** p <.001

HSCL-37A correlations with the other instruments – Belgium newcomers research

| | RATS total | RATS intrusion | RATS Av/num | RATS hyper. | SDQ total | SDQ emo. | SDQ behav. | SDQ hyper. | SDQ rel. | SDQ proso. | SLE total |
|-------------------------------|-------------------|-------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|
| HSCL -37A total score | (n=870) .66** | (n=883) .56** | (n=872) .53** | (n=882) .64** | (n=1117) .65** | (n=1130) .63** | (n=1126) .41** | (n=1123) .41** | (n=1125) .29** | (n=1128) -.03 | (n=1167) .38** |
| HSCL-37A internalizing | (n=854) .68** | (n=867) .58** | (n=855) .55** | (n=865) .64** | (n=1101) .64** | (n=1112) .67** | (n=1108) .34** | (n=1105) .38** | (n=1109) .28** | (n=737) .01 | (n=1149) .38** |
| HSCL-37A externalizing | (n=886) .33** | (n=901) .23** | (n=889) .25** | (n=899) .39** | (n=1141) .43** | (n=1152) .25** | (n=1150) .45** | (n=1147) .33** | (n=1148) .18** | (n=1151) -.17** | (n=1192) .22** |
| HSCL-37A anxiety | (n=867) .59** | (n=880) .52** | (n=870) .47** | (n=880) .56** | (n=1124) .55** | (n=1135) .59** | (n=1130) .35** | (n=1129) .35** | (n=1130) .20** | (n=1134) -.01 | (n=1175) .33** |
| HSCL-37A depression | (n=1105) .65** | (n=864) .55** | (n=851) .54** | (n=862) .62** | (n=1094) .62** | (n=1105) .65** | (n=1098) .35** | (n=1098) .35** | (n=1102) .29** | (n=1104) .03 | (n=1138) .38** |

Note: ** p <.001

Demographic information

The differences between the means of the total scores on the HSCL-37A, of the unaccompanied refugee minors, were calculated for sex, age, family in The Netherlands, residential permit status, years at school, living situation, and resided time in The Netherlands. Based on theory the following relationships are to be expected between the mean scores on the HSCL-37A and important demographic details:

1. Girls generally tend to internalize and the prevalence of depression is approximately twice as high for women as for men in many cultures. The mean scores of girls are expected to be significantly higher than that of boys
2. Unaccompanied refugee minors experience a lot of uncertainty in their lives when they turn 18 (become a 'legal' adult) because their residence permit (in the Netherlands) is usually coupled on their age. The minors should (will) be deported after turning 18 years of age in accordance with the law in the Netherlands and all of their governmental benefits are discontinued. It can be expected that the older unaccompanied refugee minors will have higher mean scores than the younger unaccompanied refugee minors.
3. Unaccompanied refugee minors living in the Netherlands with at least one relative living somewhere in the Netherlands, should have lower mean scores than unaccompanied refugee minors without family in The Netherlands.
4. Unaccompanied refugee minors living in a residential children's home and receiving more personal supervision, will report lower mean scores than unaccompanied refugee minors living in large-scale reception centers and receiving little personal supervision.
5. The longer that unaccompanied refugee minors have resided in The Netherlands, the lower their mean scores on the HSCL-37A.
6. It can be expected that when unaccompanied refugee minors have certainty regarding their resident status, their mean scores will be lower than when they do not have certainty.
7. Unaccompanied refugee minors who have attended school for a longer period will have lower scores than unaccompanied refugee minors who have attended school for a shorter period.

Table 4.8, shows that the HSCL-37A is able to discriminate well between groups. Demographic characteristics clearly have a great influence on mean scores. Girls have reported higher mean scores than boys, but the difference is not significant. Adolescents with at least one relative living in The Netherlands (for example a brother or sister) have markedly lower mean scores than adolescents without any relatives in The Netherlands. Most of the unaccompanied refugee minors have a temporary residence permit or their asylum request is still being processed. The legal guardian of the minors provided this information. This research project has shown that there is no difference between adolescents in possession of a temporary resident permit and adolescents who do not yet have clarity over their status. 'Age' and 'living situation' are both important factors influencing the reporting of complaints. The older adolescents have reported significantly higher scores on the HSCL-37A than the younger unaccompanied refugee minors. Unaccompanied refugee minors who are guided and supervised on a daily basis, such as those living in foster care or residential children's home, report significantly less symptoms than unaccompanied refugee minors living in "small living units' or in reception centers' for asylum seekers. The 'years at school' and 'resided time in The Netherlands' show no significant effects on the mean scores of the unaccompanied refugee population.

In summary, the 'risk' profile of the population consists of the following components: older adolescents, residence in The Netherlands without a relative, and residence in large-scale reception centers. This 'risk' group reported the highest scores on the HSCL-37A. Tables showing the associations between the demographic characteristics and the total scores of the HSCL-37A for other research populations can be found in chapter 7.2 of this manual .

Table 4.8
Unaccompanied refugee minors research

| HSCL-37A | N | Groups | Mean | S.D. | T | Sig. | Effect size | | |
|-------------------------------------|-----|--------------------------------|-------|----------|-------|-------|-------------|-------------|----------|
| Total scores | | | | | | | | | |
| Sex | 264 | Girls | 67.92 | 15.36 | 1.84 | p=.06 | .13 | | |
| | 727 | Boys | 65.95 | 14.68 | | | | | |
| Relatives in The Netherlands | 213 | With relatives | 63.16 | 15.36 | 3.86 | p=.00 | .31 | | |
| | 578 | Without relatives | 67.67 | 14.25 | | | | | |
| Residential permit status | 192 | No clarity | 67.05 | 15.25 | .873 | p=.38 | .09 | | |
| | 156 | Temporary residence permit | 65.65 | 14.37 | | | | | |
| HSCL-37A | N | Groups | Mean | S.D. | F | Sig. | Contrast. | Effect Size | |
| Total scores | | | | | | | | | |
| Age | 169 | 1. 14 years and younger | 59.05 | 13.01 | 28.78 | p=.00 | 4>3>2>1 | 1-2= .39 | |
| | 180 | 2. 15 years | 64.29 | 13.73 | | | | 1-3= .59 | |
| | 359 | 3. 16 years | 67.27 | 14.63 | | | | 1-4= .88 | |
| | 284 | 4. 17 and older | 71.52 | 14.90 | | | | 2-4= .50 | |
| | | | | | | | | 3-4= .26 | |
| | | | | 2-3= .20 | | | | | |
| Living situation | 39 | 1. Family/foster care | 59.02 | 15.42 | 19.35 | p=.00 | 1<3<4 | | |
| | 118 | 2. Residential children's home | 59.19 | 12.29 | | | | 2<3<4 | 1-3= .51 |
| | 405 | 3. Small living unit | 66.30 | 14.14 | | | | 1-4= .88 | |
| | 399 | 4. Reception centers | 69.57 | 15.43 | | | | 2-4= .70 | |
| 3-4= .22 | | | | | | | | | |
| | | | | | | | 2-3= .52 | | |
| Years at school | 328 | 1. 1 - 5 years | 65.82 | 14.19 | .888 | p=.41 | | | |
| | 277 | 2. 6 - 8 years | 67.26 | 14.77 | | | | | |
| | 164 | 3. 9 - 13 years | 67.21 | 14.57 | | | | | |
| Residence in The Netherlands | 55 | 1. Up and until 6 months | 67.11 | 12.57 | 1.70 | p=.15 | | | |
| | 279 | 2. 7-12 months | 66.51 | 15.29 | | | | | |
| | 357 | 3. 13-18 months | 66.56 | 14.38 | | | | | |
| | 171 | 4. 19-24 months | 68.31 | 15.20 | | | | | |
| | 131 | 5. longer than 2 years | 63.85 | 15.68 | | | | | |

Criterion-Related Validity

Criterion-based validity is the relationship between the test score and other important external indicators of the same attribute, such as utilization of mental health care. Criterion-based validity also shows whether the test score can be used to predict future behavior or to diagnose symptoms. Usually a standardized diagnostic interview is used in combination with questionnaires as a criterion to determine the presence and severity of psychopathology in adolescents. In this research project, it was not possible to administer a standardized interview with the unaccompanied refugee minors. In this manual, six indicators have been used as criteria; 1.) number of self-reported stressful events, 2.) self-reported need for psychosocial help, 3.) need for professional mental health care for the unaccompanied refugee minor; evaluated by the legal guardian, 4.) need for professional mental health care for the unaccompanied refugee minor; evaluated by the teacher, 5.) self-reported utilization of professional care for psychosocial symptoms and 6.) referral to mental health care services by a legal guardian. Several studies have shown the number of witnessed stressful life events to be a good predictor of the degree of psychopathology (Bean, 2000.) Adolescents who have reported witnessing eight or more stressful life events scored significantly higher on the HSCL-37A than adolescents who have reported witnessing less than eight stressful life events. The criterion “referral” and “utilization of mental health care” are important in the evaluation of the predictive capacity of an instrument with regard to psychopathology. For this reason, unaccompanied refugee minors themselves, their guardians and their teachers have been asked to evaluate the unaccompanied refugee minors need for professional mental health care. The unaccompanied refugee minor was also asked if he/she had seen a professional mental health care giver and the legal guardian was asked if he/she had referred the unaccompanied refugee minor to mental health care services. Table 4.9 shows that the HSCL-37A can discriminate well, consistently, and significantly between unaccompanied refugee minors that do have a need for psychosocial help and unaccompanied refugee minors that do not have a need for psychosocial help.

Table 4.9

| | N | Groups | Mean | S.D. | F | Sig. | Contrasts | Effect size |
|---|----------|----------------------------------|-------------|-------------|----------|-------------|--------------------|--------------------|
| Number of stressful life events | 14 | 1. 0 events | 57.42 | 12.23 | 21.63 | .00 | 1<2<3<4 | 1-2= .24 |
| | 149 | 2. 1-3 events | 60.97 | 15.40 | | | | 1-3= .57 |
| | 489 | 3. 4-7 events | 65.27 | 13.75 | | | | 1-4= .85 |
| | 310 | 4. 8-13 events | 70.32 | 15.27 | | | | 2-4= .61 |
| | | | | | | | | 3-4= .35 |
| | | | | | | | 2-3= .30 | |
| Unaccompanied refugee minors need for help: self evaluated | 526 | 1. Psychosocial need for help | 70.40 | 14.26 | 46.67 | .00 | 1<3<2 | 1-2= .83 |
| | 176 | 2. No need for help | 58.75 | 13.31 | | | | 1-3= .38 |
| | 159 | 3. Uncertain | 64.99 | 14.79 | | | | 2-3= .45 |
| HSCL-37A Total scores | N | Groups | Mean | S.D. | T | Sig. | Effect size | |
| Unaccompanied refugee minors need for help: guardian evaluated | 95 | 1. Need for psychosocial help | 74.24 | 14.13 | 6.11 | .00 | 1.59 | |
| | 402 | 2. No need for psychosocial help | 64.46 | 13.99 | | | | |
| Unaccompanied refugee minors need for help: teacher evaluated | 116 | 1. Need for psychosocial help | 70.90 | 15.50 | 4.39 | .00 | .88 | |
| | 289 | 2. No need for psychosocial help | 63.67 | 14.74 | | | | |
| Use of care as indicated by the Unaccompanied refugee minor | 110 | 1. Use of psychosocial care | 70.48 | 15.87 | 2.39 | .02 | .23 | |
| | 684 | 2. No use of psychosocial care | 66.84 | 14.60 | | | | |
| | 58 | 1. Referral | 75.8 | 14.90 | | | | 5.20 |
| Referral by legal guardian | 443 | 2. Non referral | 65.08 | 13.89 | | | | |

5. Scoring

The questionnaire uses a 4 point rating scale (not/never=1, sometimes=2, often=3, always=4) to indicate how often an adolescent experiences a symptom, feeling or behavior. The anxiety cluster consists of 10 questions (items 1, 2, 5, 9, 12, 16, 19, 22, 26, 29); the depression cluster consists of 15 questions (items 6, 10, 13, 15, 17, 20, 23, 24, 27, 30, 31, 32, 33, 35, 36). This entails a minimum score of 10 points and a maximum score of 40 points for the anxiety cluster, and for the depression cluster a minimum score of 15 points and a maximum score of 60 points.

The cluster for the internalizing behavior consists of the original 25 items (items 1, 2, 5, 9, 12, 16, 19, 22, 26, 29, 6, 10, 13, 15, 17, 20, 23, 24, 27, 30, 31, 32, 33, 35, 36) and can be added together to get an internalizing score (min.=25, max.=100). By dividing the score of the cluster by the number of items (25), the original cut-of-point for psychopathology of the HSCL-25 can be attained. In the research by Derogatis et al. (1974) a cut-of-point of 43.75 (or $43.75/25=1.75$), two standard deviations higher than the mean score for the researched adult American population, is used as a guide for psychopathology in adults. This cut-of-point has been confirmed for refugees by Mollica et al. (1987). This cut-of-point has not yet been confirmed for a Dutch adult population or for a Dutch adolescent population. For this reason, it is advised not to use this cut-of-point to diagnose psychopathology.

The cluster for externalizing behavior (items 3, 7, 11, 14, 18, 21, 34, 4, 8, 25, 28, 37) can be used to attain an externalizing score (min. =12, max. =48). The total score is the total of all of the 37 items (min. =37, max. =148).

Missing data

Especially by this population (refugee adolescents), items are often not completed or overlooked. For example, an adolescent may not understand all the questions and leave them unanswered. Ten percent of the items of a cluster can be missing in order to still be able to calculate the cluster score (table 5.1). The best manner in which to make an estimation of the missing value is by means of extrapolation; first calculating the mean of the completed items and then multiplying the mean by the total number of items in the cluster. Extrapolation is a statistical standard method used to predict a value outside the range of known values.

Table 5.1

| HSCL-37A | Allowed number of missing answers |
|------------------------|--|
| HSCL-37A total score | 3 |
| HSCL-37A internalizing | 2 |
| HSCL-37A anxiety | 1 |
| HSCL-37A depression | 1 |
| HSCL-37A externalizing | 1 |

6. Assessment procedure

The administer(s) of the questionnaire should always be present during the testing of an adolescent. The questionnaire can be administered individually or to a group (there should always be at least two administrators present when there are more than two adolescents). An optimal testing area is one where no interruptions or disturbances will occur. An adolescent should not be set under time-pressure to finish the questionnaire. If the questionnaire is completed too quickly, the result can be unreliable. During the administration of the instrument, the privacy of an adolescent should be a priority. Adolescents in a group/classroom situation should be seated in a way that they will not be able to help each other complete the questionnaires or see each other's response to the questions. The adolescents should be told that this is neither a test that they will receive a grade on, nor a collection of information for the police or immigration service. The privacy of refugee adolescents is not always respected. Written permission should be required. The rights of the adolescent are then respected and he/she will know what will happen with their personal information.

The time needed for an individual administration is around 15 minutes. The time needed to complete the questionnaire largely depends on the reading and language abilities of an adolescent. The screening instrument can be filled in with a pencil or pen.

Always ask an adolescent to first read the instructions. Then give an explanation over the rating scale. A short verbal explanation is necessary because adolescents often do not read the instructions or do not read the instructions well. Filling in questionnaires can be very strange to an adolescent that comes from a non-western country. The difference between 'a little', 'much', and 'very much' is not always clear in another culture. The colored balls which increase in size can be used when explaining how to fill in the HSCL-37A. An example of how one can explain the rating system on the HSCL-37A is: "You see four balls in the right corner of the questionnaire. The green ball stands for **never/almost never**, the slightly larger yellow ball stands for **sometimes**, the orange ball stands for **often** and the big red ball stands for **all the time/almost always**. Now take a look at question number 26. You see that the question says 'Headaches'. If you almost never have a headache then fill-in the circle under the small green ball, if you have a headache 2-3 times a week fill-in the circle under the slightly bigger yellow ball. If you have headaches 4-5 times in the week, fill-in the circle under the orange ball. If you have headaches everyday or almost everyday, then you should fill-in the circle under the big red ball." Always point to the ball you are talking about and demonstrate how the adolescent should 'fill-in' the circles. This seems very logical and would be very common to western adolescents, however for foreign and non-western adolescents thinking of your feelings in a quantitative way can be very new. Use several questions if needed to explain the rating system. It is crucial that the adolescents understand what they are expected to do and how it should be done.

Sometimes questions will need to be explained several times. Previous research has shown that explanations do not need to have an adverse effect on the assessment. Short explanations for several items, which were difficult during the research project, can be found on page 25. Do not use any language or wording that could lead the adolescent to the answer what you think is best for him/her. Explanations should be kept short, neutral and carefully phrased.

6.1 Explanations of items that are difficult to understand for non-native speakers

| Examples for Explanation of HSCL-37A items | | Original item | not | sometimes | often | always |
|--|---|---|-----|-----------|-------|--------|
| 1 | Explain suddenly (just happens, you do not plan it) | Suddenly scared for no reason | 0 | 0 | 0 | 0 |
| 2 | Use body language to explain restlessness | Feeling restless, can't sit still | 0 | 0 | 0 | 0 |
| 3 | | Becoming angry easily | 0 | 0 | 0 | 0 |
| 4 | Pretend to be drinking from a bottle | Drinking alcohol when I go out in the weekend | 0 | 0 | 0 | 0 |
| 5 | Very scared | Feeling fearful | 0 | 0 | 0 | 0 |
| 6 | Blame (you feel bad because you did something wrong) | Blaming myself for things | 0 | 0 | 0 | 0 |
| 7 | Bullying (telling someone they stink or look weird, fooling people) | Bullying or threatening others | 0 | 0 | 0 | 0 |
| 8 | Pretend to have a cigarette in your hand | Smoking cigarettes | 0 | 0 | 0 | 0 |
| 9 | Turn your body in circles to show how you become dizzy | Faintness, dizziness or weakness | 0 | 0 | 0 | 0 |
| 10 | Emphasize easily. Crying (pretend that there are tears rolling from your eyes) | Crying easily | 0 | 0 | 0 | 0 |
| 11 | Pretend to break a pencil | Destroying or breaking things that belong to others | 0 | 0 | 0 | 0 |
| 12 | Shake your hands and explain that this happens inside your body | Nervousness or shakiness inside | 0 | 0 | 0 | 0 |
| 13 | Do not enjoy making love | Loss of sexual interest | 0 | 0 | 0 | 0 |
| 14 | That they want to fight (using your fists, pretend to be fighting) | Starting fights | 0 | 0 | 0 | 0 |
| 15 | Very tired! | Feeling low in energy, slowed down | 0 | 0 | 0 | 0 |
| 16 | Put your hand on your heart and make a beating motion. Emphasize a quick beating of the heart when sitting still. | Heart pounding or racing | 0 | 0 | 0 | 0 |
| 17 | Not liking anything, having no hunger, not eating well | Poor appetite | 0 | 0 | 0 | 0 |
| 18 | Intentionally (explain the difference between intentionally and by accident) | Intentionally hurting someone | 0 | 0 | 0 | 0 |
| 19 | Tremble or shake with your hands | Trembling | 0 | 0 | 0 | 0 |
| 20 | Not sleeping well | Difficulty falling asleep, staying asleep | 0 | 0 | 0 | 0 |
| 21 | With friends, teachers and student advisors | Arguing often | 0 | 0 | 0 | 0 |
| 22 | Use body language to show what relaxed is and what tension is | Feeling tense or keyed up | 0 | 0 | 0 | 0 |
| 23 | You think you do not have a good future. Future (yesterday is past, today is now and tomorrow is future). When you are older. | Feeling hopeless about the future | 0 | 0 | 0 | 0 |
| 24 | Not liking school, friends, sport, and going out | Feeling no interest in things | 0 | 0 | 0 | 0 |
| 25 | | Drinking alcohol during the week | 0 | 0 | 0 | 0 |
| 26 | | Headaches | 0 | 0 | 0 | 0 |
| 27 | Sad, not happy | Feeling blue | 0 | 0 | 0 | 0 |
| 28 | Taking tablets to sleep | Using sleeping pills or sedatives | 0 | 0 | 0 | 0 |
| 29 | Use body language, show that it happens suddenly | Spells of terror or panic | 0 | 0 | 0 | 0 |
| 30 | Alone, having no one to tell about your happy or sad moments, no friends | Feeling lonely | 0 | 0 | 0 | 0 |
| 31 | Not wanting to live, wanting to die | Thoughts of ending my life | 0 | 0 | 0 | 0 |
| 32 | Enclose an eraser in your hand and say it is a mouse. Ask if they feel like the mouse, like they cannot get away | Feeling of being trapped or caught | 0 | 0 | 0 | 0 |
| 33 | | Worrying too much about things | 0 | 0 | 0 | 0 |
| 34 | Taking something that is not your own, take their pen/pencil as an example | Stealing things | 0 | 0 | 0 | 0 |
| 35 | Studying is difficult, going to the baker for bread is difficult, getting up is difficult | Feeling everything is an effort | 0 | 0 | 0 | 0 |
| 36 | Explain what 'worth' is. A pencil is worth something because you can write with it, money has worth because you can buy things with it. Do you find yourself worthwhile, do you feel important? | Feelings of worthlessness | 0 | 0 | 0 | 0 |
| 37 | | Using drugs (hash, XTC, speed, coke, LSD) | 0 | 0 | 0 | 0 |

7. Norms

During the unaccompanied minors research project, no clinical diagnosis or standardized diagnostic interview was used as “golden standard” to determine the optimal screening possibilities of the instruments. It is desirable to do this in the future, so that the sensitivity and specificity of the norms can be determined. Until then the percentile scores can be used as an indication of the severity of the reported problems.

Percentile scores

Percentile scores are often used to come to a standardization of certain test scores or criterion such as IQ quotients, or growth and weight charts for children. A percentile score is usually used to determine the place a score of an individual has in relation to the rest of the population. This is done by determining which proportion of the population scores the same as the individual or which proportion scores higher than the individual. For example: if a child scores on the 80th percentile of an intelligence test score, this means that 80 percent of all children in the population have a lower score than this child on the test. The use of percentiles is a statistical model that is based on a dimensional approach. This means that there are no clear boundaries between normal and abnormal scores, as is the case with a cut-of-point in psychopathology (categorical approach). The percentile scores for all clusters of the instruments, for the different population groups, can be found on the pages 28–32.

Categorical intervals in general

A **general guide** that can be used when judging/classifying total scores and cluster scores of both questionnaires is as follows:

| | |
|-----------|--|
| Very high | - a score equal to or higher than the 90 th percentile |
| High | - a score equal to or higher than the 80 th percentile and to the 90 th percentile |
| Average | - a score equal to or higher than the 30 th percentile and to the 80 th percentile |
| Low | - a score equal to or higher than the 20 th percentile and to the 30 th percentile |
| Very low | - a score equal to or up to the 20 th percentile |

Categorical intervals for unaccompanied refugee minors for the HSCL-37A

It is necessary to place the symptoms of the unaccompanied refugee minors in the right context, in order to give a specific meaning to the scores of the unaccompanied refugee minors. A large group of unaccompanied refugee minors (61%) have indicated a need for psychosocial help for their psychosocial problems. In the Dutch indigenous group this was 8%. Whilst the percentage of unaccompanied refugee minors that indicated a need for psychosocial help is much higher than the percentage of Dutch adolescents, differences in mean total scores of the HSCL-37A of the unaccompanied refugee minors do not differ significantly from those of the Dutch adolescents who indicated a need for psychosocial help (table 7.1). The total mean score on the HSCL-37A of the unaccompanied refugee minors that have a need for psychosocial help falls between the 60th and 70th percentile of the unaccompanied refugee minors population. The total mean score of the Dutch adolescents with a need for help falls between the 80th and 90th percentile.

Table 7.1

| Psychosocial need for help | | N | Mean. | S.D. | S.E. | T | Sig. | E.S. |
|--------------------------------|------------------------------|-----|-------|-------|------|------|------|------|
| HSCL-37A Total score | Unaccompanied refugee minors | 526 | 70.40 | 14.53 | .63 | 1.24 | .22 | .12 |
| | Dutch indigenous population | 87 | 68.65 | 11.77 | 1.26 | | | |
| HSCL-37A Internalizing cluster | Unaccompanied refugee minors | 525 | 54.74 | 12.71 | .56 | 4.47 | <.00 | .44 |
| | Dutch indigenous population | 87 | 49.28 | 10.15 | 1.09 | | | |
| HSCL-37A Externalizing cluster | Unaccompanied refugee minors | 536 | 15.68 | 3.32 | .14 | 5.77 | <.00 | .98 |
| | Dutch indigenous population | 87 | 19.37 | 5.81 | .62 | | | |

The percentile table on page 48 shows that the total mean scores of the HSCL-37A of the Belgium newcomers research project, the CED Rotterdam research project and the Belgium indigenous research project roughly correspond with the 60th percentile of adolescents of the Dutch indigenous research. Scores of the unaccompanied refugee minors in the 60th percentile roughly correspond with the percentile scores of adolescents in the Dutch indigenous research project that indicated a need for psychosocial help. This roughly corresponds with the 80th percentile. This trend, whereby the mean scores of the 60th percentile of the unaccompanied refugee minors corresponds with the 80th percentile of other adolescent research, can be found for all clusters of the HSCL-37A, with the exception of the externalizing cluster.

When judging the total scores and cluster scores of the unaccompanied refugee minors (with the exception of the externalizing cluster), it is advisable to use the 60th percentile as “high” and not the usual 80th percentile. The new division for judging the total scores and cluster scores of the unaccompanied refugee minors is then as follows:

Modified categorical intervals for unaccompanied refugee minors for the HSCL-37A total scores and cluster scores

(with exception of the externalizing cluster)

| | |
|-----------|--|
| Very high | - a score equal to or higher than the 70 th percentile |
| High | - a score equal to or higher than the 60 th percentile and to the 70 th percentile |
| Average | - a score equal to or higher than the 20 th percentile and to the 60 th percentile |
| Low | - a score higher than the 0 percentile and up to the 20 th percentile |

7.1 Percentile scores

HSCL-37A total score percentile scores

| | Unaccompanied refugee minors research Scores | Belgium newcomers research Scores | CED Rotterdam research Scores | De Vonk research Scores | Belgium indigenous research Scores | Dutch indigenous research Scores |
|-------------------|--|---|---|---------------------------------------|--|--|
| N | 993 | 1229 | 387 | N.a. | 616 | 1025 |
| Mean | 66.52 | 56.93 | 59.42 | N.a. | 61.29 | 57.93 |
| Median | 66.00 | 55.00 | 57.00 | N.a. | 60.00 | 56.00 |
| S.D. | 14.89 | 12.87 | 15.05 | N.a. | 10.64 | 10.69 |
| Min. | 37.00 | 37.00 | 37.00 | N.a. | 37.00 | 37.00 |
| Max. | 121.00 | 120.50 | 112.06 | N.a. | 115.00 | 103.00 |
| S.E. of Mean | .47 | .36 | .76 | N.a. | .43 | .36 |
| Percentile scores | | | | | | |
| 10 | 47.00 | 42.00 | 41.09 | N.a. | 48.00 | 46.00 |
| 20 | 53.00 | 46.00 | 46.00 | N.a. | 53.00 | 49.00 |
| 30 | 58.00 | 49.00 | 50.62 | N.a. | 56.00 | 52.00 |
| 40 | 62.00 | 52.00 | 54.00 | N.a. | 58.00 | 54.00 |
| 50 | 66.00 | 55.00 | 57.00 | N.a. | 60.00 | 56.00 |
| 60 | 69.00 | 58.04 | 60.26 | N.a. | 63.00 | 59.00 |
| 70 | 74.00 | 62.00 | 64.75 | N.a. | 66.00 | 62.00 |
| 80 | 79.03 | 67.00 | 71.00 | N.a. | 70.00 | 65.62 |
| 90 | 85.72 | 74.00 | 81.00 | N.a. | 76.00 | 72.00 |
| 95 | 93.00 | 80.00 | 89.25 | N.a. | 79.69 | 77.00 |

HSCL-37A internalizing score percentile scores

| | Unaccompanied refugee minors research Scores | Belgium newcomers research Scores | CED Rotterdam research Scores | De Vonk research Scores | Belgium indigenous research Scores | Dutch indigenous research Scores |
|-------------------|--|---|---|---------------------------------------|--|--|
| N | 988 | 1223 | 383 | 749 | 616 | 1025 |
| Mean | 51.07 | 41.85 | 43.67 | 75.44 | 43.00 | 39.75 |
| Median | 51.00 | 40.64 | 42.00 | 78.00 | 42.00 | 38.00 |
| S.D. | 13.12 | 11.04 | 12.79 | 14.05 | 8.81 | 9.25 |
| Min. | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Max. | 94.00 | 91.00 | 92.39 | 100.00 | 83.00 | 85.00 |
| S.E. of Mean | .42 | .32 | .65 | .51 | .36 | .29 |
| Percentile scores | | | | | | |
| 10 | 33.30 | 29.00 | 28.13 | 56.00 | 33.00 | 29.00 |
| 20 | 39.13 | 32.00 | 32.29 | 64.00 | 35.00 | 32.00 |
| 30 | 43.00 | 35.00 | 36.09 | 70.00 | 38.00 | 34.00 |
| 40 | 47.00 | 37.80 | 39.13 | 74.00 | 40.00 | 36.00 |
| 50 | 51.00 | 40.64 | 42.00 | 78.00 | 42.00 | 38.00 |
| 60 | 54.07 | 43.00 | 44.00 | 81.00 | 44.00 | 40.00 |
| 70 | 58.00 | 46.00 | 47.98 | 83.75 | 47.00 | 44.00 |
| 80 | 62.00 | 50.00 | 53.41 | 87.00 | 50.00 | 47.00 |
| 90 | 68.00 | 56.07 | 61.78 | 92.00 | 55.09 | 52.00 |
| 95 | 75.00 | 62.00 | 67.00 | 95.00 | 59.00 | 56.00 |

HSCL-37A externalizing score percentile scores

| | Unaccompanied refugee minors research | Belgium newcomers research | CED Rotterdam research | De Vonk research | Belgium indigenous research | Dutch indigenous research |
|-------------------|--|---|---------------------------------------|-----------------------------|--|--|
| N | 1015 | 1237 | 400 | N.a. | 616 | 1025 |
| Mean | 15.45 | 15.19 | 15.52 | N.a. | 18.29 | 18.17 |
| Median | 15.00 | 14.00 | 15.00 | N.a. | 18.00 | 17.00 |
| S.D. | 3.28 | 3.27 | 3.49 | N.a. | 4.17 | 4.45 |
| Min. | 12.00 | 12.00 | 12.00 | N.a. | 12.00 | 12.00 |
| Max. | 37.00 | 33.75 | 32.00 | N.a. | 37.00 | 42.00 |
| S.E. of Mean | .10 | .09 | .17 | N.a. | .17 | .14 |
| Percentile scores | | | | | | |
| 10 | 12.00 | 12.00 | 12.00 | N.a. | 14.00 | 13.00 |
| 20 | 13.00 | 13.00 | 13.00 | N.a. | 15.00 | 14.00 |
| 30 | 13.00 | 13.00 | 13.00 | N.a. | 16.00 | 15.00 |
| 40 | 14.00 | 14.00 | 14.00 | N.a. | 17.00 | 16.00 |
| 50 | 15.00 | 14.00 | 15.00 | N.a. | 18.00 | 17.00 |
| 60 | 15.00 | 15.00 | 15.00 | N.a. | 18.00 | 18.00 |
| 70 | 16.00 | 16.00 | 16.25 | N.a. | 20.00 | 20.00 |
| 80 | 18.00 | 17.00 | 18.00 | N.a. | 21.00 | 21.66 |
| 90 | 19.00 | 19.00 | 20.00 | N.a. | 24.00 | 24.00 |
| 95 | 21.00 | 22.00 | 23.00 | N.a. | 26.00 | 27.00 |

HSCL-37A anxiety score percentile scores

| | Unaccompanied refugee minors research | Belgium newcomers research | CED Rotterdam research | De Vonk research | Belgium indigenous research | Dutch indigenous research |
|-------------------|--|---|---------------------------------------|-----------------------------|--|--|
| N | 1014 | 1249 | 404 | 753 | 616 | 1025 |
| Mean | 19.35 | 16.36 | 17.23 | 29.80 | 17.14 | 15.86 |
| Median | 19.00 | 16.00 | 17.00 | 31.00 | 17.00 | 15.00 |
| S.D. | 5.44 | 4.64 | 5.34 | 6.67 | 3.63 | 3.79 |
| Min. | 10.00 | 10.00 | 10.00 | 15.00 | 10.00 | 10.00 |
| Max. | 39.00 | 37.50 | 40.00 | 60.00 | 31.00 | 35.00 |
| S.E. of Mean | .17 | .13 | .27 | .24 | .14 | .12 |
| Percentile scores | | | | | | |
| 10 | 13.00 | 11.00 | 11.00 | 20.00 | 12.00 | 12.00 |
| 20 | 14.00 | 12.00 | 12.00 | 24.00 | 14.00 | 12.00 |
| 30 | 16.00 | 13.00 | 14.00 | 27.00 | 15.00 | 14.00 |
| 40 | 17.78 | 14.40 | 15.00 | 29.00 | 16.00 | 14.00 |
| 50 | 19.00 | 16.00 | 17.00 | 31.00 | 17.00 | 15.00 |
| 60 | 20.00 | 17.00 | 18.00 | 33.00 | 18.00 | 16.00 |
| 70 | 22.00 | 18.00 | 19.00 | 34.00 | 19.00 | 17.00 |
| 80 | 24.00 | 20.00 | 21.00 | 36.00 | 20.00 | 19.00 |
| 90 | 27.00 | 22.22 | 24.00 | 38.00 | 22.00 | 21.00 |
| 95 | 29.25 | 24.80 | 27.94 | 40.00 | 24.00 | 23.00 |

HSCL-37A depressive score percentile scores

| | Unaccompanied refugee minors research | Belgium newcomers research | CED Rotterdam research | De Vonk research | Belgium indigenous research | Dutch indigenous research |
|-------------------|--|---|---------------------------------------|-----------------------------|--|--|
| N | 987 | 1232 | 375 | 778 | 616 | 1023 |
| Mean | 31.80 | 25.51 | 26.68 | 45.50 | 25.87 | 23.89 |
| Median | 32.00 | 24.64 | 25.71 | 47.00 | 25.00 | 23.00 |
| S.D. | 8.47 | 7.20 | 8.27 | 8.87 | 5.94 | 6.12 |
| Min. | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 |
| Max. | 56.00 | 55.74 | 52.50 | 60.00 | 52.00 | 54.00 |
| S.E. of Mean | .27 | .21 | .43 | .32 | .24 | .19 |
| Percentile scores | | | | | | |
| 10 | 20.35 | 17.00 | 17.00 | 32.97 | 19.00 | 17.00 |
| 20 | 24.00 | 19.00 | 19.00 | 39.00 | 21.00 | 19.00 |
| 30 | 27.00 | 21.00 | 21.00 | 42.00 | 22.00 | 20.00 |
| 40 | 29.00 | 23.00 | 23.00 | 45.00 | 24.00 | 21.00 |
| 50 | 32.00 | 24.64 | 25.71 | 47.00 | 25.00 | 23.00 |
| 60 | 33.21 | 26.00 | 27.00 | 49.00 | 26.79 | 24.00 |
| 70 | 36.26 | 28.00 | 29.20 | 51.00 | 28.00 | 26.00 |
| 80 | 39.00 | 31.00 | 34.00 | 53.00 | 30.00 | 28.00 |
| 90 | 43.00 | 35.00 | 38.23 | 56.00 | 34.00 | 32.00 |
| 95 | 47.00 | 39.00 | 42.20 | 57.86 | 37.00 | 35.00 |

7.2. Biological and demographical information
7.2.1. Belgium newcomers research project

HSCCL-37A total score

| | N | Groups | Mean | S.D. | F | Sig. | Contrasts | Effect size |
|--|----------|-------------------------|-------------|-------------|----------|-------------|--------------------|-------------|
| Age | 380 | 1. 14 years and younger | 54.75 | 11.96 | 5.49 | .00 | 1<3<4 | 1-3= .31 |
| | 208 | 2. 15 years | 57.07 | 13.49 | | | | 1-4= .26 |
| | 196 | 3. 16 years | 58.67 | 14.35 | | | | 3-4= .19 |
| | 363 | 4. 17 and older | 57.87 | 12.42 | | | | |
| Sort of guidance | 626 | 1. Both parents | 55.22 | 12.72 | 16.97 | .00 | 4>3>2>1 | 1-2= .13 |
| | 123 | 2. Father | 56.91 | 12.32 | | | | 1-3= .15 |
| | 267 | 3. Mother | 57.16 | 12.95 | | | | 1-4= .74 |
| | 110 | 4. Alone | 64.51 | 11.78 | | | | 2-4= .63 |
| | | | | | | | | 3-4= .58 |
| | | | | | | | | 2-3= .02 |
| Resided time in The Netherlands | 431 | 1. Up to 6months | 56.07 | 13.03 | 1.26 | .29 | | |
| | 408 | 2. 6-12 months | 57.54 | 12.27 | | | | |
| | 123 | 3. 12-18 months | 57.76 | 11.70 | | | | |
| | 39 | 4. 18-24 months | 56.52 | 11.51 | | | | |
| | 83 | 5. longer than 2 years | 55.23 | 10.87 | | | | |
| Number of stressful life events | 113 | 1. 0 events | 47.81 | 7.95 | 59.14 | .00 | 1<2<3<4 | 1-2= .66 |
| | 549 | 2. 1-3 events | 54.26 | 11.27 | | | | 1-3= 1.13 |
| | 384 | 3. 4-7 events | 61.28 | 12.91 | | | | 1-4= 1.27 |
| | 121 | 4.8-13 events | 63.50 | 15.45 | | | | 2-4= .76 |
| | | | | | | | | 3-4= .16 |
| | | | | | | | | 2-3= .59 |
| HSCCL-37A total score | N | Groups | Mean | S.D. | T | Sig. | Effect size | |
| Sex | 531 | Girls | 57.75 | 12.65 | 2.08 | .04 | .12 | |
| | 639 | Boys | 56.17 | 13.05 | | | | |
| Type of status | 673 | Immigrants | 56.90 | 12.63 | .12 | .91 | .01 | |
| | 512 | Refugees | 56.81 | 13.28 | | | | |

7.2.2. CED Rotterdam research

HSCCL-37A total score

| | N | Groups | Mean | S.D. | F | Sig. | Contrasts | Effect size |
|--|----------|-----------------------------------|-------------|-------------|----------|-------------|--------------------|--------------------|
| Age | 181 | 1. 14 years and younger | 56.22 | 12.02 | 6.85 | .00 | 1<2<4 | 1-2= .53 |
| | 56 | 2. 15 years | 63.32 | 17.43 | | | | 1-4= .65 |
| | 64 | 3. 16 years | 60.74 | 17.24 | | | | 2-4= .09 |
| | 58 | 4. 17 and older | 64.94 | 17.51 | | | | |
| Sort of origin | 185 | 1. Family reunification | 56.51 | 14.03 | 16.03 | .00 | 3>2>1 | 1-3= .74 |
| | 69 | 2. Refugee | 59.30 | 16.10 | | | | 1-2= .19 |
| | 91 | 3. Unaccompanied refugee minor | 67.21 | 15.23 | | | | 2-3= .51 |
| Resided time in The Netherlands | 55 | 1. Up to 6months | 54.74 | 13.84 | 3.42 | .01 | 1<3 | 1-3= .68 |
| | 112 | 2. 7-12 months | 59.56 | 15.26 | | | | |
| | 68 | 3. 13-18 months | 64.75 | 15.79 | | | | |
| | 40 | 4. 19-24 months | 59.79 | 16.11 | | | | |
| | 42 | 5. longer than 2 years | 58.99 | 13.90 | | | | |
| Number of stressful life events | 42 | 1. 0 events | 46.43 | 10.30 | 34.04 | .00 | 1<2<3<4 | 1-2= .78 |
| | 163 | 2. 1-3 events | 55.41 | 11.93 | | | | 1-3= 1.33 |
| | 140 | 3. 4-7 events | 65.22 | 15.12 | | | | 1-4= 1.76 |
| | 39 | 4. 8-13 events | 69.34 | 15.74 | | | | 2-4= .27 |
| | | | | | | | | 3-4= .27 |
| | | | | | | | 2-3= .73 | |
| | N | Groups | Mean | S.D. | T | Sig. | Effect size | |
| Sex | 145 | Girls | 61.99 | 15.93 | 2.50 | .01 | | .27 |
| | 219 | Boys | 57.94 | 14.54 | | | | |

7.2.3. De Vonk research

HSCL-25 (internalizing score HSCL-37A)

| | N | Groups | M | S.D. | F | Sig. | Contrasts | Effect size |
|--|----------|-------------------------|----------|-------------|----------|-------------|--------------------|----------------------|
| Age | 39 | 1. until 19 years | 70.09 | 14.21 | 2.23 | .08 | | |
| | 391 | 2. 20 years to 36 years | 75.97 | 13.90 | | | | |
| | 229 | 3. 37 years to 49 years | 75.44 | 14.48 | | | | |
| | 28 | 4. 50 years and older | 73.36 | 14.67 | | | | |
| Resided time in The Netherlands | 137 | 1. shorter than 1 year | 73.86 | 15.26 | 1.44 | .23 | | |
| | 160 | 2. 1 year | 75.38 | 14.43 | | | | |
| | 129 | 3. 2 year | 77.42 | 12.75 | | | | |
| | 261 | 4. Longer than 3 years | 75.90 | 14.18 | | | | |
| Marriage status | 363 | 1. Married | 76.22 | 13.54 | 1.07 | .34 | | |
| | 234 | 2. Single | 74.49 | 14.40 | | | | |
| | 78 | 3. Divorced/widowed | 75.42 | 15.74 | | | | |
| Educational level | 91 | 1. Basis | 73.58 | 15.95 | 1.52 | .21 | | |
| | 316 | 2. Secondary | 76.63 | 12.90 | | | | |
| | 89 | 3. Tertiary | 74.63 | 14.47 | | | | |
| | 123 | 4. University | 74.76 | 14.17 | | | | |
| Type of living situation | 334 | 1. Reception centers | 77.06 | 13.19 | 5.02 | .01 | 1>2 | .23 |
| | 278 | 2. Independent | 73.95 | 14.39 | | | | |
| | 62 | 3. Other | 72.57 | 17.02 | | | | |
| Residence permit | 404 | 1. Asylum seeker | 77.36 | 13.46 | 8.38 | .00 | 4>1>3>2 | 1-2= .53 |
| | 51 | 2. Temporary | 70.16 | 17.34 | | | | 1-3= .41 |
| | 155 | 3. Refugee | 71.81 | 13.94 | | | | 1-4= .33 |
| | 25 | 4. Permit denied | 81.76 | 8.23 | | | | 2-4= .78 |
| | 46 | 5. Naturalized | 72.20 | 14.91 | | | | 3-4= .75 2-3= .11 |
| | N | Groups | M | S.D. | T | Sig. | Effect size | |
| Sex | 509 | 1. Male | 74.03 | 13.89 | 4.20 | .00 | | .43 |
| | 178 | 2. Female | 79.15 | 14.36 | | | | |

7.2.4. Belgium indigenous research

HSCL-37A total score

| | N | Groups | Mean | S.D. | F | Sig. | Contrasts | Effect size |
|--|----------|-------------------------|-------------|-------------|----------|-------------|--------------------|-------------|
| Age | 109 | 1. 14 years and younger | 58.18 | 10.69 | 9.21 | .00 | 1<2<4 | 1-2= .04 |
| | 79 | 2. 15 years | 57.78 | 10.53 | | | | 1-4= .48 |
| | 86 | 3. 16 years | 61.50 | 11.28 | | | | 2-4= .52 |
| | 315 | 4. 17 and older | 63.10 | 10.27 | | | | |
| Sort of guidance | 469 | 1. Both parents | 60.54 | 10.58 | 6.97 | .00 | 1<2<3 | 1-2= .27 |
| | 103 | 2. Mother | 63.39 | 10.26 | | | | 1-3= .55 |
| | 33 | 3. Other | 66.27 | 9.77 | | | | 2-3= .29 |
| Education choice | 187 | 1. General SE | 59.57 | 9.90 | | .03 | 1<2 | 1-2= .23 |
| | 306 | 2. Technical SE | 62.03 | 10.84 | | | | |
| | 122 | 3. Trade SE | 61.82 | 10.78 | | | | |
| Number of stressful life events | 84 | 1. 0 events | 53.61 | 8.33 | 29.10 | .00 | 1<2<3,4 | 1-2= .76 |
| | 334 | 2. 1-3 events | 60.65 | 9.57 | | | | 1-3= 1.18 |
| | 186 | 3. 4-7 events | 65.50 | 11.01 | | | | 1-4= 1.35 |
| | 11 | 4. 8-13 events | 65.48 | 12.49 | | | | 2-4= .50 |
| | | | | | | | | 3-4= .00 |
| | | | | | | | | 2-3= .48 |
| HSCL-37A total | N | Groups | Mean | S.D. | T | Sig. | Effect size | |
| Sex | 279 | Girls | 64.83 | 10.79 | 8.06 | .00 | | .65 |
| | 334 | Boys | 58.24 | 9.47 | | | | |

7.2.5. Dutch indigenous research

HSCL-37A total score

| | N | Groups | Mean | S.D. | F | Sig. | Contrasts | Effect size |
|--|-----|--------------------------------------|-------|-------|--------|------|-----------|-------------|
| Age | 235 | 1. 14 years and younger | 56.57 | 10.97 | 1.75 | .16 | | |
| | 303 | 2. 15 years | 58.27 | 11.03 | | | | |
| | 246 | 3. 16 years | 58.10 | 11.43 | | | | |
| | 239 | 4. 17 and older | 58.66 | 9.08 | | | | |
| Sort of guidance | 771 | 1. Both parents | 57.26 | 10.31 | 5.04 | .00 | 3>1 | 1-3= .32 |
| | 88 | 2. Sometimes mother/sometimes father | 57.36 | 11.76 | | | | |
| | 103 | 3. Mother | 60.61 | 10.99 | | | | |
| | 36 | 4. Father | 62.56 | 13.35 | | | | |
| | 25 | 5. Other | 61.84 | 9.38 | | | | |
| Need for psychosocial help | 87 | 1. Need for psychosocial help | 68.64 | 11.78 | 127.97 | .00 | 2<1,3 | 1-2= 1.45 |
| | 811 | 2. No need for psychosocial help | 55.55 | 8.69 | | | | 1-3= .17 |
| | 119 | 3. Uncertain | 66.56 | 12.90 | | | | 2-3= 1.18 |
| Number of stressful life events | 104 | 1. 0 events | 52.62 | 8.36 | 83.89 | .00 | 1<2<3<4 | 1-2= .27 |
| | 519 | 2. 1-3 events | 54.93 | 8.72 | | | | 1-3= .93 |
| | 369 | 3. 4-7 events | 62.17 | 10.74 | | | | 1-4= 2.31 |
| | 33 | 4. 8-13 events | 74.35 | 12.40 | | | | 2-4= 2.17 |
| | | | | | | | | 3-4= 1.12 |
| | | | | | | | | 2-3= .75 |

| HSCL-37A Total score | N | Groups | Mean | S.D. | T | Sig. | Effect size |
|----------------------|-----|---|-------|-------|------|------|-------------|
| Sex | 423 | 1. Girls | 60.66 | 11.41 | 7.12 | .000 | .48 |
| | 499 | 2. Boys | 55.86 | 9.64 | | | |
| Use of help | 153 | 1. Made use of psychosocial care/help | 65.01 | 12.73 | 7.73 | .000 | .80 |
| | 756 | 2. Did not make use of psychosocial care/help | 56.58 | 9.98 | | | |

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9. Appendix

Appendix I

Diagnostic criteria (A,B,C,D,E, F) for generalized anxiety disorder (DSM-IV;APA 1994)

- A. Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).**
- B. The person finds it difficult to control the worry.**
- C. The anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms present for more days than not for the past 6 months).**
Note: Only one item is required in children.
 - 1. Restlessness or feeling keyed up or on edge.
 - 2. Being easily fatigued
 - 3. Difficulty concentrating or mind going blank
 - 4. Irritability
 - 5. Muscle tension
 - 6. Sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep).
- D. The focus of the anxiety and worry is not confined to features of an Axis I disorder, e.g., the anxiety or worry is not about having a panic attack (as in Panic Disorder), being embarrassed in public (as in Social Phobia), being contaminated (as in Obsessive-Compulsive Disorder), being away from home or close relatives (as in Separation Anxiety Disorder), gaining weight (as in Anorexia Nervosa), having multiple physical complaints (as in Somatization Disorder), or having a serious illness (as in Hypochondriasis), and the anxiety and worry do not occur exclusively during Posttraumatic Stress Disorder.**
- E. The anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.**
- F. The disturbance is not due to the direct physiological effects of a substance (e.g., a drug abuse, a medication) or a general medical condition (e.g., hyperthyroidism) and does not occur exclusively during a Mood Disorder, a Psychotic Disorder, or a Pervasive Developmental Disorder.**

Appendix II

Diagnostic criteria (A,B,C,D,E) for a major depressive episode (DSM-IV;APA 1994)

- A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.**
Note: do not include symptoms that are clearly due to a general medical condition, or mood-incongruent delusions or hallucinations.
1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by other (e.g., appears tearful).
Note: In children and adolescents, can be irritable mood.
 2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others).
 3. significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day.
Note: in children, consider failure to make expected weight gains.
 4. Insomnia or hypersomnia nearly every day.
 5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).
 6. Fatigue or loss of energy nearly every day.
 7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
 8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).
 9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.
- B. The symptoms do not meet criteria for a Mixed Episode**
- C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.**
- D. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).**
- E. The symptoms are not better accounted for by Bereavement, i.e., after the loss of a loved one, the symptoms persist for longer than 2 months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation.**

Diagnostic criteria (A,B,C) for Major Depressive Disorder, Single Episode (DSM-IV;APA 1994)

- A. Presence of a single Major Depressive Episode (see above)**
- B. The Major Depressive Episode is not better accounted for by Schizoaffective Disorder and is not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified.**
- C. There has never been a Manic Episode, a Mixed Episode, or a Hypomanic Episode.**

Appendix III

Diagnostic criteria (A,B,C) for a Conduct Disorder (DSM-IV;APA 1994)

- A. A repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated , as manifested by the presence of three (or more) of the following criteria in the past 12 months, with at least one criterion in the past 6 months:**

Aggression to people and animals

1. Often bullies, threatens, or intimidates others.
2. Often initiates physical fights.
3. Has used weapon that can cause serious physical harm to others (e.g., a bat, brick, broken bottle, knife, gun).
4. Has been physically cruel to people.
5. Has been physically cruel to animals.
6. Has stolen while confronting a victim (e.g., mugging, purse snatching, extortion, armed robbery).
7. Has forced someone into sexual activity.

Destruction of property

8. Has deliberately engaged in fire setting with the intention of causing serious damage.
9. Has deliberately destroyed others' property (other than by setting fire)

Deceitfulness of theft

10. Has broken into someone else's house, building, or car.
11. Often lies to obtain goods or favors or to avoid obligations (i.e., "cons" others).
12. Has stolen items of nontrivial value without confronting a victim (e.g., shoplifting, but without breaking and entering; forgery).

Serious violations of rules

13. Often stays out at night despite parental prohibitions, beginning before the age 13 years
14. Has run away from home overnight at least twice while living in parental or parental surrogate home (or once with-out returning for a lengthy period).
15. Is often truant from school, beginning before age 13 years.

- B. The disturbance in behavior causes clinically significant impairment in social, academic, or occupational functioning.**

- C. If the individual is age 18 years or older, criteria are not met for Antisocial Personality Disorder.**

Diagnostic criteria (A,B,C,D) for an Oppositional Defiant Disorder (DSM-IV;APA 1994)

- A. A pattern of negativistic, hostile, and defiant behavior lasting at least 6 months, during which four (or more) of the following are present:**

1. Often loses temper
2. Often argues with adults
3. Often actively defies or refuses to comply with adults' requests or rules
4. Often deliberately annoys people
5. Often blames others for his or her mistakes or misbehavior
6. Is often touchy or easily annoyed by others
7. Is often angry and resentful
8. Is often spiteful or vindictive

- B. The disturbance in behavior causes clinically significant impairment in social, academic, or occupational functioning.**

- C. The behaviors do not occur exclusively during the course of a Psychotic or Mood Disorder.**

- D. Criteria are not met for Conduct Disorder, and, if the individual is age 18 years or older, criteria are not met for Antisocial Personality Disorder.**

Appendix IV

SCA's for the different language versions of the HSCL-37A for the Unaccompanied refugee minors research project

Portuguese Language version

| HSCL-37A for Adolescents (SCA) | | | | |
|---------------------------------------|------|-------|-------------------|------------|
| Item | Mean | S.D.. | Component weights | |
| N=367 | | | 1 | 2 |
| Internalizing | | | | |
| 1. suddenly scared | 1.65 | .60 | .56 | .24 |
| 2. restless | 1.94 | .57 | .61 | .24 |
| 5. feeling fearful | 2.10 | .76 | .66 | .18 |
| 9. dizziness | 1.72 | .60 | .52 | .18 |
| 12. nervousness | 1.86 | .62 | .66 | .30 |
| 16. pounding heart | 1.80 | .67 | .56 | .23 |
| 19. trembling | 1.70 | .56 | .59 | .17 |
| 22. feeling tense | 1.76 | .50 | .59 | .41 |
| 26. headache | 2.34 | .51 | .58 | .10 |
| 29. spells of terror | 1.55 | .53 | .61 | .23 |
| 6. blame | 1.67 | .54 | .47 | .22 |
| 10. crying | 1.90 | .69 | .59 | .19 |
| 13. loss sexual interest | 1.42 | .49 | .42 | .22 |
| 15. low in energy | 1.74 | .52 | .57 | .20 |
| 17. poor appetite | 1.97 | .62 | .41 | .18 |
| 20. sleeping problems | 2.31 | .99 | .50 | .24 |
| 23. hopeless future | 2.44 | 1.56 | .62 | .16 |
| 24. interest in things | 1.81 | .73 | .36 | .28 |
| 27. feeling blue | 2.60 | .72 | .65 | .19 |
| 30. lonely | 2.40 | .93 | .65 | .19 |
| 31. suicide | 1.92 | .98 | .58 | .32 |
| 32. trapped | 1.76 | .76 | .61 | .33 |
| 33. worrying | 2.39 | .99 | .65 | .26 |
| 35. everything effort | 2.35 | .93 | .56 | .17 |
| 36. worthlessness | 2.01 | .84 | .60 | .21 |
| Externalizing | | | | |
| 3. angry easily | 1.94 | .60 | .42 | .51 |
| 4. alcohol weekend | 1.30 | .36 | .16 | .42 |
| 7. bullying | 1.41 | .40 | .16 | .47 |
| 8. smoking cigarettes | 1.11 | .18 | .11 | .43 |
| 11. destroying things | 1.21 | .20 | .12 | .40 |
| 14. starting fights | 1.27 | .30 | .27 | .59 |
| 18. hurting someone | 1.17 | .21 | .10 | .44 |
| 21. arguing | 1.40 | .38 | .29 | .60 |
| 25. alcohol week | 1.19 | .27 | .19 | .49 |
| 28. sleeping pills | 1.16 | .26 | .25 | .44 |
| 34. stealing | 1.12 | .14 | .07 | .31 |
| 37. using drugs | 1.01 | .01 | -.05 | .29 |
| Explained variance per component | | | 9.03 | 3.88 |

Total Variance Accounted for by MGM is : 11.27 (30.47%)

Total Variance Accounted for by PCA is : 11.44 (30.93%)

French Language version

| HSCL-37A for Adolescents (SCA) | | | | |
|---------------------------------------|------|------|-------------------|------------|
| Item | Mean | S.D. | Component weights | |
| | | | 1 | 2 |
| N=135 | | | | |
| Internalizing | | | | |
| 1. suddenly scared | 2.16 | 1.02 | .64 | .07 |
| 2. restless | 1.99 | .97 | .37 | .12 |
| 5. feeling fearful | 2.11 | .99 | .56 | .08 |
| 9. dizziness | 2.02 | .74 | .59 | .29 |
| 12. nervousness | 2.11 | .97 | .65 | .40 |
| 16. pounding heart | 2.16 | 1.04 | .65 | .13 |
| 19. trembling | 1.67 | .50 | .56 | .31 |
| 22. feeling tense | 1.95 | .75 | .52 | .27 |
| 26. headache | 2.53 | .77 | .54 | .26 |
| 29. spells of terror | 2.16 | .95 | .59 | .18 |
| 6. blame | 1.77 | .93 | .26 | .16 |
| 10. crying | 2.14 | 1.00 | .53 | .19 |
| 13. loss sexual interest | 1.68 | .69 | .34 | .32 |
| 15. low in energy | 2.04 | .67 | .56 | .21 |
| 17. poor appetite | 2.08 | .62 | .52 | .20 |
| 20. sleeping problems | 2.87 | .96 | .66 | .11 |
| 23. hopeless future | 2.60 | 1.31 | .66 | .07 |
| 24. interest in things | 2.04 | 1.01 | .49 | .22 |
| 27. feeling blue | 2.64 | .87 | .58 | .22 |
| 30. lonely | 2.82 | 1.15 | .55 | .06 |
| 31. suicide | 2.04 | 1.21 | .48 | .08 |
| 32. trapped | 2.02 | 1.15 | .58 | .27 |
| 33. worrying | 2.04 | .98 | .50 | .06 |
| 35. everything effort | 2.50 | 1.15 | .67 | .31 |
| 36. worthlessness | 2.07 | 1.20 | .63 | .19 |
| Externalizing | | | | |
| 3. angry easily | 2.17 | 1.08 | .46 | .44 |
| 4. alcohol weekend | 1.23 | .28 | .06 | .70 |
| 7. bullying | 1.22 | .33 | .02 | .38 |
| 8. smoking cigarettes | 1.27 | .50 | -.12 | .42 |
| 11. destroying things | 1.16 | .21 | .23 | .34 |
| 14. starting fights | 1.13 | .15 | .22 | .40 |
| 18. hurting someone | 1.10 | .13 | .08 | .36 |
| 21. arguing | 1.59 | .63 | .35 | .34 |
| 25. alcohol week | 1.21 | .36 | .14 | .63 |
| 28. sleeping pills | 1.64 | .90 | .35 | .45 |
| 34. stealing | 1.14 | .28 | .05 | .54 |
| 37. using drugs | 1.10 | .19 | .11 | .65 |
| Explained variance per component | | | 8.36 | 3.97 |

Total Variance Accounted for by MGM is : 11.28 (30.48%)

Total Variance Accounted for by PCA is : 11.64 (31.47%)

Other Languages

| HSC1-37A for Adolescents (SCA) | | | | |
|---------------------------------------|------|-------|-------------------|------------|
| Item | Mean | S.D.. | Component weights | |
| | | | 1 | 2 |
| N=305 | | | | |
| Internalizing | | | | |
| 1. suddenly scared | 1.96 | .77 | .62 | .20 |
| 2. restless | 2.13 | .88 | .60 | .33 |
| 5. feeling fearful | 2.04 | .83 | .67 | .07 |
| 9. dizziness | 1.89 | .68 | .60 | .25 |
| 12. nervousness | 1.88 | .69 | .67 | .23 |
| 16. pounding heart | 1.82 | .68 | .58 | .26 |
| 19. trembling | 1.58 | .57 | .59 | .26 |
| 22. feeling tense | 1.96 | .77 | .62 | .31 |
| 26. headache | 2.30 | .68 | .60 | .23 |
| 29. spells of terror | 1.73 | .69 | .58 | .07 |
| 6. blame | 1.87 | .83 | .44 | .18 |
| 10. crying | 2.02 | .88 | .54 | .05 |
| 13. loss sexual interest | 1.55 | .76 | .37 | .17 |
| 15. low in energy | 2.02 | .81 | .62 | .26 |
| 17. poor appetite | 2.05 | .74 | .53 | .15 |
| 20. sleeping problems | 2.59 | .98 | .67 | .18 |
| 23. hopeless future | 2.34 | 1.22 | .58 | .27 |
| 24. interest in things | 1.92 | .83 | .55 | .35 |
| 27. feeling blue | 2.37 | .80 | .66 | .17 |
| 30. lonely | 2.62 | 1.11 | .56 | .22 |
| 31. suicide | 1.72 | .82 | .60 | .20 |
| 32. trapped | 1.88 | .94 | .60 | .30 |
| 33. worrying | 2.41 | 1.13 | .66 | .23 |
| 35. everything effort | 2.21 | .86 | .58 | .19 |
| 36. worthlessness | 1.92 | 1.02 | .62 | .24 |
| Externalizing | | | | |
| 3. angry easily | 2.07 | .90 | .46 | .45 |
| 4. alcohol weekend | 1.24 | .36 | .13 | .64 |
| 7. bullying | 1.14 | .24 | .12 | .63 |
| 8. smoking cigarettes | 1.54 | .94 | .16 | .51 |
| 11. destroying things | 1.14 | .20 | .02 | .54 |
| 14. starting fights | 1.23 | .36 | .21 | .58 |
| 18. hurting someone | 1.10 | .12 | .12 | .41 |
| 21. arguing | 1.38 | .43 | .34 | .52 |
| 25. alcohol week | 1.14 | .24 | .14 | .52 |
| 28. sleeping pills | 1.30 | .45 | .28 | .33 |
| 34. stealing | 1.07 | .10 | .01 | .30 |
| 37. using drugs | 1.05 | .11 | .14 | .56 |
| Explained variance per component | | | 9.34 | 4.40 |

Total Variance Accounted for by MGM is : 12.29 (33.22%)

Total Variance Accounted for by PCA is : 12.51 (33.80%)

Appendix IV

SCA's for the different language versions of the HSCL-37A for the Belgium newcomers research population
All languages

| HSCL-37A for Adolescents (SCA) | | | | |
|---------------------------------------|------|-------|-------------------|------------|
| Item | Mean | S.D.. | Component weights | |
| N=783 | | | 1 | 2 |
| Internalizing | | | | |
| 1. suddenly scared | 1.48 | .45 | .49 | .16 |
| 2. restless | 1.73 | .64 | .47 | .29 |
| 5. feeling fearful | 1.55 | .58 | .52 | .21 |
| 9. dizziness | 1.50 | .50 | .55 | .29 |
| 12. nervousness | 1.66 | .62 | .58 | .31 |
| 16. pounding heart | 1.57 | .61 | .54 | .27 |
| 19. trembling | 1.40 | .41 | .56 | .28 |
| 22. feeling tense | 1.67 | .61 | .59 | .32 |
| 26. headache | 1.88 | .58 | .59 | .23 |
| 29. spells of terror | 1.39 | .42 | .58 | .15 |
| 6. blame | 1.67 | .57 | .49 | .26 |
| 10. crying | 1.67 | .71 | .56 | .21 |
| 13. loss sexual interest | 1.39 | .53 | .31 | .11 |
| 15. low in energy | 1.69 | .64 | .56 | .30 |
| 17. poor appetite | 1.73 | .63 | .46 | .23 |
| 20. sleeping problems | 1.83 | .89 | .56 | .29 |
| 23. hopeless future | 1.73 | .89 | .56 | .23 |
| 24. interest in things | 1.64 | .66 | .43 | .28 |
| 27. feeling blue | 1.85 | .67 | .64 | .21 |
| 30. lonely | 1.83 | .88 | .66 | .22 |
| 31. suicide | 1.34 | .53 | .57 | .33 |
| 32. trapped | 1.40 | .50 | .60 | .26 |
| 33. worrying | 1.92 | .91 | .53 | .23 |
| 35. everything effort | 1.82 | .74 | .59 | .18 |
| 36. worthlessness | 1.44 | .55 | .63 | .29 |
| Externalizing | | | | |
| 3. angry easily | 1.97 | .83 | .44 | .45 |
| 4. alcohol weekend | 1.14 | .24 | .12 | .51 |
| 7. bullying | 1.20 | .29 | .19 | .52 |
| 8. smoking cigarettes | 1.25 | .53 | .16 | .50 |
| 11. destroying things | 1.13 | .17 | .18 | .45 |
| 14. starting fights | 1.35 | .43 | .23 | .56 |
| 18. hurting someone | 1.18 | .21 | .20 | .54 |
| 21. arguing | 1.39 | .42 | .34 | .56 |
| 25. alcohol week | 1.10 | .12 | .10 | .50 |
| 28. sleeping pills | 1.16 | .25 | .37 | .36 |
| 34. stealing | 1.09 | .12 | .14 | .51 |
| 37. using drugs | 1.05 | .10 | .13 | .45 |
| Explained variance per component | | | 8.27 | 4.51 |

Total Variance Accounted for by MGM is : 10.77 (29.12%)

Total Variance Accounted for by PCA is : 10.94 (29.57%)

English Language version

| HSCl-37A for Adolescents (SCA) | | | | |
|---------------------------------------|------|-------|-------------------|------------|
| Item | Mean | S.D.. | Component weights | |
| N=137 | | | 1 | 2 |
| Internalizing | | | | |
| 1. suddenly scared | 1.50 | .40 | .37 | .20 |
| 2. restless | 1.77 | .79 | .34 | .37 |
| 5. feeling fearful | 1.61 | .53 | .65 | .32 |
| 9. dizziness | 1.40 | .39 | .42 | .24 |
| 12. nervousness | 1.53 | .45 | .54 | .36 |
| 16. pounding heart | 1.65 | .64 | .51 | .29 |
| 19. trembling | 1.33 | .28 | .51 | .27 |
| 22. feeling tense | 1.61 | .56 | .58 | .31 |
| 26. headache | 1.87 | .48 | .53 | .17 |
| 29. spells of terror | 1.42 | .36 | .55 | .22 |
| 6. blame | 1.64 | .47 | .66 | .40 |
| 10. crying | 1.49 | .59 | .43 | .14 |
| 13. loss sexual interest | 1.50 | .70 | .35 | .09 |
| 15. low in energy | 1.70 | .55 | .66 | .27 |
| 17. poor appetite | 1.58 | .54 | .50 | .29 |
| 20. sleeping problems | 1.73 | .74 | .59 | .27 |
| 23. hopeless future | 1.65 | .93 | .56 | .21 |
| 24. interest in things | 1.64 | .55 | .40 | .25 |
| 27. feeling blue | 1.64 | .48 | .58 | .43 |
| 30. lonely | 1.73 | .66 | .62 | .24 |
| 31. suicide | 1.36 | .55 | .60 | .35 |
| 32. trapped | 1.43 | .52 | .55 | .29 |
| 33. worrying | 1.93 | .78 | .66 | .25 |
| 35. everything effort | 1.96 | .94 | .62 | .17 |
| 36. worthlessness | 1.50 | .50 | .62 | .32 |
| Externalizing | | | | |
| 3. angry easily | 1.70 | .65 | .35 | .57 |
| 4. alcohol weekend | 1.19 | .33 | .10 | .50 |
| 7. bullying | 1.34 | .52 | .35 | .48 |
| 8. smoking cigarettes | 1.21 | .49 | .21 | .57 |
| 11. destroying things | 1.13 | .11 | .29 | .53 |
| 14. starting fights | 1.34 | .47 | .22 | .66 |
| 18. hurting someone | 1.27 | .30 | .25 | .56 |
| 21. arguing | 1.53 | .43 | .38 | .46 |
| 25. alcohol week | 1.13 | .14 | .14 | .49 |
| 28. sleeping pills | 1.15 | .20 | .31 | .44 |
| 34. stealing | 1.18 | .25 | .24 | .43 |
| 37. using drugs | 1.12 | .13 | .27 | .49 |
| Explained variance per component | | | 8.32 | 5.21 |

Total Variance Accounted for by MGM is : 11.00 (29.73%)

Total Variance Accounted for by PCA is : 11.33 (30.63%)

Appendix VI

SCA for all language version of the HSCL-37-A for the CED Rotterdam research All languages

| HSCL-37A for Adolescents (SCA) | | | | |
|---------------------------------------|------|-------|-------------------|------------|
| Item | Mean | S.D.. | Component weights | |
| N=248 | | | 1 | 2 |
| Internalizing | | | | |
| 1. suddenly scared | 1.56 | .60 | .44 | .28 |
| 2. restless | 1.82 | .75 | .58 | .29 |
| 5. feeling fearful | 1.58 | .66 | .68 | .40 |
| 9. dizziness | 1.56 | .64 | .69 | .33 |
| 12. nervousness | 1.71 | .64 | .71 | .34 |
| 16. pounding heart | 1.63 | .60 | .59 | .26 |
| 19. trembling | 1.43 | .43 | .59 | .22 |
| 22. feeling tense | 1.75 | .65 | .65 | .39 |
| 26. headache | 1.95 | .78 | .75 | .31 |
| 29. spells of terror | 1.46 | .51 | .71 | .24 |
| 6. blame | 1.65 | .66 | .57 | .29 |
| 10. crying | 1.73 | .92 | .66 | .28 |
| 13. loss sexual interest | 1.49 | .73 | .40 | .17 |
| 15. low in energy | 1.70 | .63 | .68 | .23 |
| 17. poor appetite | 1.84 | .78 | .51 | .40 |
| 20. sleeping problems | 1.89 | 1.00 | .68 | .23 |
| 23. hopeless future | 1.73 | .76 | .64 | .17 |
| 24. interest in things | 1.71 | .80 | .46 | .34 |
| 27. feeling blue | 1.94 | .74 | .74 | .26 |
| 30. lonely | 1.90 | .96 | .62 | .13 |
| 31. suicide | 1.42 | .65 | .62 | .35 |
| 32. trapped | 1.53 | .73 | .71 | .29 |
| 33. worrying | 1.90 | .89 | .60 | .12 |
| 35. everything effort | 1.92 | .78 | .67 | .20 |
| 36. worthlessness | 1.63 | .80 | .66 | .46 |
| Externalizing | | | | |
| 3. angry easily | 2.06 | 1.00 | .45 | .35 |
| 4. alcohol weekend | 1.19 | .29 | .02 | .52 |
| 7. bullying | 1.19 | .28 | .36 | .63 |
| 8. smoking cigarettes | 1.17 | .30 | .16 | .42 |
| 11. destroying things | 1.14 | .16 | .22 | .69 |
| 14. starting fights | 1.33 | .42 | .26 | .43 |
| 18. hurting someone | 1.15 | .15 | .24 | .53 |
| 21. arguing | 1.42 | .47 | .38 | .52 |
| 25. alcohol week | 1.06 | .06 | .14 | .67 |
| 28. sleeping pills | 1.19 | .28 | .28 | .52 |
| 34. stealing | 1.11 | .18 | .23 | .48 |
| 37. using drugs | 1.02 | .03 | .14 | .65 |
| Explained variance per component | | | 10.76 | 5.67 |

Total Variance Accounted for by MGM is : 14.00(37.84%)

Total Variance Accounted for by PCA is : 14.30 (38.67%)

Appendix VII

SCA for all language versions for the HSCL-25 for the De Vonk research

| HSCL-25 (SCA) | | | |
|----------------------------------|------|-------|-----------|
| Item | Mean | S.D.. | Component |
| N=749 | | | 1 |
| Internalizing | | | |
| 1. suddenly scared | 2.93 | 1.11 | .62 |
| 2. restless | 3.17 | .90 | .67 |
| 5. feeling fearful | 3.12 | 1.01 | .58 |
| 9. dizziness | 2.85 | .96 | .63 |
| 12. nervousness | 3.29 | .79 | .57 |
| 16. pounding heart | 2.69 | 1.04 | .60 |
| 19. trembling | 2.60 | 1.10 | .63 |
| 22. feeling tense | 3.21 | .80 | .51 |
| 26. headache | 3.03 | .94 | .63 |
| 29. spells of terror | 2.93 | 1.07 | .57 |
| 6. blame | 2.82 | 1.31 | .58 |
| 10. crying | 2.78 | 1.34 | .43 |
| 13. loss sexual interest | 2.82 | 1.21 | .46 |
| 15. low in energy | 2.92 | .92 | .53 |
| 17. poor appetite | 2.93 | 1.02 | .45 |
| 20. sleeping problems | 3.37 | .84 | .47 |
| 23. hopeless future | 3.39 | .84 | .60 |
| 24. interest in things | 2.95 | 1.08 | .65 |
| 27. feeling blue | 3.33 | .74 | .52 |
| 30. lonely | 3.28 | .88 | .59 |
| 31. suicide | 2.56 | 1.31 | .61 |
| 32. trapped | 3.08 | 1.06 | .48 |
| 33. worrying | 3.43 | .66 | .55 |
| 35. everything effort | 2.98 | 1.04 | .58 |
| 36. worthlessness | 3.01 | 1.15 | .59 |
| Explained variance per component | | | 8.04 |

Total Variance Accounted for by MGM is : 8.04 (32.17%)

Total Variance Accounted for by PCA is : 8.06 (32.23%)

Appendix VIII

SCA for the Dutch version of the HSCL-37-A for the Belgium indigenous research

| HSCL-37A for Adolescents (SCA) | | | | |
|---------------------------------------|------|------|-------------------|------------|
| Item | Mean | S.D. | Component weights | |
| N=545 | | | 1 | 2 |
| Internalizing | | | | |
| 1. suddenly scared | 1.38 | .29 | .53 | .02 |
| 2. restless | 2.18 | .47 | .42 | .22 |
| 5. feeling fearful | 1.62 | .32 | .53 | .05 |
| 9. dizziness | 1.68 | .46 | .55 | .12 |
| 12. nervousness | 1.91 | .46 | .56 | .10 |
| 16. pounding heart | 1.56 | .51 | .34 | .11 |
| 19. trembling | 1.58 | .41 | .44 | .12 |
| 22. feeling tense | 1.96 | .47 | .65 | .09 |
| 26. headache | 1.99 | .43 | .47 | .10 |
| 29. spells of terror | 1.24 | .24 | .49 | .17 |
| 6. blame | 1.98 | .48 | .62 | .07 |
| 10. crying | 1.55 | .45 | .50 | -.03 |
| 13. loss sexual interest | 1.19 | .20 | .38 | .07 |
| 15. low in energy | 1.82 | .43 | .46 | .12 |
| 17. poor appetite | 1.75 | .47 | .44 | .08 |
| 20. sleeping problems | 2.06 | .83 | .47 | .15 |
| 23. hopeless future | 1.75 | .61 | .60 | .19 |
| 24. interest in things | 1.83 | .43 | .33 | .17 |
| 27. feeling blue | 1.92 | .37 | .65 | .08 |
| 30. lonely | 1.67 | .43 | .63 | .06 |
| 31. suicide | 1.32 | .36 | .49 | .25 |
| 32. trapped | 1.36 | .40 | .58 | .22 |
| 33. worrying | 2.05 | .74 | .65 | .06 |
| 35. everything effort | 1.88 | .47 | .57 | .14 |
| 36. worthlessness | 1.63 | .55 | .64 | .07 |
| Externalizing | | | | |
| 3. angry easily | 2.06 | .45 | .31 | .42 |
| 4. alcohol weekend | 2.39 | 1.25 | .12 | .54 |
| 7. bullying | 1.50 | .38 | -.01 | .55 |
| 8. smoking cigarettes | 1.80 | 1.37 | .25 | .45 |
| 11. destroying things | 1.22 | .24 | .05 | .61 |
| 14. starting fights | 1.32 | .34 | -.01 | .62 |
| 18. hurting someone | 1.36 | .31 | .01 | .60 |
| 21. arguing | 1.73 | .42 | .24 | .50 |
| 25. alcohol week | 1.49 | .51 | .06 | .54 |
| 28. sleeping pills | 1.10 | .18 | .12 | .41 |
| 34. stealing | 1.16 | .17 | .07 | .55 |
| 37. using drugs | 1.21 | .33 | .13 | .49 |
| Explained variance per component | | | 7.25 | 3.75 |

Total Variance Accounted for by MGM is : 10.61(28.67%)

Total Variance Accounted for by PCA is : 10.77(29.16%)

Appendix X

SCA for the Dutch version of the HSCL-37A for the Dutch indigenous research

| HSCL-37A for Adolescents (SCA) | | | | |
|---------------------------------------|------|------|-------------------|------------|
| N= 957 | Mean | S.D. | Component weights | |
| Item | | | 1 | 2 |
| Internalizing | | | | |
| 1. suddenly scared | 1.31 | .26 | .58 | -.03 |
| 2. restless | 1.91 | .49 | .41 | .28 |
| 5. feeling fearful | 1.45 | .33 | .59 | -.01 |
| 9. dizziness | 1.57 | .41 | .56 | .07 |
| 12. nervousness | 1.70 | .45 | .64 | .01 |
| 16. pounding heart | 1.51 | .45 | .46 | .12 |
| 19. trembling | 1.49 | .46 | .58 | .10 |
| 22. feeling tense | 1.77 | .42 | .58 | .11 |
| 26. headache | 1.94 | .46 | .47 | .00 |
| 29. spells of terror | 1.17 | .19 | .54 | .08 |
| 6. blame | 1.79 | .45 | .62 | -.08 |
| 10. crying | 1.45 | .48 | .58 | -.07 |
| 13. loss sexual interest | 1.20 | .21 | .39 | .11 |
| 15. low in energy | 1.69 | .43 | .51 | .01 |
| 17. poor appetite | 1.72 | .51 | .47 | .04 |
| 20. sleeping problems | 1.91 | .81 | .53 | .16 |
| 23. hopeless future | 1.55 | .52 | .62 | .11 |
| 24. interest in things | 1.76 | .39 | .41 | .19 |
| 27. feeling blue | 1.78 | .47 | .69 | -.05 |
| 30. lonely | 1.46 | .43 | .67 | -.01 |
| 31. suicide | 1.28 | .35 | .54 | .15 |
| 32. trapped | 1.20 | .25 | .56 | .15 |
| 33. worrying | 1.87 | .67 | .65 | .06 |
| 35. everything effort | 1.74 | .51 | .66 | .09 |
| 36. worthlessness | 1.48 | .49 | .68 | .04 |
| Externalizing | | | | |
| 3. angry easily | 1.95 | .41 | .29 | .43 |
| 4. alcohol weekend | 2.50 | 1.34 | -.10 | .48 |
| 7. bullying | 1.39 | .29 | .00 | .59 |
| 8. smoking cigarettes | 1.77 | 1.32 | .11 | .54 |
| 11. destroying things | 1.21 | .22 | -.06 | .60 |
| 14. starting fights | 1.35 | .35 | -.02 | .64 |
| 18. hurting someone | 1.32 | .28 | .03 | .62 |
| 21. arguing | 1.55 | .40 | .30 | .51 |
| 25. alcohol week | 1.52 | .52 | -.08 | .57 |
| 28. sleeping pills | 1.12 | .18 | .20 | .26 |
| 34. stealing | 1.14 | .17 | .02 | .60 |
| 37. using drugs | 1.26 | .41 | .05 | .62 |
| Explained variance per component | | | 8.28 | 3.87 |

Total Variance Accounted for by MGM is : 12.05 (32.56%)

Total Variance Accounted for by PCA is : 12.21 (32.99)%