

THE FRENCH VERSION OF THE SCREEN FOR CHILD ANXIETY RELATED EMOTIONAL DISORDERS-REVISED (SCARED-R): FACTOR STRUCTURE, CONVERGENT AND DIVERGENT VALIDITY IN A SAMPLE OF TEENAGERS

Martine Bouvard, Jean-Luc Roulin, & Anne Denis*

The principal objective of this study is to provide data on the French version of the SCARED-R. This article investigates the factor structure of the French version of the Screen for Child Anxiety Related Emotional Disorders-Revised (SCARED-R) and its convergent and divergent validity. 704 normal adolescents aged 10 to 19 years completed the questionnaires in their classrooms. A sub-sample of 595 adolescents also completed an anxiety questionnaire (the French version of the Fear Survey Schedule for Children-Revised, FSSC-R) and a depression questionnaire (the French version of the Center for Epidemiological Studies Depression Scale, CES-D). Confirmatory factor analysis of the SCARED-R suggested reasonable fit for the 9-factor model. The comparison of the convergent and divergent validity revealed that the SCARED-R total score and five SCARED-R subscales (SAD, Social Phobia and the three Specific Phobias) correlated more strongly with anxiety than depression. The other SCARED-R subscales (GAD, Panic Disorder, OCD and PTSD) are positively related to levels of anxiety and depression. Altogether, the French version of the SCARED-R showed reasonable psychometric properties.

Introduction

In both research and clinical practices, self-report questionnaires for measuring childhood anxiety symptoms are frequently used. The most widely used traditional questionnaire for this purpose is the Fear Survey Schedule for Children-Revised (FSSC-R), (Ollendick, 1983). The FSSC-R is used to measure the construct of fear in children and adolescents. It is designed (1) to measure the number of fears and (2) as a normative scale for selecting fearful children and adolescents for treatment trials. Two other traditional questionnaires are also used: the Spielberger State-Trait Inventory for Children (STAIC); (Spielberger, 1973) and the Revised Manifest Anxiety Scale for Children (RCMAS); (Reynolds & Richmond, 1978). The STAIC consists of a state scale that measures present-state and situation-linked anxiety and a

* Martine Bouvard, Jean-Luc Roulin, & Anne Denis, Laboratoire LPNC, Université de Savoie, France.

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Correspondence concerning this article should be addressed to Martine Bouvard, Laboratoire LPNC, Université de Savoie, BP 1104, 73011 Chambéry, France. E-mail: martine.bouvard@univ-savoie.fr

trait scale that measures chronic symptoms of anxiety. The RCMAS intends to measure the level of general anxiety in youth. It is a widely used questionnaire with three anxiety-related sub-factors: physiological manifestations of anxiety, worry and oversensitivity, and problems with fear/concentration (Reynolds & Paget, 1983). The principal limits of these childhood anxiety questionnaires are that they are not linked to anxiety categories that are listed in the DSM-IV (Stallings & March, 1995). The Multidimensional Anxiety Scale for Children (MASC); (March, Parker, Sullivan, Stallings & Conners, 1997) is constructed to assess four theoretically meaningful domains of childhood anxiety symptoms: affective, physical, cognitive and behavioural. Factor analysis of the MASC has revealed a four-factor solution: physical symptoms, social anxiety, separation anxiety, and harm avoidance (March et al., 1997). So, the MASC focused on two anxiety disorders: social phobia and separation anxiety disorder. One questionnaire, the Screen for Child Anxiety Related Emotional Disorders-Revised (SCARED-R); (Muris, 1997) is based on the DSM-IV criteria. The SCARED-R is a questionnaire assessing all DSM-IV childhood anxiety disorders. It contains 66 items that can be allocated to 9 separate DSM-IV anxiety disorders (Muris, Schmidt & Merckelbach, 2000b): panic disorder, separation anxiety disorder (including school phobia), generalised anxiety disorder, social phobia, specific phobias (animal phobia, situational-environmental phobia and blood-injection-injury phobia), obsessive-compulsive disorder (OCD) and post-traumatic stress disorder (PTSD). The factor structure is not established when all subscales were included in the analyses. Muris, Merckelbach, Schmidt and Mayer (1999b) suggested a 1-factor solution in a normal sample. But, additional exploratory and confirmatory factors analyses carried out on two different parts of the SCARED-R provided some support for five factors on the 38 original items and 3 factors on the 15 new items of Specific Phobia. An analysis conducted on the 38 original items of the SCARED (Birmaher et al., 1997) suggested reasonable fit for the five dimensions: Panic Disorder, Generalised Anxiety Disorder, Separation Anxiety Disorder, Social Phobia, school phobia. A second analysis conducted on the 15 new items of Specific Phobia provided some support for a 3-factor solution: Specific Phobia-animal type, Specific Phobia-blood-injection-injury type and Specific Phobia-situational-environmental type. School phobia was integrated as a factor in the analysis conducted on the 38 original items of the SCARED-R. However, two new scales (OCD and PTSD) were not included in the analyses (Muris et al., 1999b). The internal consistency and the reliability (test-retest stability) of the SCARED-R were found to be satisfactory (Muris, Merckelbach, van Brakel & Mayer, 1999c). The convergent validity of the SCARED-R was established with the STAIC (Muris, Merckelbach, van Brakel, Mayer & van Donger, 1998b), the FSSC-R and the RCMAS (Muris et al., 1998a). The divergent validity was

examined with a measure of depression (Muris et al., 1998b). The concurrent validity was studied with the Spence Children's Anxiety Scale (Muris et al., 1999c; 2000b). The treatment sensitivity of the SCARED-R was established in anxious children (Muris, Merckelbach, Gadet, Moulseret & Tierney, 1999a; Muris, Merckelbach, Korver & Meesters, 2000a; Muris, Mayer, Bartelds, Tierney & Bogie, 2001). Finally, the discriminant validity of the SCARED-R was established in a clinical sample (Muris & Steerneman, 2001). Today, there is no data on the French version of the SCARED-R. The purpose of the present study is to examine some psychometrical properties of the French version of the SCARED-R: (1) the factorial structure and the internal consistency of the questionnaire and its subscales, (2) the convergent validity with the French version of the FSSC-R and the divergent validity with the French version of the the Center for Epidemiological Studies Depression Scale (CES-D). The psychometric characteristics of these two traditional questionnaires were confirmed among French speaking adolescents (Chabrol, Montovany, Chouicha, Duconge, Massot, & Kallmeyer, 2002; Rusinek, Hautekeete-Sense & Hautekeete, 1998; Turgeon, Chartrand & Brousseau, 2005).

Method

Participants

A sample of 704 youth (325 boys and 379 girls) recruited from regular secondary schools of Rhône-Alpes (France) completed the SCARED-R. Participants were aged 10 to 19, with a mean of 14.18 ($SD = 2.39$). The mean age was 13.80 for the boys ($SD = 2.02$) and 14.50 for the girls ($SD = 2.63$). A subsample of 595 adolescents (261 boys and 334 girls) with a mean age of 14.17 ($SD = 2.49$) also completed the FSSC-R and the CES-D. The mean age was 13.71 for the boys ($SD = 2.11$) and 14.53 for the girls ($SD = 2.70$). The children completed all the questionnaires in their classroom. Two research assistants were present and available to assist children who encountered difficulties while completing the instruments and also, to ensure that children worked on their own. All participants provided written parental consent and verbal assent prior to participating to the study. The study was conducted in accordance with the Ethical principles for Medical Research (World Medical Association, Declaration of Helsinki).

Questionnaires

Screen for Child Anxiety Related Emotional Disorders-Revised (SCARED-R); (Muris, 1997). Respondents are asked to rate how frequently they have experienced each symptom using a 3-point scale (0 = almost never, 1 = sometimes and 2 = often). SCARED-R total score and subscale scores are derived

by summing relevant items. The SCARED-R showed high reliability for the total score of the questionnaire and acceptable values for the anxiety disorders subscales (Muris et al., 1999c; Muris et al., 2000b). A French translation of the original measure was created by a native French speaker and this translation was then back-translated into English by a bilingual independent translator. This latest version was then reviewed and compared to the original English version by the first author, to ensure the accuracy of the translation.

Fear Survey Schedule for Children Revised (FSSC-R); (Ollendick, 1983). The FSSC-R asks children to indicate, on a 3-point scale, how much they fear 80 specific stimuli or situations. The FSSC-R is a reliable instrument in terms of internal consistency and temporal stability (Stallings & March, 1995). Factor analytic studies have revealed that the FSSC-R contains five factors: (a) fear of failure and criticism, (b) fear of unknown, (c) fear of animals/minor injuries, (d) fear of danger and death, and (e) medical fears. The FSSC-R has acceptable convergent validity with the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978) and the trait version of the State Trait Anxiety Inventory for Children (STAIC); (Ollendick; 1983; Ollendick, Yule & Ollier, 1991; Spielberger, 1973). The factor subscale scores have been found to be useful in differentiating between two types of specific phobias (dark, shot/doctor) and they discriminated among the different types of children's specific phobias but not social phobia (Weems, Silverman, Saavedra, Pina & Lumkin, 1999).

The *Center for Epidemiological Studies Depression Scale* (CES-D); (Radloff, 1977) consists of 20 questions chosen to reflect various aspects of depression. Respondents report the frequency of occurrence for each item during the previous week on a 4-point scale. The main psychometric properties of the CES-D have been established among adolescents (Radloff, 1977; Roberts, Lewinsohn, & Seely, 1991). Internal consistency for the total score and test-retest reliability were also satisfactory.

Statistical Analysis

Confirmatory factor analyses were performed to determine the fit of the factor structure identified in previous research with the SCARED-R. Fit indices included the Relative/Normed Chi-square (X^2/df ; Tabachnick & Fidell, 2007), the Adjusted Goodness-of-Fit statistic (AGFI); (Tabachnick & Fidell, 2007), the Comparative Fit Index (CFI); (Bentler, 1990), the Root Mean Square Error of Approximation (RMSEA); (Steiger, 1990), the Standardised Root Mean Square Residual (SRMR); (Hu & Bentler, 1999), and the Akaike Information Criterion (AIC); (Akaike, 1974). Given that gender and age have been postulated to play a role in anxiety scores (Muris et al., 1998a), gender and age were covaried for in subsequent analyses of the questionnaire. ANCO-

VAs with age entered as covariate, and gender entered as independent variable were performed on dependent measures. Then, Pearson product-moment correlations between SCARED-R scores and FSSC-R scores were calculated, while controlling for sex and age. Because a considerable number of correlations (i.e. 45) were computed, a Bonferroni correction was applied. Thus, probability level was set on $p < .05/45$ (i.e., $p < .001$). Pearson product-moment correlations between SCARED-R score and the CES-D score were calculated, while controlling for sex and age, with the probability level on $p < .05/10$ (i.e., Bonferroni correction). Finally, tests for comparing correlated correlation coefficients were used to examine the convergent and divergent validity of the SCARED-R scales.

Results

Confirmatory factor analyses

Confirmatory factor analyses were carried out to examine the factor structure of the SCARED-R. Three alternative models were investigated. The first model postulated that the data would be explained by ten inter-correlated factors (the 10-correlated-factor model: nine anxiety disorders plus school phobia). The second model postulated that the data would be explained by 9 inter-correlated factors (the 9-correlated factor model described by Muris et al., 2000b): separation anxiety disorder factor included school phobia). The third and final model (the new 9-correlated factor model) also assumed 9-correlated factors but excluded school phobia (4 items). The fit statistics for these competing models appear in Table 1 (p. 8). Fit statistics for the three alternative models suggest marginal fit (AGFI, CFI) and satisfactory fit indices (X^2/df , SRMR, RMSEA). Fit statistics for the 10-factor model were comparable with the new 9 correlated factor model. However, the new 9-correlated factor model produced the lowest value of the AIC. Confirmatory factor analysis of the SCARED-R suggested reasonable fit for the 9-factor model (excluding four school phobia items). So, the SCARED-R version used for the rest of the study consists of 62 items and 9 subscales corresponding to nine anxiety disorders.

General statistics, internal consistency of the SCARED-R

General statistics of the SCARED-R are presented in Table 2. Because a considerable number of comparisons (i.e. 30) were computed, a Bonferroni correction was applied. Thus, probability level was set on $p < .05/30$ (i.e., $p < .001$) as can be seen in Table 2. The internal consistency of the SCARED-R total anxiety score was good. The internal consistency of five SCARED-R subscales was also adequate (Panic Disorder, Generalised Anxiety Disorder,

Table 1
Fit statistics for the confirmatory analytic models of the SCARED-R

	X^2/df	AGFI	CFI	RMSEA	SRMR	AIC
10 factors	2.49	0.79	0.74	0.046	0.059	5438.80
9 factors	2.63	0.78	0.71	0.048	0.056	5731.88
New 9 factors	2.58	0.80	0.74	0.047	0.586	4970.24

Note. X^2/df = Relative/Normed Chi-square; AGFI = Adjusted Goodness-of-Fit statistic; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardised Root Mean Square Residual; AIC = Akaike Information Criterion.

Social Phobia, Post-Traumatic Stress Disorder, Specific Phobia-animal type). The other four SCARED-R subscales (Separation Anxiety Disorder, Obsessive Compulsive Disorder, Specific Phobia-situational type, Specific Phobia-blood-injury type) had an alpha coefficient less than .70. Girls reported significantly higher levels of anxiety than boys on Total Score ($F(1,680) = 16.13$ $p = .0001$; $\eta_p^2 = .023$), Panic Disorder (PD) subscale ($F(1,680) = 12.29$ $p = .001$; $\eta_p^2 = .018$), Generalised Anxiety Disorder (GAD) subscale ($F(1,680) = 17.85$ $p = .0001$; $\eta_p^2 = .026$), Separation Anxiety Disorder (SAD) subscale ($F(1,680) = 13.72$ $p = .0001$; $\eta_p^2 = .002$) and Specific Phobia-situational type ($F(1,680) = 11.78$ $p = .001$), $\eta_p^2 = .017$). No significant age effects or significant interaction effects were found.

Table 2
General statistics (Cronbach's alphas, mean scores, sex differences) of the SCARED-R

	α	Total M (SD) N = 704	Boys N = 325	Girls N = 379
SCARED-R total score	.92	30.24 (16.03)	25.12 (14.76)	34.63 (15.79)
SCARED-R Panic Disorder	.77	4.33 (3.63)	3.41 (2.92)	5.11 (3.98)
SCARED-R GAD	.78	5.18 (3.67)	4.13 (3.16)	6.08 (3.84)
SCARED-R SAD	.67	3.27 (2.55)	2.75 (2.40)	3.73 (2.59)
SCARED-R Social Phobia	.70	3.00 (2.10)	2.68 (2.07)	3.27 (2.09)
SCARED-R OCD	.68	5.60 (3.16)	5.22 (3.27)	5.94 (3.03)
SCARED-R PTSD	.77	2.37 (2.18)	2.01 (2.06)	2.68 (2.24)
SCARED-R SP-animal type	.82	1.10 (1.65)	0.76 (1.38)	1.40 (1.81)
SCARED-R SP-blood-injection-injury type	.62	3.11 (2.51)	2.56 (2.32)	3.58 (2.57)
SCARED-R SP-situational-environmental type	.58	2.23 (1.98)	1.56 (1.66)	2.79 (2.06)

SCARED-R GAD= SCARED-R Generalised Anxiety Disorder; SCARED-R SAD= SCARED-R Separation Anxiety Disorder. SCARED-R OCD= SCARED-R Obsessive Compulsive Disorder; SCARED-R PTSD = SCARED-R Post-Traumatic Stress Disorder; SCARED-R SP-animal type = SCARED-R Specific Phobia-animal type; SCARED-R SP-blood-injection-injury type = SCARED-R Specific Phobia-blood-injection-injury type; SCARED-R SP-situational-environmental type= SCARED-R Specific Phobia-situational-environmental type

*Bonferroni correction: $p < .05/30 = p < or = .001$

Convergent and divergent validity

The SCARED-R total score and the FSSC-R total score moderately correlated ($r(595) = .62$; $p < .0001$). As can be seen in table 3, all the SCARED-R subscales and the FSSC-R subscales correlated positively (corrected for gender and age). Moderately correlations emerged between the SCARED-R SAD subscale and the FSSC-R Fear of Unknown ($r(595) = .48$), between the SCARED-R GAD subscale and the FSSC-R Fear of Failure and criticism ($r(595) = .50$), between the SCARED-R Social Phobia subscale and the FSSC-R Fear of Failure and criticism ($r(595) = .39$), between the SCARED-R Specific Phobia-type environmental/situational subscale and the FSSC-R Fear of Unknown ($r(595) = .48$), between the SCARED-R Specific Phobia-type animal subscale and the FSSC-R Fear of animals/minor injuries subscale ($r(595) = .44$, and between the SCARED-R Specific Phobia-type blood-injection-injury subscale and the FSSC-R Medical fear subscale ($r(595) = .61$). The SCARED-R total score and the CES-D total score moderately correlated ($r(595) = .51$; $p < .0001$). Corrected for gender and age, all the SCARED-R subscales and the CES-D total score correlated positively, with an exception for the SCARED-R SP animal type (Table 3).

The comparison of the correlation coefficient of the SCARED-R total score and the FSSC-R total score (.62) and of the SCARED-R total score and the CES-D total ($r = .51$) was significant ($p = .01$). Three subscales of the SCARED-R (Panic Disorder, GAD, PTSD) correlated most strongly with CES-D than subscales of FSSC-R. One subscale of the SCARED-R (OCD) correlated quite equally with the CES-D than subscales of the FSSC-R. The comparison of the correlation of the SCARED-R SAD subscale and the FSSC-R Fear of Unknown ($r = .48$) and of the SCARED-R SAD subscale and the CES-D total score ($r = .32$) was significant ($p = .01$). The comparison of the correlation of the SCARED-R SAD subscale and the FSSC-R Fear of Unknown ($r = .48$) and of the SCARED-R SAD subscale and the FSSC-R Fear of Failure and Criticism ($r = .38$) was significant ($p = .05$). The comparison of the correlation of the SCARED-R Social Phobia subscale and the FSSC-R Fear of Failure and Criticism ($r = .39$) and of the SCARED-R Social Phobia subscale and the CES-D total score ($r = .17$) was significant ($p = .01$). The comparison of the correlation of the SCARED-R Social Phobia subscale and the FSSC-R Fear of Failure and Criticism ($r = .39$) and of the SCARED-R Social Phobia subscale and the FSSC-R Fear of unknown ($r = .28$) was significant ($p = .05$). The comparison of the correlation of the SCARED-R Specific Phobia-animal type subscale and the FSSC-R Fear of animals/minor injuries ($r = .44$) and of the SCARED-R Specific Phobia-animal type subscale and the FSSC-R Fear of Unknown score ($r = .32$) was significant ($p = .01$). The comparison of the correlation of the SCARED-R Specific Phobia-blood-injection type subscale and the FSSC-R Medical fears ($r = .61$) and of the

SCARED-R Specific Phobia-blood-injection type subscale and the FSSC-R Fear of danger and death score ($r = .43$) was significant ($p = .01$). The comparison of the correlation of the SCARED-R Specific Phobia-situational type subscale and the FSSC-R Fear of unknown ($r = .48$) and of the SCARED-R Specific Phobia-situational type subscale and the FSSC-R Fear of danger and death score ($r = .43$) was significant ($p = .01$).

Table 3

Correlations of the FSSC-R subscales and SCARED-R subscales (controlling for sex and age)

FSSC-R	Fear of failure and criticism	Fear of unknown	Fear of animals/ minor injuries	Fear of danger and death	Medical fears	CESD
SCARED-R Panic Disorder	.43*	.42*	.27*	.32*	.42*	.51*
SCARED-R GAD	.50*	.37*	.21*	.30*	.30*	.51*
SCARED-R SAD	.38*	.48*	.38*	.38*	.30*	.32*
SCARED-R Social Phobia	.39*	.28*	.21*	.23*	.21*	.17*
SCARED-R OCD	.36*	.37*	.29*	.33*	.28*	.34*
SCARED-R PTSD	.26*	.29*	.18*	.26*	.25*	.40*
SCARED-R SP-animal type	.22*	.32*	.44*	.26*	.19*	.11
SCARED-R SP-blood-injection-injury type	.33*	.37*	.43*	.43*	.61*	.16*
SCARED-R SP-situational-environmental type	.25*	.48*	.45*	.36*	.33*	.25*

SCARED-R GAD = SCARED-R Generalised Anxiety Disorder; SCARED-R SAD = SCARED-R Separation Anxiety Disorder. SCARED-R OCD = SCARED-R Obsessive Compulsive Disorder; SCARED-R PTSD = SCARED-R Post-Traumatic Stress Disorder; SCARED-R SP-animal type = SCARED-R Specific Phobia-animal type; SCARED-R SP-blood-injection-injury type = SCARED-R Specific Phobia-blood-injection-injury type; SCARED-R SP-situational-environmental type = SCARED-R Specific Phobia-situational-environmental type

*Bonferroni correction: $p < .05/45 = p < or=.001$

Discussion

Self-report measures play an important role in the assessment of childhood anxiety disorders. This article investigated the construct validity of the French version of the SCARED-R and its convergent and divergent validity in a sample of normal adolescents. Confirmatory factor analysis of the SCARED-R suggested reasonable fit for the 9-factor model: Panic Disorder, Separation Anxiety Disorder (excluding school phobia items), Generalised Anxiety Disorder, Social Phobia, Obsessive Compulsive Disorder, Post Traumatic Stress Disorder and three types of Specific Phobias (animal phobia, situational-environmental phobia and blood-injection-injury phobia). These results represent the first support to the dimensions postulated by Muris (1997), corresponding

to 9 anxiety disorders (6 anxiety disorders plus 3 subscales of Specific Phobia). Only the items of school phobia were excluded and the SCARED-R version used for the rest of the study consists of 62 items. This factor structure corresponds to the DSM-IV-defined childhood anxiety disorders. However, our findings included only control participants between 10 and 19 years old. It is possible that in sample of clinically referred children, the DSM-like factor structure of the SCARED-R will more optimal (Muris et al., 1999b). Additional confirmatory factor analyses in normal and clinical children would be necessary. Internal consistency of the SCARED-R total score was found to be adequate. The internal consistency of the SCARED-R subscales was adequate for five and acceptable for four subscales. The inclusion of the 4 items of school phobia in the SAD subscale did not change the result ($\alpha = .67$) of this subscale. Therefore, these results replicated those of Muris et al. (1999b; 1999c). In line with earlier research, girls exhibited higher levels of anxiety than boys (i.e. Muris et al., 1998a; 1998b). However, these gender differences are associated with small effect sizes. No significant age effects were found. One hypothesis to explain this is that our sample was exclusively composed of adolescents (> 10 years). Other purpose of the present study was to examine the relationship between a “new” questionnaire (SCARED-R) and two traditional childhood measures (FSSC-R and CES-D). The SCARED-R total score is moderately correlated with the FSSC-R total score since it focus on the anxiety disorders. Inspection of the correlations between SCARED-R and FSSC-R subscales generally revealed the predicted pattern. The SCARED-R SAD subscale correlated most strongly with FSSC-R Fear of unknown. The SCARED-R Social Phobia subscale correlated most strongly with FSSC-R Fear of failure and criticism. Further expected correlations were found between SCARED-R Specific Phobia-type blood injection-injury subscale and FSSC-R Medical fear subscale, between SCARED-R Specific Phobia-type animal and FSSC-R Fear of animals/minor injuries, and between SCARED-R Specific Phobia-situational type subscale and the FSSC-R Fear of unknown. All these results were significant and comparable with the study of Muris et al. (1998a). In terms of divergent validity, the SCARED-R total score is correlated to the CES-D. The three Specific Phobia subscales and the Social Phobia subscale of the SCARED-R had the lowest correlations with the CES-D. All in all, these results were comparable with those obtained with the Children’s Depression Inventory (Muris et al., 1998b). The comparison of the convergent and divergent validity revealed that the SCARED-R total score and five SCARED-R subscales (SAD, Social Phobia and the three Specific Phobias) correlated more strongly with anxiety than depression. The other SCARED-R subscales (GAD, Panic Disorder, OCD and PTSD) are positively related to levels of anxiety and depression. These findings appear to represent problems with convergent validity of these subscales. However,

they confirm the relation between anxiety and depression (Chorpita, Yim, Moffitt, Umemoto, & Francis, 2000). The principal limitation of the present study lies in the fact that we did not use a clinical population. Besides, the study did not include children (8 to 10 years old). The interest of the SCARED-R is to focus on childhood anxiety disorders. It can be useful in behaviour and cognitive therapy since the treatment sensitivity of the Dutch version of the SCARED-R is already established (Muris et al., 1999a; 2000a; 2001).

In conclusion, the French version of the SCARED-R showed reasonable psychometric properties. Confirmatory factor analysis of the SCARED-R suggested reasonable fit for the 9-factor model: six anxiety disorders scales and three types of Specific Phobia. The four items of school phobia were excluded of the Separation Anxiety Disorder subscale. In line with early research, girls exhibited higher levels of anxiety than boys. Convergent and divergent validity of the SCARED-R were satisfying.

References

- Akaike, H. (1974). A new look at the statistical model identification. *IEEE Transactions on Automatic Control*, *19*, 716-723.
- Bentler, P.M. (1990). Comparative Fit Indexes in Structural Models. *Psychological Bulletin*, *107*, 238-246.
- Birmaher, B., Khetarpal, S., Brent, D., Cully, M., Balach, L., Kaufman, J., & McKenzie Neer, S. (1997). The Screen for Child Anxiety Related Emotional Disorders (SCARED): Scale construction and psychometric characteristics. *Journal of the American Academy of Child and Adolescent Psychiatry*, *36*, 545-553.
- Chabrol, H., Montovany, A., Chouicha, K., Duconge, E., Massot, E., & Kallmeyer, A. (2002). Etude de la CES-D dans un échantillon de 1953 adolescents scolarisés. *L'Encéphale*, *XXVIII*, 429-432.
- Chorpita, B.F., Yim, L., Moffitt, C., Umemoto, L.A., & Francis, S.E. (2000). Assessment of symptoms of DSM-IV anxiety and depression in children: A revised child anxiety and depression scale. *Behaviour Research and Therapy*, *38*, 835-855.
- Hu, L.T., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis. Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*, 1-55.
- March, J.S., Parker, J.D., Sullivan, K., Stallings, P., & Conners, C. (1997). The multi-dimensional anxiety scale for children: Factor structure, reliability, and validity. *Journal of the American Academy of Child Adolescent Psychiatry*, *36*, 554-565.
- Muris, P. (1997). *The Screen for child anxiety related emotional disorders*. Maastricht: Maastricht University, Department of Psychology.
- Muris, P., Mayer, B., Bartelds, E., Tierney, S., & Bogie, N. (2001). The revised version of the Screen for Child Anxiety Related Emotional Disorders. (SCARED-

- R): Treatment sensitivity in an early intervention trial for childhood anxiety disorders. *British Journal of Clinical Psychology*, 40, 323-336.
- Muris, P., Merkelbach, H., Gadet, B., Moulart, V., & Tierney, S. (1999a). Sensitivity for treatment effects of the screen for child anxiety related emotional disorders. *Journal of Psychopathology and Behavioral Assessment*, 23, 325-335.
- Muris, P., Merckelbach, H., Korver, P., & Meesters, C. (2000a). Screening for trauma in children and adolescents: The validity of the traumatic stress disorder scale of the screen for child anxiety related emotional disorders. *Journal of Clinical Child Psychology*, 29, 406-413.
- Muris, M., Merkelbach, H., Mayer, van Brakel, A., Thissen, S., Moulart, V., & Gadet, B. (1998a). The Screen for Child Anxiety Related Emotional Disorders (SCARED) and traditional childhood anxiety measures. *Journal of Behavior Therapy and Experimental Psychiatry*, 29, 327-339.
- Muris, M., Merkelbach, H., Schmidt, H., & Mayer, B. (1999b). The Revised version of the Screen for Child Anxiety Related Emotional Disorders (SCARED-R): Factor structure in normal children. *Personality and Individual Differences*, 26, 99-112.
- Muris, M., Merkelbach, H., van Brakel, A., & Mayer, B. (1999c). The Revised version of the Screen for Child Anxiety Related Emotional Disorders (SCARED-R): Further evidence for its reliability and validity. *Anxiety, Stress and Coping*, 12, 411-425.
- Muris, M., Merckelbach, H., van Brakel, A., Mayer, B., & van Donger, L. (1998b). The Screen for Child Anxiety Related Emotional Disorders (SCARED): Relationship with anxiety and depression in normal children. *Personality and Individual Differences*, 24, 451-456.
- Muris, P., Schmidt, H., & Merckelbach, H. (2000b). Correlations among two self-report questionnaires for measuring DSM-defined anxiety disorders symptoms in children: The screen for child anxiety related emotional disorders and the Spence children's anxiety scale. *Personality and Individual Differences*, 28, 333-346.
- Muris, P., & Steerneman, P. (2001). The Revised version of the Screen for Child Anxiety Related Emotional Disorders (SCARED-R): First evidence for its reliability and validity in a clinical sample. *British Journal of Clinical Psychology*, 40, 35-44.
- Ollendick, T.H. (1983). Reliability and validity of the revised fear survey schedule for children (FSSC-R). *Behaviour Research and Therapy*, 21, 685-692.
- Ollendick, T.H., Yule, W., & Ollier, K. (1991). Fears in British children and their relationship to manifest anxiety and depression. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 32, 321-331.
- Radloff, L.S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 3, 385-401.
- Reynolds, C.R., & Richmond, B.O. (1978). What I think and feel: A revised measure of children's manifest anxiety. *Journal of Abnormal Child Psychology*, 6, 271-280.

- Reynolds, C.R., & Paget, K.D. (1983). National normative and reliability data for the revised children's manifest anxiety scale. *School Psychology Review, 12*, 324-336.
- Roberts, R.E., Lewinsohn, P.M., & Seely, J.R. (1991). Screening for adolescent depression: A comparison of depression scales. *Journal of American Academy of Child and Adolescent Psychiatry, 30*, 58-66.
- Rusinek, S., Hautekeete-Sense, D., & Hautekeete, M. (1998). L'évolution des peurs à travers l'enfance à partir de l'échelle des peurs pour enfants. *Journal de Thérapie Comportementale et Cognitive, 8*, 17-25.
- Spielberger, C.D. (1973). *Manual for the State-Trait Anxiety Inventory for children*. Palo Alto, CA: Consulting Psychologists Press.
- Schniering, C.A., Hudson, J.L., & Rapee, R.M. (2000). Issues in the diagnosis and assessment of anxiety disorders in children and adolescents. *Clinical Psychology Review, 20*, 453-478.
- Spence, S.H. (1998). A measure of anxiety symptoms among children. *Behaviour Research and Therapy, 36*, 545-566.
- Stallings, P., & March, J.S. (1995). Assessment. In J.S. March, *Anxiety disorders in children and adolescents* (pp 125-147). New York: Guildford Press.
- Steiger, J.H. (1990). Structural model evaluation and modification. *Multivariate Behavioral Research, 25*, 212-214.
- Tabachnick, B.G., & Fidell, L.S. (2007). *Using multivariate statistics* (5th ed.). New York: Allyn and Bacon.
- Turgeon, L., Chartrand, E., & Brousseau, L. (2005). Traduction et validation du Fear Survey Schedule for Children-Revised (FSSC-R) auprès d'enfants québécois francophones d'âge scolaire. *Mesure et Evaluation en Education, 28*, 31-47.
- Weems, C.F., Silverman, W.K., Saavedra, L.M., Pina, A.A., & Lumpkin, P.W. (1999). The discrimination of children's phobias using the Revised Fear Survey Schedule for children. *Journal of Child Psychology and Psychiatry, 40*, 941-952.

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