The Screen for Child Anxiety Related Emotional Disorders (SCARED) and traditional childhood anxiety measures

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Abstract

The Screen for Child Anxiety Related Emotional Disorders (SCARED) is a self-report questionnaire that measures symptoms of DSM-IV linked anxiety disorders in children. This article presents two studies that investigated the relationship between the SCARED, on the one hand, and two other widely used anxiety measures for children, namely the Revised Children's Manifest Anxiety Scale (RCMAS) and the Fear Survey Schedule for Children-Revised (FSSC-R), on the other hand. Results indicate that SCARED scores are positively and in a theoretically meaningful way related to RCMAS and FSSC-R scores, and thus provide evidence for the concurrent validity of the SCARED. © 1999 Elsevier Science Ltd. All rights reserved.

Keywords: Anxiety disorders, Anxiety questionnaire, Children

1. Introduction

Pathological anxiety in children is not rare. Prevalence rates of anxiety disorders in children range between 5.7 and 17.7%, with half of the rates above 10% (Costello & Angold, 1995). The latest edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994) recognizes the following anxiety disorders in youths: separation anxiety disorder, generalized anxiety disorder, panic disorder, social phobia, specific phobia, obsessive-compulsive

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disorder, and post-traumatic or acute stress disorder. There is evidence to suggest that symptoms of these disorders also occur in normal children (e.g., Bell-Dolan, Last & Strauss, 1990). In addition, a factor analytic study by Spence (1997) recently showed that anxiety symptoms among normal children cluster into subtypes of anxiety problems which are largely consistent with the anxiety disorders that can be classified with the DSM-IV.

The majority of the questionnaires that have been developed for assessing anxiety symptoms in children are global and unidimensional, and not keyed to the separate anxiety disorders as listed in the DSM. An exception is the Screen for Child Anxiety Related Emotional Disorders (SCARED; Birmaher, Kheterpal, Brent, Cully, Balach, Kaufman & McKenzie Neer, 1997; Muris, Merckelbach, Schmidt & Mayer, in press a). The SCARED is a self-report instrument that has been construed to reliably determine anxiety disorders and related symptomatology.

Research has found support for the discriminant validity of the SCARED. First of all, the scale differentiates between anxiety disordered children, children with depression, and children with disruptive disorders (Birmaher et al., 1997). Second, the SCARED satisfactorily discriminates children with a specific anxiety disorder from children without that particular anxiety disorder (Muris, Merckelbach, Mayer & Prins, submitted). Furthermore, Muris, Merckelbach, Van Brakel, Mayer and Van Dongen (1998d) have provided evidence for the concurrent validity of the SCARED. These authors demonstrated that SCARED scores are positively related to levels of anxiety as indexed by the Spielberger State-Trait Anxiety Inventory for Children (STAIC; Spielberger, 1973).

The present study further examined the concurrent validity of the SCARED. More specifically, the relationship between the SCARED and two other widely used anxiety measures, namely the Revised Children’s Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978) and the Fear Survey Schedule for Children-Revised (FSSC-R; Ollendick, 1983) was investigated.

2. Study 1. SCARED and RCMAS

2.1. Method

2.1.1. Children

Seventy-five children (42 boys and 33 girls) of primary school “School met de Bijbel” in Venlo, The Netherlands, completed the SCARED and the RCMAS in their classrooms. Children had a mean age of 10.4 years \((SD = 0.9; \text{range 9–12 years})\). Boys and girls did not differ with respect to age: mean ages were 10.4 \((SD = 0.9)\) and 10.3 \((SD = 0.9)\) years, respectively \([t(73) < 1.0]\). Percentages of children with low, middle, and upper socio-economic background were 10, 55, and 35%, respectively. Most children were Caucasian (97%), and 8% of the children came from broken families.
2.1.2. Questionnaires

The SCARED is a 66-item self-report questionnaire measuring anxiety disorders symptomatology (Birmaher et al., 1997; Muris et al., in press a). The SCARED consists of 9 DSM-IV linked subscales: Panic Disorder symptoms, Generalized Anxiety Disorder symptoms, Social Phobia symptoms, Separation Anxiety Disorder symptoms, Obsessive-Compulsive Disorder symptoms, Traumatic Stress Disorder symptoms, Specific Phobia — Animal type symptoms, Specific Phobia — Injection-Injury type symptoms, and Specific Phobia — Situational-Environmental type symptoms. The items of the SCARED and the subscales to which each item belongs are shown in the Appendix. Children have to rate how frequent they have each symptom using a 3-point scale: ‘almost never’, ‘sometimes’, or ‘often’. These are scored 0, 1, and 2, respectively. SCARED total score and subscale scores can be obtained by summing relevant items.

Previous studies have indicated that the 66-item SCARED has good psychometric properties. That is, the SCARED is reliable in terms of internal consistency (see e.g., Muris et al., in press a), possesses satisfactory test-retest reliability, and reasonable parent–child agreement (Muris, Merckelbach, Van Brakel & Mayer, in press b).

The RCMAS, also known as ‘What I Think and Feel’, is employed in more than 100 published studies between 1978 and 1996, and is probably one of the most widely used instruments for assessing anxiety in children. The RCMAS consists of 28 items, and intends to measure the level of general anxiety in youth. Children have to indicate ‘yes’ or ‘no’ to such statements as ‘I am afraid of a lot of things’, ‘I am nervous’ and ‘I often worry about something bad happening to me’. All ‘yes’ responses are scored in the positive direction and are summed to produce a Total Anxiety score. Three factor scales can also be obtained (Reynolds & Paget, 1981): Physiological Anxiety, Worry-Oversensitivity, and Concentration (e.g., ‘It is hard to keep my mind on my school work’).

2.2. Results and Discussion

Before discussing the main results of Study 1, three remarks about the general statistics of the SCARED and the RCMAS are in order (see Table 1). First, all questionnaires had satisfactory internal consistency. For the RCMAS, Cronbach’s alphas varied between 0.66 (Physiological Anxiety) and 0.87 (Total Anxiety score). For the SCARED, alphas were 0.95 for the Total score, and between 0.70 (Situational-Environmental Phobia) and 0.86 (Traumatic Stress Disorder) for the separate subscales. Second, significant sex differences were found on SCARED Total score \( t(73) = 2.0, P < 0.05 \), SCARED Traumatic Stress Disorder \( t(73) = 2.0, P < 0.05 \), and SCARED Situational-Environmental Phobia \( t(73) = 2.1, P < 0.05 \). In line with earlier research, girls exhibited higher levels of anxiety symptoms than boys (see, for a review, Bernstein & Borchardt, 1991). Third and finally, no significant relationships were found between age, on the one hand, and questionnaire scores, on the other hand. This is not entirely
Table 1
General statistics (mean scores, Cronbach’s alphas, sex differences, and relationship with age) of the SCARED and the RCMAS

<table>
<thead>
<tr>
<th></th>
<th>Total group (N = 75)</th>
<th>Boys (n = 42)</th>
<th>Girls (n = 33)</th>
<th>z</th>
<th>r with age</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SCARED</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total score</td>
<td>22.8 (18.4)</td>
<td>19.0 (17.5)</td>
<td>27.6 (18.7)*</td>
<td>0.95</td>
<td>-0.09</td>
</tr>
<tr>
<td>Panic Disorder</td>
<td>2.6 (3.2)</td>
<td>2.2 (2.9)</td>
<td>3.2 (3.6)</td>
<td>0.81</td>
<td>0.01</td>
</tr>
<tr>
<td>Generalized Anxiety Disorder</td>
<td>2.5 (2.8)</td>
<td>2.2 (2.6)</td>
<td>2.9 (3.0)</td>
<td>0.74</td>
<td>-0.03</td>
</tr>
<tr>
<td>Social Phobia</td>
<td>2.3 (2.2)</td>
<td>2.1 (2.2)</td>
<td>2.6 (2.3)</td>
<td>0.80</td>
<td>-0.04</td>
</tr>
<tr>
<td>Separation Anxiety Disorder</td>
<td>4.4 (3.7)</td>
<td>3.8 (3.7)</td>
<td>5.1 (3.5)</td>
<td>0.76</td>
<td>-0.09</td>
</tr>
<tr>
<td>Obsessive-Compulsive Disorder</td>
<td>3.8 (3.4)</td>
<td>3.2 (2.9)</td>
<td>4.6 (3.9)</td>
<td>0.77</td>
<td>-0.04</td>
</tr>
<tr>
<td>Traumatic Stress Disorder</td>
<td>1.9 (2.4)</td>
<td>1.4 (1.9)</td>
<td>2.5 (2.8)*</td>
<td>0.86</td>
<td>-0.16</td>
</tr>
<tr>
<td>Specific Phobia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>— Animal type</td>
<td>0.5 (1.2)</td>
<td>0.3 (1.0)</td>
<td>0.8 (1.4)</td>
<td>0.78</td>
<td>0.02</td>
</tr>
<tr>
<td>— Blood-Injection-Injury type</td>
<td>2.7 (2.6)</td>
<td>2.2 (2.5)</td>
<td>3.3 (2.5)</td>
<td>0.71</td>
<td>-0.13</td>
</tr>
<tr>
<td>— Situational-Environmental type</td>
<td>2.1 (2.3)</td>
<td>1.6 (2.0)</td>
<td>2.7 (2.4)*</td>
<td>0.70</td>
<td>-0.12</td>
</tr>
<tr>
<td><strong>RCMAS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Anxiety score</td>
<td>5.6 (5.2)</td>
<td>4.9 (5.3)</td>
<td>6.5 (4.9)</td>
<td>0.87</td>
<td>-0.02</td>
</tr>
<tr>
<td>Physiological Anxiety</td>
<td>2.7 (2.2)</td>
<td>2.4 (2.3)</td>
<td>3.1 (2.0)</td>
<td>0.66</td>
<td>-0.02</td>
</tr>
<tr>
<td>Worry-Oversensitivity</td>
<td>1.9 (2.4)</td>
<td>1.6 (2.2)</td>
<td>2.2 (2.6)</td>
<td>0.82</td>
<td>-0.05</td>
</tr>
<tr>
<td>Concentration</td>
<td>1.1 (1.5)</td>
<td>1.0 (1.6)</td>
<td>1.2 (1.5)</td>
<td>0.72</td>
<td>0.05</td>
</tr>
</tbody>
</table>

*Significant sex difference at P < 0.05.

in agreement with previous studies which have shown that, for example, symptoms of separation anxiety tend to decline with age (e.g., Birmaher et al., 1997). The absence of such a negative relationship may be due to the restricted age range of the children in Study 1.

Table 2 presents Pearson product-moment correlations between SCARED and RCMAS scores, while controlling for sex and age. Results showed that most of the correlations were positive and significant. That is, the more frequent children reported to have anxiety disorders symptoms, the higher their level of general anxiety as measured by the RCMAS. Inspection of the correlations between SCARED subscales and RCMAS factor scores revealed that the majority of the anxiety disorders symptoms was associated with symptoms of Worry-Oversensitivity and Physiological Anxiety: rs were 0.82 (P < 0.001) and 0.73 (P < 0.001), respectively. Furthermore, it should be mentioned that correlations generally exhibited the to be expected pattern. For example, symptoms of Generalized Anxiety Disorder and Separation Anxiety Disorder were most convincingly related to symptoms of Worry-Oversensitivity [r = 0.73, P < 0.001 and r = 0.78, P < 0.001, respectively] whereas symptoms of Panic Disorder were most clearly connected to Physiological Anxiety [r = 0.65, P < 0.001] (see Table 2).
Table 2
Pearson product-moment correlations (controlling for sex and age) between RCMAS and SCARED
(N = 75)

<table>
<thead>
<tr>
<th></th>
<th>RCMAS</th>
<th></th>
<th>Physiological Anxiety</th>
<th>Worry-Oversensitivity</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Anxiety score</td>
<td>0.86*</td>
<td>0.73*</td>
<td>0.82*</td>
<td>0.59*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.68*</td>
<td>0.65*</td>
<td>0.54*</td>
<td>0.37*</td>
</tr>
<tr>
<td></td>
<td>Generalized Anxiety Disorder</td>
<td>0.73*</td>
<td>0.50*</td>
<td>0.73*</td>
<td>0.61*</td>
</tr>
<tr>
<td></td>
<td>Social Phobia</td>
<td>0.49*</td>
<td>0.47*</td>
<td>0.41*</td>
<td>0.36</td>
</tr>
<tr>
<td></td>
<td>Separation Anxiety Disorder</td>
<td>0.78*</td>
<td>0.55*</td>
<td>0.78*</td>
<td>0.49*</td>
</tr>
<tr>
<td></td>
<td>Obsessive-Compulsive Disorder</td>
<td>0.70*</td>
<td>0.58*</td>
<td>0.65*</td>
<td>0.53*</td>
</tr>
<tr>
<td></td>
<td>Traumatic Stress Disorder</td>
<td>0.68*</td>
<td>0.57*</td>
<td>0.68*</td>
<td>0.43*</td>
</tr>
<tr>
<td>Specific Phobia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>— Animal type</td>
<td></td>
<td>0.45*</td>
<td>0.38*</td>
<td>0.35</td>
<td>0.43*</td>
</tr>
<tr>
<td>— Blood-Injection-Injury type</td>
<td>0.55*</td>
<td>0.52*</td>
<td>0.49*</td>
<td>0.36</td>
<td></td>
</tr>
<tr>
<td>— Situational-Environmental type</td>
<td>0.69*</td>
<td>0.55*</td>
<td>0.68*</td>
<td>0.47*</td>
<td></td>
</tr>
</tbody>
</table>

Note. SCARED = Screen for Child Anxiety Related Emotional Disorders; RCMAS = Revised Children’s Manifest Anxiety Scale.

*P < 0.05/40 (i.e., Bonferroni correction).

3. Study 2. SCARED and FSSC-R

3.1. Method

3.1.1. Children
One hundred and twenty children (58 boys and 62 girls) of primary schools ‘Op de Sterkenberg’ in Itteren and ‘John F. Kennedy’ in Maastricht, The Netherlands, participated in Study 2, and filled in the SCARED and the FSSC-R. Mean age of the children was 10.7 years (SD = 1.0; range 8–13 years). Boys and girls were comparable in terms of age: means being 10.8 (SD = 0.9) versus 10.7 (SD = 0.9) years, respectively [t(118) < 1.0]. Percentages of children with a low, middle, and high socio-economic background were 10, 60, and 30%, respectively. Ninety-nine percent of the children were Caucasian, and about 5% of the children came from broken families.

The FSSC-R is an 80-item questionnaire that measures fearfulness. Children are asked to indicate their level of fear to various stimuli and situations on a 3-point scale: ‘none’, ‘some’, or ‘a lot’. These are scored 1, 2, and 3, respectively, and then summed over the 80 items to yield a Total Fear score ranging from 80 to 240. Factor analysis of the FSSC-R has revealed a 5-factor solution: Fear of Failure and Criticism, Fear of the Unknown, Fear of Minor Injury and Small Animals, Fear of Danger and Death, and Medical Fears. Studies have demonstrated that this factor structure can be generalized across children and adolescents in the United States (Ollendick, 1983), Australia
(Ollendick, King & Frary, 1989), England (Ollendick & Yule, 1990), and The Netherlands (Oosterlaan, Prins, Hartman & Sergeant, 1995).

3.2. Results and discussion

All questionnaires were reliable in terms of internal consistency. Cronbach's alphas for the SCARED were 0.93 for the Total score, and varied between 0.58 (Situational-Environmental Phobia) and 0.88 (Animal Phobia). For the FSSC-R, these values ranged from 0.75 (Medical Fears) to 0.96 (Total Fear score). Furthermore, significant sex differences were found on SCARED Total score \( t(118) = 2.8, P < 0.01 \), SCARED Generalized Anxiety Disorder \( t(118) = 2.9, P < 0.01 \), SCARED Animal Phobia \( t(118) = 5.0, P < 0.001 \), SCARED Blood-Injection-Injury Phobia \( t(118) = 2.8, P < 0.01 \), SCARED Situational-Environmental Phobia \( t(118) = 3.5, P < 0.001 \), FSSC-R Total Fear score \( t(118) = 5.5, P < 0.001 \), FSSC-R Fear of Failure and Criticism \( t(118) = 4.3, P < 0.001 \), FSSC-R Fear of the Unknown \( t(118) = 4.4, P < 0.001 \), FSSC-R Fear of Minor Injury and Small Animals \( t(118) = 4.4, P < 0.001 \), FSSC-R Fear of Danger and Death \( t(118) = 4.1, P < 0.001 \), and FSSC-R Medical Fears \( t(118) = 3.9, P < 0.001 \). In all cases, girls exhibited higher levels of anxiety disorders symptoms and fearfulness than boys. Finally, only SCARED Separation Anxiety Disorder was negatively related to age \( r = -0.28, P < 0.005 \) (see Table 3).

Pearson product-moment correlations between SCARED and FSSC-R scores, while controlling for sex and age, were computed. As is shown in Table 4, SCARED Total score and FSSC-R Total Fear score were substantially correlated, \( r = 0.67, P < 0.001 \). In particular, SCARED Generalized Anxiety Disorder, Separation Anxiety Disorder, Situational-Environmental Phobia, and Blood-Injection-Injury Phobia were significantly associated with the FSSC-R Total Fear score. Inspection of the correlations between SCARED and FSSC-R subscales generally revealed the predicted pattern. More specifically, SCARED Generalized Anxiety Disorder and SCARED Social Phobia correlated most strongly with FSSC-R Fear of Failure and Criticism (e.g., ‘Looking foolish’, ‘Being criticized by others’, and ‘Getting poor grades’; \( r = 0.56, P < 0.001 \) and \( r = 0.40, P < 0.001 \), respectively). SCARED Separation Anxiety Disorder was convincingly connected to FSSC-R Fear of the Unknown (e.g., ‘Being alone’ and ‘Nightmares’; \( r = 0.44, P < 0.001 \)). Further expected associations were found between SCARED Animal Phobia and FSSC-R Fear of Minor Injury and Animals (e.g., ‘Spiders’, ‘Snakes’, and ‘Rats or mice’; \( r = 0.34, P < 0.001 \), between SCARED Blood-Injection-Injury Phobia and FSSC-R Fear of Minor Injury and Animals (e.g., ‘Getting a cut or injury’ and ‘The sight of blood’; \( r = 0.50, P < 0.001 \) and FSSC-R Medical Fears (e.g., ‘Going to the dentist’, ‘Getting a shot from the doctor’, and ‘Having to go to the hospital’; \( r = 0.44, P < 0.001 \), and between SCARED Situational-Environmental Phobia and FSSC-R Fear of the Unknown (e.g., ‘Thunderstorms’, ‘Elevators’, ‘Closed places’, and ‘Dark places’; \( r = 0.52, P < 0.001 \).

Thus, Study 2 suggests straightforward connections between SCARED and FSSC-R scores. However, it is worthy of note that certain SCARED subscales loaded on
Table 3
General statistics (mean scores, Cronbach’s alphas, sex differences, and relationship with age) of the SCARED and the FSSC-R

<table>
<thead>
<tr>
<th></th>
<th>Total group</th>
<th>Boys</th>
<th>Girls</th>
<th>α</th>
<th>r with age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N = 120)</td>
<td>(n = 58)</td>
<td>(n = 62)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCARED</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total score</td>
<td>31.7 (16.6)</td>
<td>27.4 (16.6)</td>
<td>35.7 (15.7)*</td>
<td>0.93</td>
<td>−0.14</td>
</tr>
<tr>
<td>Panic Disorder</td>
<td>3.6 (3.6)</td>
<td>3.2 (3.9)</td>
<td>3.9 (3.4)</td>
<td>0.79</td>
<td>−0.11</td>
</tr>
<tr>
<td>Generalized Anxiety Disorder</td>
<td>4.8 (4.0)</td>
<td>3.7 (3.7)</td>
<td>5.8 (4.0)*</td>
<td>0.86</td>
<td>0.06</td>
</tr>
<tr>
<td>Social Phobia</td>
<td>3.3 (2.2)</td>
<td>3.0 (2.5)</td>
<td>3.5 (1.8)</td>
<td>0.73</td>
<td>−0.09</td>
</tr>
<tr>
<td>Separation Anxiety Disorder</td>
<td>5.1 (3.7)</td>
<td>4.5 (3.8)</td>
<td>5.6 (3.6)</td>
<td>0.73</td>
<td>−0.28**</td>
</tr>
<tr>
<td>Obsessive-Compulsive Disorder</td>
<td>5.3 (3.3)</td>
<td>5.0 (3.4)</td>
<td>5.5 (3.2)</td>
<td>0.75</td>
<td>−0.10</td>
</tr>
<tr>
<td>Traumatic Stress Disorder</td>
<td>2.4 (2.2)</td>
<td>2.3 (2.0)</td>
<td>2.6 (2.4)</td>
<td>0.82</td>
<td>−0.01</td>
</tr>
<tr>
<td>Specific Phobia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>— Animal type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>— Blood-Injection-Injury type</td>
<td>1.0 (1.5)</td>
<td>0.8 (1.2)</td>
<td>1.3 (1.6)*</td>
<td>0.88</td>
<td>−0.13</td>
</tr>
<tr>
<td>— Situational-Environmental type</td>
<td>1.5 (3.0)</td>
<td>3.1 (3.5)</td>
<td>4.8 (2.8)*</td>
<td>0.58</td>
<td>−0.05</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>FSSC-R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Fear score</td>
<td>113.2 (21.5)</td>
<td>103.3 (16.3)</td>
<td>122.5 (21.6)*</td>
<td>0.96</td>
<td>−0.07</td>
</tr>
<tr>
<td>Fear of Failure and Criticism</td>
<td>33.2 (7.8)</td>
<td>30.2 (5.9)</td>
<td>36.0 (8.4)*</td>
<td>0.94</td>
<td>0.00</td>
</tr>
<tr>
<td>Fear of the Unknown</td>
<td>25.0 (5.6)</td>
<td>22.9 (4.0)</td>
<td>27.0 (6.2)*</td>
<td>0.91</td>
<td>−0.08</td>
</tr>
<tr>
<td>Fear of Minor Injury and Animals</td>
<td>25.2 (5.3)</td>
<td>22.9 (4.0)</td>
<td>27.4 (5.5)*</td>
<td>0.87</td>
<td>−0.14</td>
</tr>
<tr>
<td>Fear of Danger and Death</td>
<td>23.9 (5.2)</td>
<td>22.0 (4.8)</td>
<td>25.6 (4.9)*</td>
<td>0.92</td>
<td>−0.05</td>
</tr>
<tr>
<td>Medical Fears</td>
<td>5.9 (1.8)</td>
<td>5.3 (1.7)</td>
<td>6.5 (1.7)*</td>
<td>0.75</td>
<td>−0.01</td>
</tr>
</tbody>
</table>

Note. SCARED = Screen for Child Anxiety Related Emotional Disorders; FSSC-R = Fear Survey Schedule for Children-Revised.
*Significant sex difference at P < 0.01; **P < 0.005.

A broad range of FSSC-R subscales. This is in line with previous research which showed that the relationship between the FSSC-R and anxiety disorders symptoms is not very specific. That is, in both non-clinical (Muris, Merckelbach, Mayer & Meesters, 1998b) and clinical samples (Last, Francis & Strauss, 1989), it has been found that separate FSSC-R items do not point unambiguously in the direction of one particular anxiety disorder.

4. Conclusion

The main purpose of the current studies was to examine the relationship between the SCARED, on the one hand, and two traditional childhood anxiety measures (i.e., RCMAS and FSSC-R), on the other hand. Results demonstrated that SCARED scores are positively related to these traditional anxiety measures.

There are two findings of the present studies that deserve further comment. First, it should be noted that SCARED scores differed substantially between the two samples: e.g., the mean total score in Study 1 was 22.8 vs. 31.7 in Study 2. A comparison with
Table 4
Pearson product-moment correlations (controlling for sex and age) between FSSC-R and SCARED ($N = 120$).

<table>
<thead>
<tr>
<th>SCARED</th>
<th>FSSC-R</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Fear score</td>
</tr>
<tr>
<td>Total score</td>
<td>0.67*</td>
</tr>
<tr>
<td>Panic Disorder</td>
<td>0.38*</td>
</tr>
<tr>
<td>Generalized Anxiety Disorder</td>
<td>0.44*</td>
</tr>
<tr>
<td>Social Phobia</td>
<td>0.40*</td>
</tr>
<tr>
<td>Separation Anxiety Disorder</td>
<td>0.46*</td>
</tr>
<tr>
<td>Obsessive-Compulsive Disorder</td>
<td>0.40*</td>
</tr>
<tr>
<td>Traumatic Stress Disorder</td>
<td>0.42*</td>
</tr>
<tr>
<td>Specific Phobia</td>
<td></td>
</tr>
<tr>
<td>— Animal type</td>
<td></td>
</tr>
<tr>
<td>— Blood-Injection-Injury type</td>
<td>0.46*</td>
</tr>
<tr>
<td>— Situational-Environmental type</td>
<td>0.51*</td>
</tr>
</tbody>
</table>

*Note: SCARED = Screen for Child Anxiety Related Emotional Disorders; FSSC-R = Fear Survey Schedule for Children-Revised.

*P < 0.05/60 (i.e., Bonferroni correction).
the mean SCARED score of a large sample of children aged 8–12 years \( N = 674 \) reported by Muris et al. (in press a) revealed that the sample of Study 1 displays relatively low scores. There is no ready explanation for this finding. The demographic characteristics of the children of both samples were highly comparable. Yet, it should be noted that the school of the children in Study 1 runs an universal social skills program during early classes. Although this program does not primarily aim at the reduction of anxiety symptoms, it may have benefits for children's emotional development (i.e., lower anxiety scores). Second, whereas in Study 2 a significant, negative correlation was found between SCARED Separation Anxiety Disorder and age \( r = -0.28, P < 0.005 \), no such association emerged in Study 1. Although most of the previous studies did find a negative association between age and SCARED Separation Anxiety Disorder (e.g., Muris et al., in press a), it should be mentioned that the correlation is rather small, and thus potentially sensitive to sample fluctuations.

In the past year, a series of studies all relying on independent samples has investigated the SCARED in order to establish its reliability and validity. So far, these studies have shown that the SCARED correlates in a meaningful way with measures of state and trait anxiety (Muris et al., 1998d), alternative indices of childhood anxiety symptoms (Muris, Gadet, Moularet & Merckelbach, 1998a; Muris et al., in press b), the internalizing scale of the Child Behavior Checklist (Muris, Merckelbach, Moularet & Gadet, submitted), and measures of negative self-statements (Muris et al., 1998c), and depression (Muris et al., 1998d). The present findings accord well with this previous research, and provide further support for the concurrent validity of the SCARED. Nevertheless, there is still work to be done. For example, clinical studies in which the SCARED is employed are warranted. Most importantly, a treatment study of anxiety disordered children could be carried out in order to test whether the SCARED is useful as a therapy outcome measure.

Anxiety symptoms in children are often covert and become only evident with good self-report instruments. For this reason, self-report anxiety measures such as the RCMAS and the FSSC-R have been employed widely in both clinical and research settings. However, research has shown that these traditional measures often lack discriminant validity. For example, by means of these questionnaires it is difficult to differentiate between anxiety disordered children and children with other types of psychopathology (e.g., Attention-Deficit Hyperactivity Disorder, e.g., Perrin & Last, 1992). This may be due to the fact that although focussed on anxiety these questionnaires are global measures of general distress. In their review on childhood anxiety questionnaires, Stallings and March (1995) rightly conclude that there is “a paucity of instrumentation keyed to modern, nosologic constructs grounded in normal and pathological development” (p. 141). As mentioned in the Introduction of the present article, there is a growing body of evidence to suggest that anxiety symptoms can be clustered into subtypes of anxiety problems that come close to the anxiety disorders of clinically referred youths. From this point of view, the SCARED seems to be a promising instrument for the assessment of the continuum of anxiety disorders symptomatology in children.
Acknowledgement

Teachers, staff and children of primary schools “School met de Bijbel” in Venlo, “John F. Kennedy” in Maastricht, and “Op de Sterkenberg” in Itteren, The Netherlands are acknowledged for their participation in the present study.

Appendix: SCARED (66-item version)

Instruction
A number of statements which refer to children’s fears and anxiety are given below. Please read each statement carefully and indicate how frequently you have that symptom: ‘almost never’, ‘sometimes’, or ‘often’. There are no right or wrong answers.

1. When frightened, it is hard to breathe. (Panic Disorder)
2. I am afraid of heights. (Specific Phobia Situational-Environmental type)
3. I get headaches or stomach aches when I am at school. (Separation Anxiety Disorder)
4. I don’t like to be with people I don’t know. (Social Phobia)
5. When I see blood, I get dizzy. (Specific Phobia Blood-Injection-Injury type)
6. I want that things are in a fixed order. (Obsessive-Compulsive Disorder)
7. I get scared when I sleep away from home. (Separation Anxiety Disorder)
8. I worry about others not liking me. (Generalized Anxiety Disorder)
9. When frightened, I feel like passing out. (Panic Disorder)
10. I think that I will be contaminated with a serious disease. (Obsessive-Compulsive Disorder)
11. I am nervous. (Generalized Anxiety Disorder)
12. I have thoughts that frighten me. (Obsessive-Compulsive Disorder)
13. I follow my parents wherever they go. (Separation Anxiety Disorder)
14. People tell me that I look nervous. (Panic Disorder)
15. I feel nervous with people I don’t know well. (Social Phobia)
16. I am afraid to visit the doctor. (Specific Phobia Blood-Injection-Injury type)
17. I don’t like going to school. (Separation Anxiety Disorder)
18. When frightened, I feel like going crazy. (Panic Disorder)
19. I worry about sleeping alone. (Separation Anxiety Disorder)
20. I am afraid to visit the dentist. (Specific Phobia Blood-Injection-Injury type)
21. I worry about being as good as other kids. (Generalized Anxiety Disorder)
22. I am afraid of an animal that is not really dangerous. (Specific Phobia Animal type)
23. I get scared when there is thunder in the air. (Specific Phobia Situational-Environmental type)
24. I do things more than twice in order to check whether I did it right. (Obsessive-Compulsive Disorder)
25. I have frightening dreams about a very aversive event I once experienced. (Traumatic Stress Disorder)
26. I want things to be clean and tidy. (Obsessive-Compulsive Disorder)
27. When frightened, I feel that things are not real. (Panic Disorder)
28. I feel scared when I have to fly in an aeroplane. (Specific Phobia Situational-Environmental type)
29. I have nightmares about my parents. (Separation Anxiety Disorder)
30. I worry about going to school. (Separation Anxiety Disorder)
31. I do things to get less scared of my thoughts. (Obsessive-Compulsive Disorder)
32. When frightened, my heart beats fast. (Panic Disorder)
33. I am scared when I get an injection. (Specific Phobia Blood-Injection-Injury type)
34. I am afraid to get a serious disease. (Specific Phobia Blood-Injection-Injury type)
35. I feel weak and shaky. (Panic Disorder)
36. I have nightmares about bad happening to me. (Separation Anxiety Disorder)
37. I am so scared of a harmless animal that I do not dare to touch it. (Specific Phobia Animal type)
38. I worry about things working out for me. (Generalized Anxiety Disorder)
39. I doubt whether I really did something. (Obsessive-Compulsive Disorder)
40. When frightened, I sweat a lot. (Panic Disorder)
41. I am a worrier. (Generalized Anxiety Disorder)
42. I feel scared when I watch an operation. (Specific Phobia Blood-Injection-Injury type)
43. I try not to think about a very aversive event I once experienced. (Traumatic Stress Disorder)
44. I get really frightened for no reason. (Panic Disorder)
45. I am afraid to be alone at home. (Separation Anxiety Disorder)
46. I get scared when I think back of a very aversive event I once experienced. (Traumatic Stress Disorder)
47. I find it hard to talk with people I don’t know. (Social Phobia)
48. When frightened, I feel like I am choking. (Panic Disorder)
49. People tell me I worry too much. (Generalized Anxiety Disorder)
50. I don’t like being away from my family. (Separation Anxiety Disorder)
51. I am afraid of having anxiety attacks. (Panic Disorder)
52. I worry that bad happens to my parents. (Separation Anxiety Disorder)
53. I am shy with people I don’t know well. (Social Phobia)
54. I fantasize about hurting other people. (Obsessive-Compulsive Disorder)
55. I worry about the future. (Generalized Anxiety Disorder)
56. When frightened, I feel like throwing up. (Panic Disorder)
57. I worry about how well I do things. (Generalized Anxiety Disorder)
58. I am scared to go to school. (Separation Anxiety Disorder)
59. I worry about things that happened in the past. (Generalized Anxiety Disorder)
60. When frightened, I feel dizzy. (Panic Disorder)
61. I get scared in small, closed places. (Specific Phobia Situational-Environmental type)
62. I have thoughts that I prefer not to have. (Obsessive-Compulsive Disorder)
63. I am afraid of the dark. (Specific Phobia Situational-Environmental type)
64. I have unbidden thoughts about a very aversive event I once experienced. (Traumatic Stress Disorder)
65. I am afraid of an animal that most children do not fear. (Specific Phobia Animal type)
66. I don’t like being in a hospital. (Specific Phobia Blood-Injection-Injury type)

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