Diagnostic accuracy of self-report and parent versions of the Spence Children’s Anxiety Scale

**Conclusion:** The SCAS and its parent version SCAS-P are useful clinical tools for the detection and assessment of social phobia, generalized anxiety disorder, specific phobia, panic/agoraphobia, obsessive-compulsive disorder and separation anxiety disorder among adolescents.

**Aim**

To investigate the psychometric properties and diagnostic accuracy of the Swedish versions of the Spence Children’s Anxiety Scale, self- and parent-report versions, among adolescents referred to child and adolescent psychiatry (CAMHS).

**Participants**

A total of 104 adolescents (60% girls) and their parents, referred to CAMHS in Västmanland for all causes.

**Methods**

Presence of anxiety diagnoses was assessed with the diagnostic interview K-SADS (reference standard). Psychometric properties of the SCAS and SCAS-P were evaluated. New cut-off scores (i.e., high [.90] sensitivity ‘screening’ cut-off scores and high specificity [.90] ‘diagnostic’ cut-off scores) were obtained by ROC-analyses and compared to previously identified cut-off scores (T60) in analyses of diagnostic accuracy.

**Results**

Results showed high informant agreement (total score: $r = 0.71^{***}$) and good internal reliability, concurrent and discriminant validity for both versions and demonstrated that this scale can distinguish between adolescents with and without an anxiety disorder in a CAMHS clinical setting.

The overall ability of the SCAS and SCAS-P to predict anxiety diagnoses was significant for both the total score and all subscales (AUC range 0.70 – 0.94).

Overall, for both the SCAS and SCAS-P, the diagnostic cut-off score yielded the highest efficiency (overall correct classification), mean SCAS: 86%, SCAS-P: 83%.

**Psychometric property/Statistic**

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<tr>
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<th>SCAS</th>
<th>SCAS-P</th>
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<tbody>
<tr>
<td>Internal consistency/ C.α</td>
<td>0.94</td>
<td>0.91</td>
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<tr>
<td>Concurrent validity/ Spearman’s ρ</td>
<td>0.74***</td>
<td>0.63***</td>
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<tr>
<td>Discriminant validity/ Cohen’s d’</td>
<td>1.75***</td>
<td>1.43***</td>
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Results equal to or above the diagnostic cut-offs produced the greatest increase in post-test probability of an anxiety disorder whereas results below the screening cut-off yielded the greatest decrease in posterior probability of anxiety. Post-test increases and decreases of probabilities of anxiety disorders were smaller for cut-off scores of the SCAS-P compared to those of the SCAS.

**Table:**

- SCAS total score: 0.89**
- SCAS-P total score: 0.86***

**Receiver Operating Characteristics for six anxiety disorders.** Plots of sensitivity versus 1-specificity for all possible SCAS/SCAS-P cut-off scores. The area under the curves represents the proportion of psychiatrically referred adolescents with any anxiety (n=57) with higher SCAS and SCAS-P scores than adolescents without anxiety (n=47).