

Review article

The Revised Child Anxiety and Depression Scale: A systematic review and reliability generalization meta-analysis



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ABSTRACT

Background: Anxiety and depression are among the most common mental disorders during childhood and adolescence. Among the instruments for the brief screening assessment of symptoms of anxiety and depression, the Revised Child Anxiety and Depression Scale (RCADS) is one of the more widely used. Previous studies have demonstrated the reliability of the RCADS for different assessment settings and different versions. The aims of this study were to examine the mean reliability of the RCADS and the influence of the moderators on the RCADS reliability.

Methods: We searched in EBSCO, PsycINFO, Google Scholar, Web of Science, and NCBI databases and other articles manually from lists of references of extracted articles.

Results: A total of 146 studies were included in our meta-analysis. The RCADS showed robust internal consistency reliability in different assessment settings, countries, and languages. We only found that reliability of the RCADS was significantly moderated by the version of RCADS. However, these differences in reliability between different versions of the RCADS were slight and can be due to the number of items.

Limitations: We did not examine factor structure, factorial invariance across gender, age, or country, and test-retest reliability of the RCADS.

Conclusions: The RCADS is a reliable instrument for cross-cultural use, with the advantage of providing more information with a low number of items in the assessment of both anxiety and depression symptoms in children and adolescents.

1. Introduction

Depressive and anxiety disorders, also termed “internalizing disorders,” are two of the most prevalent mental health problems as well as the leading contributors to health burden among children and adolescents globally (Chisholm et al., 2016a, 2016b; Erskine et al., 2015). According to a recent meta-analytic review, global prevalence of these disorders are about 6.50% for anxiety and 2.60% for depressive disorders in youth (Polanczyk et al., 2015). Furthermore, anxiety and depression display a marked comorbidity between the two conditions, so it is estimated that between 15% and 70% of children and adolescents who have a diagnosis of depression will present with an anxiety disorder at the same time (Cummings et al., 2014; de Ross et al., 2012). Concerning children with anxiety disorder, the rate of comorbidity with depressive disorders is usually lower, between 10% and 15% (Cummings et al., 2014).

Given the negative impact that anxiety and depressive symptoms have on child development and its economic burden, efforts to prevent

these disorders are now considered a public health priority (Chisholm et al., 2016b; WHO, 2008). For this task, having reliable and valid screening measures of symptoms of anxiety and depression is essential (Chorpita et al., 2000). Self-report instruments have been the dominant method for assessing anxiety and depression, with several advantages over other assessment methods, such as interviews or observation (Southam-Gerow and Chorpita, 2007).

Several self-report measures have shown good psychometric properties for separately assessing symptoms of depressive or anxiety disorders. Thus, concerning the assessment of depressive symptoms, it is noteworthy to mention the Children's Depression Inventory and its updated version (CDI, CDI-2; Kovacs, 1985, 2015); the Center for Epidemiologic Studies Depression Scale Revised (CES-D; Radloff, 1977), or the Beck Depression Inventories (BDI and BDI-II) (Beck et al., 1961; Beck et al., 1996).

Concerning anxiety, there are some well-established self-report measures for assessing symptoms of anxiety disorders, such as the Spielberg State-Trait Anxiety Inventory for Children (STAI-C;

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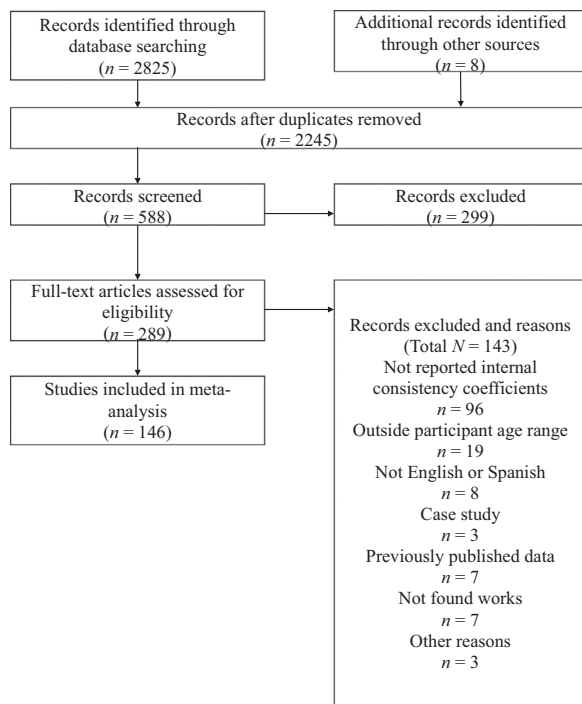


Fig. 1. PRISMA flow diagram of study selecting process.

Spielberger, 1973), the Multidimensional Anxiety Scale for Children (MASC; March et al., 1997), the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds and Richmond, 1978), the Screen for Child

Anxiety Related Emotional Disorders (SCARED; Muris et al., 1998), or the Spence Children's Anxiety Scale (SCAS; Spence, 1997, 1998). Most recently, Muris et al. (2016) developed the Youth Anxiety Measure for DSM-5 (YAM-5), a new scale for assessing child and adolescent anxiety disorders according to DSM-5 criteria (Garcia-Lopez et al., 2017; Muris et al., 2016). However, the YAM-5 also does not include an assessment of depressive symptomatology.

Given the marked comorbidity between anxiety and depression and the need for distinguishing both types of symptoms, as well as the need for a closer correspondence to new DSM-IV anxiety and depression disorders, the Revised Child Anxiety and Depression Scale (RCADS; Chorpita et al., 2000) was developed. The RCADS uses many of the items of the SCAS (Spence, 1997, 1998), along with items representing major depression symptoms and new items related to generalized anxiety and negative affect. This new measure consists of 47 items grouped into six subscales: Separation Anxiety Disorder (SAD; 7 items), Social Phobia (SP; 9 items), Generalized Anxiety Disorder (GAD; 6 items), Panic Disorder (PD; 9 items), Obsessive Compulsive Disorder (OCD; 6 items), and Major Depressive Disorder (MDD; 10 items) (Chorpita et al., 2000). The RCADS also provides an Anxiety total score, which is the sum of all Anxiety subscales except for MDD.

The RCADS is a self-report measure developed to screen and identify clinical symptomatology of anxiety and depression among children and adolescents (Chorpita et al., 2005; de Ross et al., 2012). RCADS has proven to be a reliable and valid measure for the assessment of anxiety and depression in general and clinical populations of children and adolescents (Chorpita et al., 2000, 2005; de Ross et al., 2012; Sandin et al., 2010). Thus far, the measure has been translated into numerous languages, including Spanish (Sandin et al., 2010), Danish (Reinholdt-Dunne et al., 2011), German (Mathyssek et al., 2013), and French (Bouvard et al., 2015). Furthermore, a recent study asserted that the

Table 1
Summary of the main descriptive data of the versions of the RCADS.

First author (year)	Versions								
	RCADS-47 Chorpita (2000)	RCADS-25 Muris (2002)	RCADS-25-P Muris (2002)	RCADS-30 Sandín (2010)	RCADS-47-P Ebesutani (2010)	RCADS-38 Weems (2010)	RCADS-19 Hogendoorn (2011)	RCADS-SV Ebesutani (2012)	RCADS-SV-P Ebesutani (2016)
Descriptives data									
k	142	18	1	13	7	2	2	4	3
n	66901	6462	372	8162	2634	1158	438	1580	941
% of females	54.03	56.55	46.80	51.25	43.57	49.00	54.50	51.00	53.67
Number of items									
Separation Anxiety Disorder (SAD)	7	5	5	5	7	n.r.	n.r.	n.a.	n.a.
Social Phobia (SP)	9	5	5	5	9	n.r.	n.r.	n.a.	n.a.
Obsessive-Compulsive Disorder (OCD)	6	n.a.	n.a.	5	6	n.r.	n.r.	n.a.	n.a.
Panic Disorder (PD)	9	5	5	5	9	n.r.	n.r.	n.a.	n.a.
Generalized Anxiety Disorder (GAD)	6	5	5	5	6	n.r.	n.r.	n.a.	n.a.
Major Depressive Disorder (MDD)	10	5	5	5	10	n.r.	n.a.	10	10
Anxiety total score (ANX)	37	20	20	25	37	n.r.	n.r.	15	15
RCADS total score	47	25	25	30	47	38	19	25	25

Note. RCADS = Revised Child Anxiety and Depression Scale; P = Parents version; SV = Short Version; k = number of studies; n = sample size; n.a. = not available; n.r. = not reported.

Table 2
Heterogeneity test of reliability of RCADS scales^a.

	Q ($d.f.$)	I^2	H^2	τ^2	T	SE	α	C.I. 95%	Range
SAD	510.15 ^{***} (28)	94.51	18.22	.002	.637	.009	.74	[.71, .76]	[.66, .86]
SP	1522.17 ^{***} (39)	97.44	39.03	.003	.527	.010	.85	[.83, .86]	[.75, .92]
OCD	540.67 ^{***} (29)	94.64	18.64	.002	.630	.009	.74	[.72, .76]	[.57, .88]
PD	1388.98 ^{***} (38)	97.26	32.56	.004	.546	.010	.83	[.81, .85]	[.68, .92]
GAD	890.53 ^{***} (42)	95.28	21.20	.002	.557	.008	.82	[.81, .84]	[.70, .90]
MMD	3599.39 ^{***} (78)	97.83	46.15	.006	.561	.009	.82	[.80, .83]	[.63, .94]
ANX	589.83 ^{***} (37)	93.73	15.94	.001	.409	.006	.93	[.92, .93]	[.70, .96]
RCADS	712.45 ^{***} (39)	94.53	18.27	.001	.399	.007	.93	[.92, .94]	[.78, .97]

Note. SAD = Separation Anxiety Disorder; SP = Social Phobia; OCD = Obsessive-compulsive Disorder; PD = Panic Disorder; GAD = Generalized Anxiety Disorder; MMD = Major Depressive Disorder; ANX = Anxiety total score; RCADS = RCADS total score. Q = Cochran's heterogeneity Q test (Hedges y Olkin, 1985); $d.f.$ = degrees of freedom; I^2 = percentage of heterogeneity (Higgins y Thompson, 2002); H^2 = heterogeneity index (Higgins y Thompson, 2002); τ^2 = between-studies variance; T = Transformed alpha coefficient; SE = Standard Error; α = Weighted mean alpha; 95% C.I. = 95% Confidence interval; Range = minimum and maximum alpha scores from studies.

^a = Revised Child Anxiety and Depression Scale (Chorpita et al., 2000).

*** = $p < .001$.

RCADS seems to be one of the most sensitive-to-change tools of the reported outcome measures they reviewed (Wolpert et al., 2015).

Regarding the structure of the RCADS, most of the studies have shown support for the original six-factor model, both for clinical (Chorpita et al., 2000, 2005) and school-based samples (Van Oort et al., 2009). However, there are studies that have found support for a 25-item shortened version of the RCADS, which fit better to a five-factor structure but removed the OCD scale (Muris et al., 2002a, 2002b). In addition, this shortened version had psychometric properties that were equivalent with the original 47-item scale (i.e., satisfactory internal consistency with alpha coefficients ranging from .68 to .83) (Esbjorn et al., 2012). Another version of RCADS is the 30-item shortened version (RCADS-30; Sandin et al., 2010), which has the main advantage of respecting the original six-factor structure. Moreover, it has demonstrated reliability and validity coefficients equivalent to the original longer version (Sandin et al., 2010).

Although there has been a large number of translated, validated, and shortened versions of the RCADS for multiple languages and cultural settings since 2000, there has not been a study that has evaluated cross-cultural support for the mean reliability of the RCADS. It should be noted that reliability is not a property inherent to a test, because it is a property of scores obtained in a given application of a test (Marin-Martinez et al., 2009). Consequently, we considered that the systematic review and meta-analysis of reliability coefficients of the RCADS would allow for the achievement of two fundamental objectives: (1) to estimate mean reliability of the RCADS total scale and its subscales; and (b) to determine the effect of different moderator variables in the variation of mean reliability. As a result, the aim of this systematic review was to evaluate cross-cultural support for the internal consistency of the RCADS.

2. Method

2.1. Search and selection of studies

We searched some of the main online databases: EBSCO, PsycINFO, Google Scholar, Web of Science, and NCBI Databases were searched using a combination of text words including any of the following keywords: "Revised Child* Anxiety Depression Scale" OR "RCADS." We did not use limiters to refine the search, or time constraints. An additional search was conducted with a downward review from the studies of validation of different versions of the RCADS. Moreover, we completed our search contacting major research teams who had published works with this scale.

The search included empirical studies published between 2000, the year the RCADS was first published, and June 2016. We obtained 2825 studies from databases and 8 through other sources, of which 2245

were duplicated.

2.2. Inclusion and exclusion criteria

The empirical studies were included if (1) the original or any version of the RCADS was applied, regardless of whether or not these were psychometric or using the instrument to capture symptoms; (2) the participants were aged between 6 and 18 years; (3) they reported any coefficient of internal consistency from the sample; (4) they provided mean and standard deviations of the measure; and (5) they were published in English or Spanish.

2.3. Data extraction

As a first step, we developed a coding manual with the description of relevant variables (see Supplementary Table A1 as a summary of characteristics extracted from the studies), instructions for the coding, coding forms, and five studies encoded as examples for the training of coders. From the examples, the discrepancies between coders were resolved by means of a meeting in which an agreement was reached. A total of 20 articles were coded by four independent trained coders.

We calculated correlations for quantitative and Fleiss' kappa (Fleiss, 1971) for qualitative variables in order to analyze the quality of the encoding process. The screening of 588 selected records was distributed between four of the authors as coders. Later, one of the authors conducted the coding process, with the subsequent review by another researcher.

2.4. Data analysis

A generalization study of the RCADS' reliability was conducted using a meta-analytic technique in order to quantitatively synthesize the research findings and infer whether a test is reliable across different samples. Therefore, for the calculation of effect size and the variance of alpha coefficients, these values were transformed following the Hakstian-Whalen transformation that allows normalizing the distribution of reliability coefficients (Hakstian and Whalen, 1976). For the calculation of effect size of mean and variances of the samples, we applied the procedures described by Botella et al. (2010). All effect sizes were weighted by the inverse of the variance (Botella and Meca, 2015). We used the Cochran's heterogeneity Q test (Hedges y Olkin, 1985); the percentage of heterogeneity (I^2 , Higgins y Thompson, 2002), the heterogeneity index (H^2 , Higgins y Thompson, 2002), and the between-studies variance, (τ^2 , Higgins y Thompson, 2002) as the statistics to assess heterogeneity in meta-analysis.

Publication bias was evaluated with the failsafe number (FSN) and the lower bound population reliability estimate (Howell and Shields,

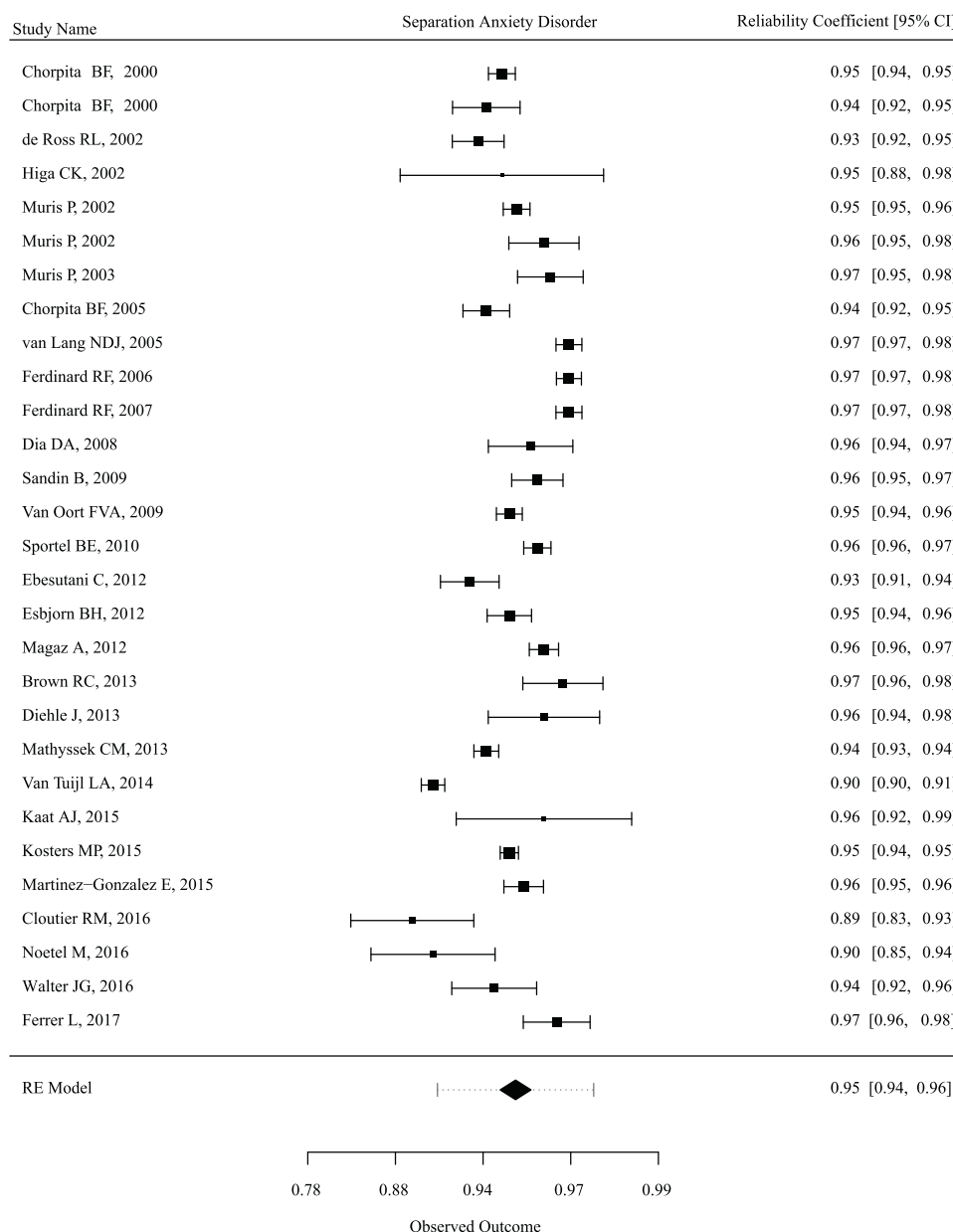


Fig. 2. Forest Plot illustrating the heterogeneity exhibited by reliability coefficients in studies. Separation Anxiety Disorder. Alfano et al. (2009); Araya et al. (2013); Banducci et al. (2014); Baptista and Sanz (2013); Beck et al. (1961); Becker et al. (2015); Bilsky and Knapp (2016); Blumenthal et al. (2009), (2010); Blumental et al. (2015); Bornas et al. (2015); Bouman et al. (2012); Broeren et al. (2011); Brown et al. (2014), (2015), (2013); Bunaciu et al. (2014); Cannon and Weems (2010); Chin et al. (2013); Chuang et al. (2016); Cloutier et al. (2016); Cummings et al. (2013); Daughters et al. (2009); De Hullu et al. (2011); De la Torre-Luque et al. (2016); De Ross et al. (2002); De Voogd et al. (2014); Dia and Bradshaw (2008); Dickson and Moberly (2013); Diehle et al. (2013); Ebesutani et al. (2010), (2011), (2016a), (2016b); Esbjorn et al. (2015), (2016); Essau et al. (2012); Ferdinand et al. (2007), (2006); Ferrer et al. (2017); Frala et al. (2009); Garcia-Olcina et al. (2014, 2017); Gill and Stickle (2016); Gratz et al. (2011), (2009); Greaves-Lord et al. (2007), (2010); Greene et al. (2009); Higa et al. (2002); Hoff et al. (2006); Hogendoorn et al. (2010); Hong et al. (2016); Hung (2016); Jong et al. (2012); Jurascio et al. (2016); Kaat and Lecavalier (2015); Karlson et al. (2016); Knapp et al. (2015); Kosters et al. (2015); Lara-Ros et al. (2017); Lau et al. (2010); Leventhal et al. (2016); Levin et al. (2012); Lewandowski and Palermo (2009); Lewandowski et al. (2009); Liu et al. (2015); Long et al. (2007), (2008); Magaz (2012); Marsee et al. (2007); Martinez-Gonzalez et al. (2015); Morren et al. (2004), (2008); Muris et al. (2001), (2003a), (2003b), (2003c), (2004), (2005a), (2005b), (2006), (2008a), (2008b), (2009); Muris and Meesters (2002); Muris and van der Heiden (2006); Muris and van Doorn (2003); Noetel et al. (2016); Oswald et al. (2016); Owens et al. (2012); Palermo and Kiska (2005); Palermo et al. (2004), (2005), (2007a), (2007b), (2008a), (2008b), (2009); Peterson and Palermo (2004); Pina et al. (2008); Piqueras et al. (2015), (2017); Pomerantz (2016); Price et al. (2013); Queen et al. (2014); Risco et al. (2016); Ritchwood et al. (2016); Rodriguez-Jimenez et al. (2016); Roelofs et al. (2006); Rowsell et al. (2016); Sanchez-Meca and Botella (2010); Sanchez-Meca and Lopez-Pina (2008); Schmidt et al. (2010); Scrimin et al. (2016); Sportel et al. (2010); Stallard et al. (2014); Stevanovic et al. (2016a), (2016b); Stickle et al. (2011); Takishima-Lacasa et al. (2014); Taylor and Weems (2009); Ung (2016); Urrutia and Bonfill (2010); Van der Veek et al. (2012); Van Lang et al. (2005); Van Tuijl et al. (2014); Vervoort et al. (2010); Walter et al. (2016); Wang et al. (2015); Weems and Costa (2005); Weems et al. (2013), (2007); Whalen et al. (2015); Winer et al. (2015); Wynney et al. (2016).

2008).

Analysis of moderators was subsequently conducted. We calculated the analysis of moderators only with the version of 47 items, since it provides a sufficient number of studies, while the other versions have only a limited number of studies. As categorical moderators, we included country (U.S. vs. other countries), sample type (general vs.

clinical samples), and language of the questionnaire. As continuous moderators, we examined the effect of mean age of the sample, gender (percentage of females), and variances for the test scores on the reliability coefficients. It was assumed that data followed a model of random effects due to the fact that two sources of variability were assumed (the variability attributed to sampling errors and inter-studies

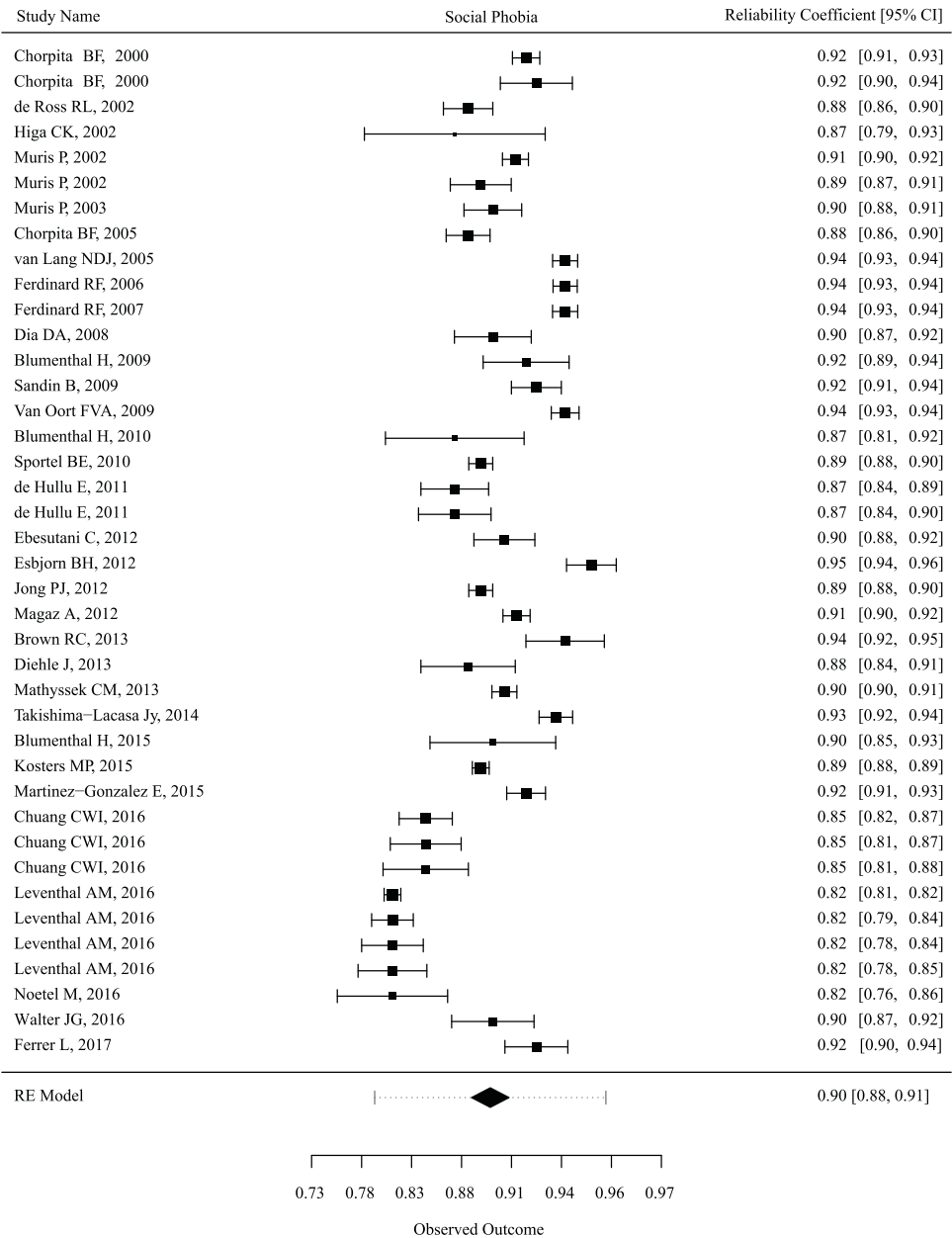


Fig. 3. Forest Plot illustrating the heterogeneity exhibited by reliability coefficients in studies. Social Phobia.

variability) and was calculated by the DerSimonian-Laird method for the adjusted estimation of heterogeneity. Statistical analyses were performed with the statistical package Metafor (Viechtbauer, 2010) implemented in R (R Core Team, 2016).

Finally, due to the fact that different versions of the RCADS use a different number of items, we analyzed whether the version of RCADS was a significant moderator for reliability.

3. Results

3.1. Meta-analysis of internal consistency of the RCADS (mean reliability)

We identified 588 manuscripts of which 442 were excluded after applying the inclusion and exclusion criteria (see Prisma flow diagram of the literature review process in Fig. 1). Hence, the search identified 146 articles comprising 192 studies that reported some coefficient of internal consistency. Most studies followed a cross-sectional design (k=155), while the remaining ones were longitudinal or cross-sectional/longitudinal studies. Concerning the distribution of countries,

studies were conducted predominantly in the United States (k=96), followed by the Netherlands (k=41) and Spain (k=18). Other samples came from Germany, Australia, Belgium, Brazil, Bulgaria, Chile, China, Croatia, Cuba, Denmark, Philippines, Indonesia, Iran, Ireland, Italy, Montenegro, Nigeria, Palestine, Portugal, Romania, Serbia, and the United Kingdom. The sample sizes ranged from 16 to 6767 participants; the final sample size consisting of 88,648 children and adolescents (51.40% of female) with a mean age of 11.66 years (SD = 1.41; range: 6–18). There was an ethnic majority of Caucasian participants (k=88), with a varied and representative socioeconomic status (k=74). Mainly, studies were conducted with general samples (k=125; n = 79,747; 89.96%). A more detailed description of the versions of the RCADS used can be found in Table 1. A summary of the main data of the studies included in the systematic review and meta-analysis can be seen in Supplementary Table A1.

The coding process obtained good inter-rater concordance among judges ($r > .91$ y $kappa > .88$), indicating an excellent degree of agreement on the coding (Landis and Koch, 1977).

The heterogeneity test for reliability was significant for all subscales

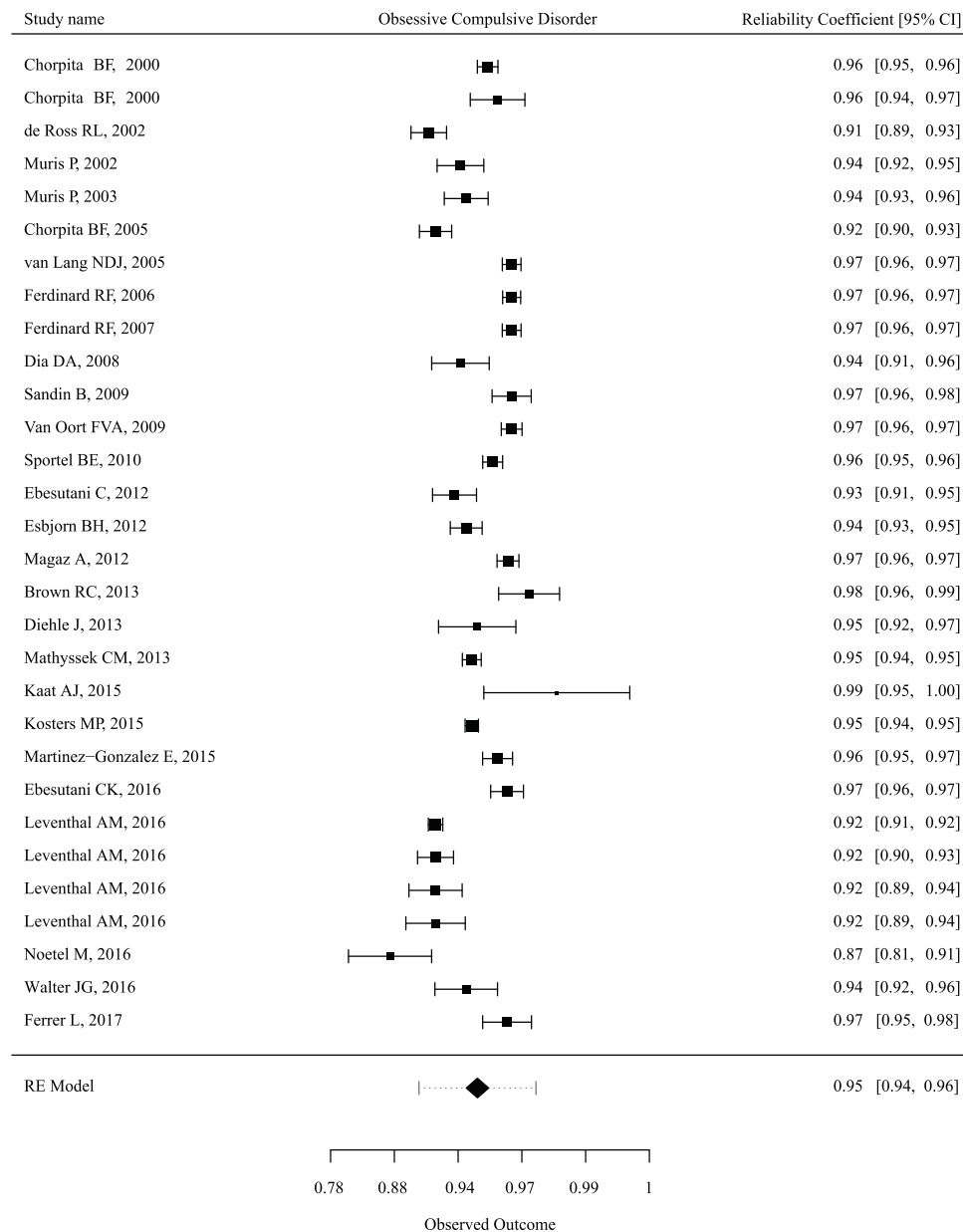


Fig. 4. Forest Plot illustrating the heterogeneity exhibited by reliability coefficients in studies. Obsessive Compulsive Disorder.

of the RCADS (see Table 2 and Figs. 2–9. Forest Plots). The variability of means and variances also showed a statistically significant heterogeneity for all subscales (see Tables 3, 4). Furthermore, the variances of RCADS scores present a positive association to reliability. This variability of sample means and variances alerts one to the presence of biases in the selection of participants with regard to the range and population, and implies a systematic heterogeneity in sample variances. Therefore, to control the effect of sampling in the variability of coefficients, we included the sample variance as a moderator, and later other moderator variables were added to the model.

The mean alpha coefficient for each subscale and for the RCADS full scale was calculated (see Table 2). The RCADS total score was found to have excellent mean reliability, with a mean alpha value of .93. Cronbach's alpha coefficients for the Anxiety scale was also excellent, with a mean alpha of .93, while the other subscales ranged from .74 to .85, indicating acceptable to good reliability. It can be also observed the heterogeneity exhibited by individual reliability coefficients in the studies (see Figs. 2–9).

Based on the calculations of the lower bound population reliability

estimate ($\alpha_{UW\text{ means}} = .71-.90$ for all versions; $\alpha_{UW\text{ means}} = .72-.92$ for RCADS-47) and the Fail-Safe N at .60 (from 109 to 549 file drawer studies for all versions; from 80 to 454 file drawer studies for RCADS-47), we can conclude that the RCADS likely produces “reliable” scores even under very extreme circumstances (see Table 5), both for all versions of RCADS and RCADS-47.

3.2. Analyses of moderators for RCADS-47

Concerning the categorical moderators, the reliability did not present any difference among countries, languages, or sample types for total score of RCADS, SAD, or OCD (see Table 6).

In contrast, our results showed that the mean reliability was higher for U.S. samples for SP, PD, GAD, and MDD. We also found that the language of the application had effects on the reliability of SP, being higher for English version of RCADS-47. Finally, the sample type showed an effect on the reliability for Anxiety total score, showing slightly higher reliability for general samples.

As regards continuous moderators, the mean age of the sample had

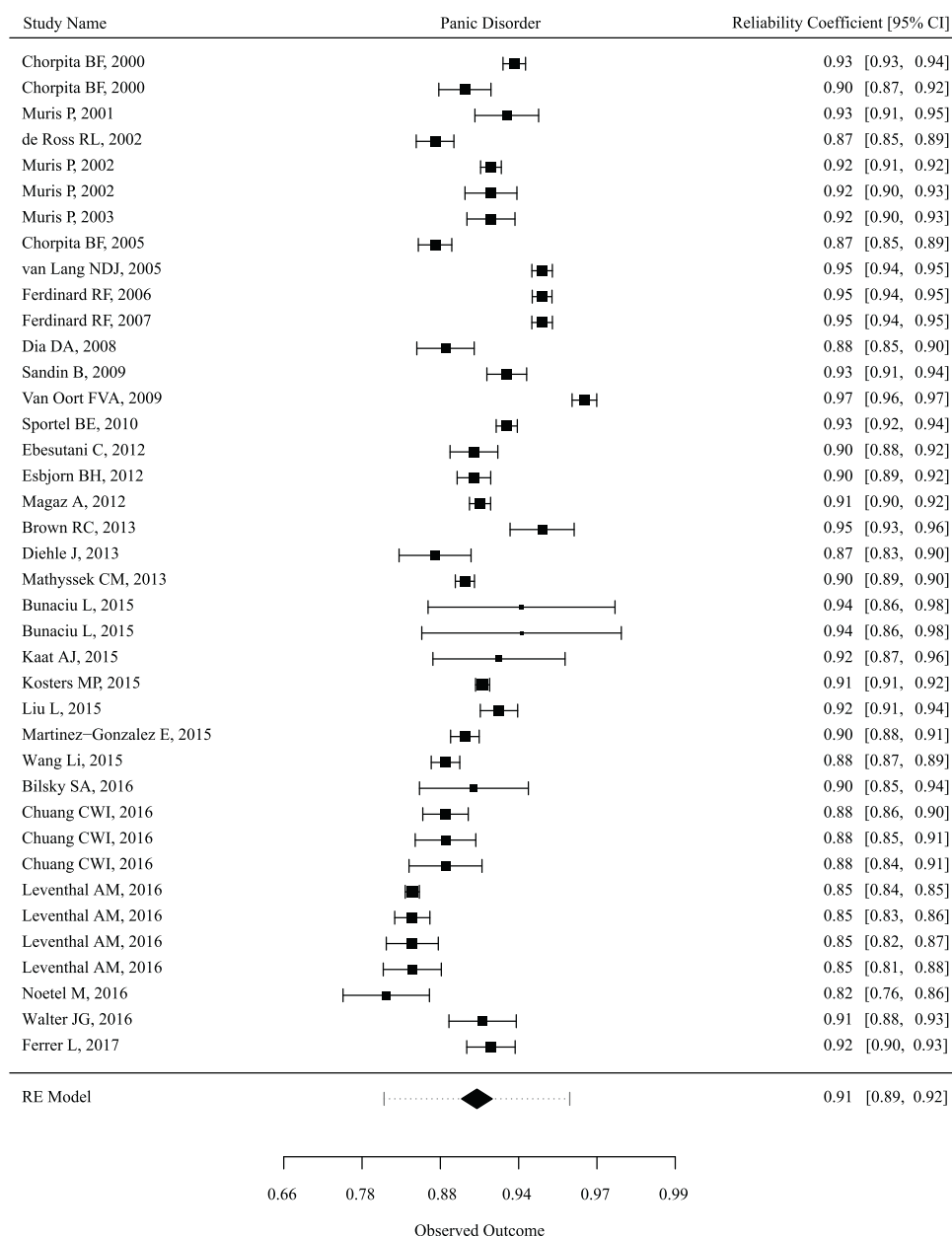


Fig. 5. Forest Plot illustrating the heterogeneity exhibited by reliability coefficients in studies. Panic Disorder.

an effect on the reliability for SP, PD, GAD, and MMD, showing that higher mean age was associated with greater reliability coefficients. It should be noted that the effect of the sample variances as moderator variables of the reliability coefficients of the RCADS subscales were not significant for any scale (see Table 7).

Regarding the role of the version of the RCADS on the mean reliability, our results indicated that the number of items of versions had a positive and significant effect on the reliability for all scales, except for SAD and GAD (see Table 8).

4. Discussion

This is the first study that analyzed the cross-cultural reliability of the RCADS through a systematic review and meta-analysis. Two specific aims were addressed. The first was to estimate the mean reliability of the RCADS full scale, its six subscales (Separation Anxiety Disorder, Social Anxiety Disorder, Panic Disorder, Generalized Anxiety Disorder, Obsessive Compulsive Disorder, and Major Depressive Disorder), and

the Anxiety scale. The second was to carry out an analysis of moderators of the reliability of the RCADS.

The results of the meta-analysis of alpha coefficients showed excellent reliability with a mean alpha of .93 for the RCADS full scale. As mentioned earlier, the RCADS is an adaptation of the SCAS (Spence, 1997, 1998). Our finding is consistent with the mean alpha value reported by Orgiles et al. (2016) for the SCAS full scale.

Concerning the RCADS subscales, the mean alpha value for the Anxiety scale was .93, while the mean alpha values for the six subscales ranged from acceptable for the Obsessive Compulsive Disorder and Separation Anxiety Disorder subscales ($\alpha = .74$) to good for the Social Anxiety Disorder, Panic Disorder, Generalized Anxiety Disorder, and Major Depressive Disorder subscales ($\alpha = .82-.85$). These results are consistent with previous studies that reported that the internal consistency of the RCADS is good (e.g., Chorpita et al., 2000; Chorpita et al., 2005; Muris et al., 2002a; Sandin et al., 2009, 2010). Moreover, these findings are slightly higher than the mean reliability values reported for the SCAS in a recent meta-analytic review (Orgiles et al.,

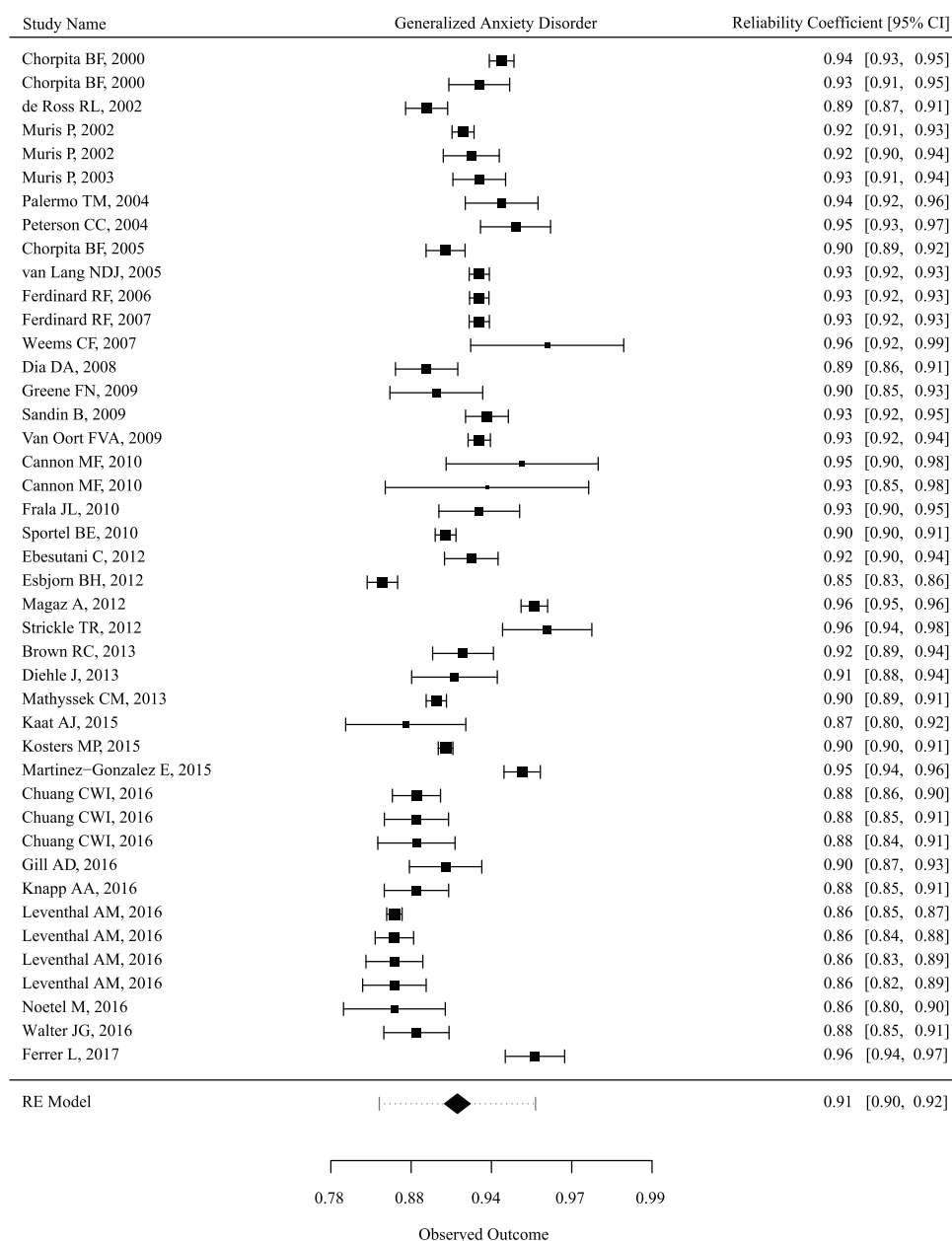


Fig. 6. Forest Plot illustrating the heterogeneity exhibited by reliability coefficients in studies. Generalized Anxiety Disorder.

2016). Given this study used a sample of 88,648 children and adolescents from 25 countries (representing six continents), we can conclude that the RCADS is a reliable instrument for evaluating the symptoms of anxiety and depression in children and adolescents in different cultural settings.

Regarding the second objective of this study, analysis of moderators, it should be noted that the results indicated that the reliability of the RCADS total score, Anxiety total score, SAD and TOC was not mediated by the variable of age. This is a relevant advantage in comparison with other similar measures, such as the SCAS total score, in which there was a significant mediator by age in all scales (Orgiles et al., 2016). Additionally, we did not find a general significant effect of mediation by the sample type, gender, country, or the language of the RCADS. Nevertheless, we found some significant effects of mediation by country (U.S. vs. other countries), language (English versus other languages), sample type (community vs. clinical samples) in some few scales.

Regarding different versions of RCADS, longer versions, such as the original of 47 items (Chorpita et al., 2000), showed better reliability

compared with the other versions with fewer items for all subscales, except for SAD and GAD. As for the RCADS-25 (Muris et al., 2002a), this version showed a slightly lower reliability and did not provide the assessment of obsessive-compulsive disorder symptoms. With respect to the short version of the RCADS (RCADS-SV; Ebesutani et al., 2012a, 2012b), this version presents a main advantage, which is its length. However, according to our review, perhaps it is the version that presents major disadvantages, because it loses clinically relevant information due to the fact that it provides only two scores (Anxiety and Depression total scores), and presents lower coefficients of reliability in comparison with the other versions. In this sense, it should be noted that the RCADS-30, the version of 30 items by Sandin and colleagues (2010), which respects the original 6-factor structure, shortens the measure by 17 items and had slightly lower reliability in comparison with the original RCADS. Indeed, Cronbach's alpha is a function of the number of items in a test, the average covariance between item-pairs, and the variance of the total score. Therefore, the number of items in the test can artificially inflate the value of alpha

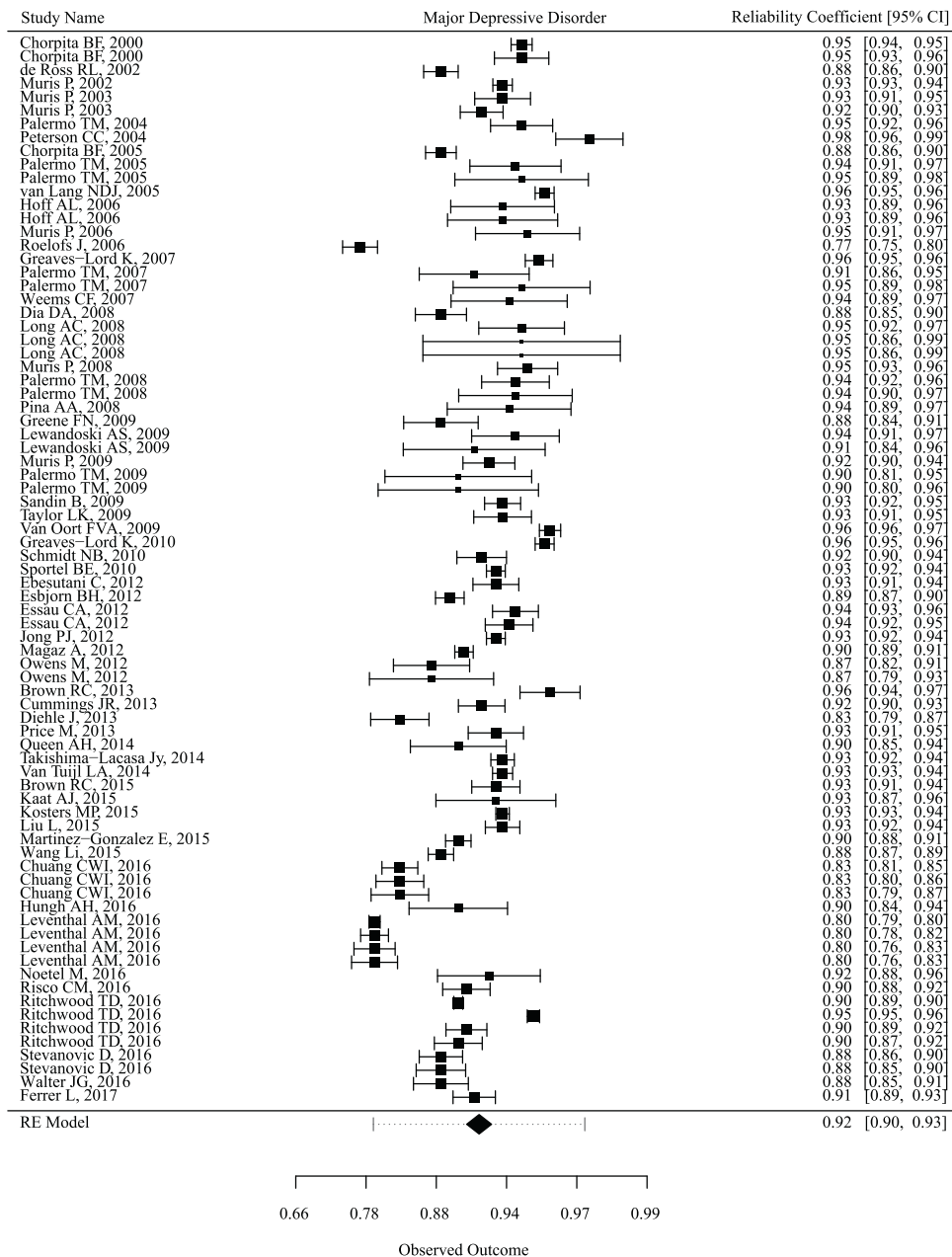


Fig. 7. Forest Plot illustrating the heterogeneity exhibited by reliability coefficients in studies. Major Depressive Disorder.

(Green et al., 1977). Accordingly, the correlations between items can be used as a measure free of the bias that produces a higher number of items. Hence, when calculating this correlation, we can find that the 47-item original version, the 25-item version, and the 30-item version have identical correlations between their items, highlighting the relative advantage of the 30-item version. Consequently, when the lower number of items and the respect to the original factor structure are taken together, the more advantageous version remains the 30-item version.

5. Limitations

This study has some limitations. First, we conducted an exhaustive search in order to collect all the existing scientific literature to date. However, it is possible that some research was not included in the search due to the criteria of inclusion or databases used. Consequently, this could affect the results. Second, other validity and reliability

properties were not examined in this study, which should be addressed in future investigations. Therefore, we did not assess responsiveness, and sensitivity and specificity estimates with a gold standard instrument for construct validity, factor structure and factorial invariance, or test-retest reliability of the RCADS.

Despite these limitations, the systematic review demonstrated that the RCADS has strong internal consistency reliability. In addition, compared with other measures such as the SCAS, the RCADS includes the assessment of depression and anxiety symptoms based on the DSM-IV, providing more information with a low number of items. Consequently, it can be noted that the RCADS is as reliable as the SCAS, but with the advantage of assessing symptoms of both anxiety and depression in children and adolescents, and with only three more items than the SCAS. The findings of this study therefore provide support for the use of the RCADS as a reference tool in the assessment of emotional symptoms in different settings, countries, and languages.

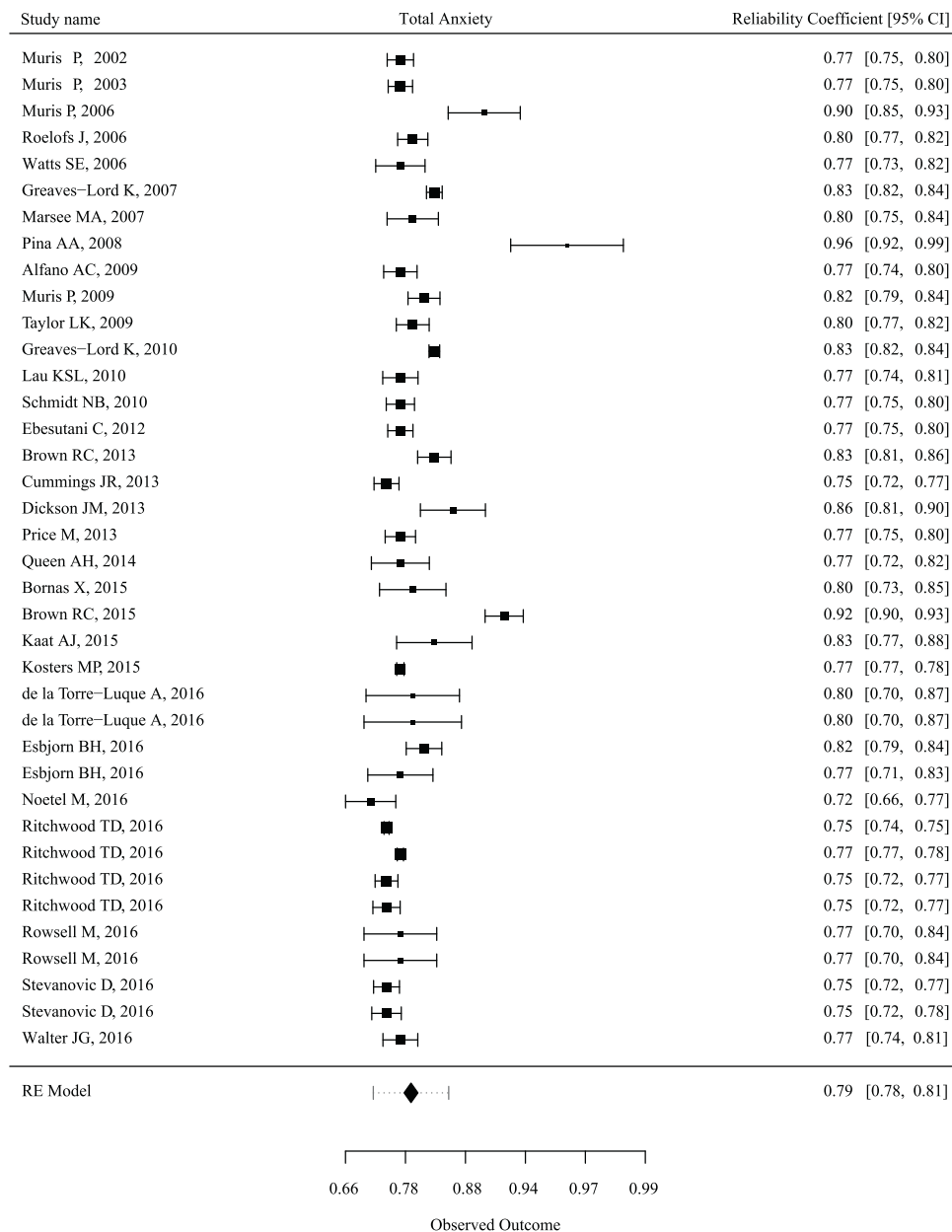


Fig. 8. Forest Plot illustrating the heterogeneity exhibited by reliability coefficients in studies. Total Anxiety.

Table 3

Contrast of heterogeneity of the means of the RCADSa scales^a.

	Q (d.f.)	I ²	H ²	τ ²	M	SE	C.I. 95%	Range
SAD	3850.42 ^{***} ₍₃₆₎	99.07	106.96	.032	.59	.031	[.53, .65]	[.24, 2.26]
SP	19469.50 ^{***} ₍₄₇₎	99.76	414.24	.059	1.-04	.037	[.97, 1.11]	[.40, 1.88]
OCD	3876.01 ^{***} ₍₃₇₎	99.05	104.76	.022	.76	.025	[.71, .81]	[.34, 1.57]
PD	5124.91 ^{***} ₍₄₇₎	99.08	109.04	.011	.53	.016	[.50, .56]	[.22, 1.50]
GAD	20694.53 ^{***} ₍₄₇₎	99.97	440.31	.097	1.-08	.046	[.99, 1.17]	[.63, 1.90]
MMD	21358.81 ^{***} ₍₆₄₎	99.70	333.73	.017	.79	.025	[.74, .84]	[.12, 3.35]
ANX	4402.02 ^{***} ₍₄₃₎	99.02	102.37	.041	.74	.031	[.68, .80]	[.31, 1.53]
RCADS	821.18 ^{***} ₍₁₅₎	98.17	54.75	.013	.67	.029	[.62, .73]	[.34, 1.14]

Note. SAD = Separation Anxiety Disorder; SP = Social Phobia; OCD = Obsessive-compulsive Disorder; PD = Panic Disorder; GAD = Generalized Anxiety Disorder; MMD = Major Depressive Disorder; ANX = Anxiety total score; RCADS = RCADS total score. Q = Cochran's heterogeneity Q test (Hedges y Olkin, 1985); d.f. = degrees of freedom; I² = percentage of heterogeneity (Higgins y Thompson, 2002); H² = heterogeneity index (Higgins y Thompson, 2002); τ² = between-studies variance; M = Estimation of the weighted mean; SE = Standard Error; α = Weighted mean alpha; 95% C.I. = 95% Confidence interval; Range = minimum and maximum mean scores from studies.

^a = Revised Child Anxiety and Depression Scale (Chorpita et al., 2000).

*** = p < .001.

Table 4
Contrast of heterogeneity of the variances of the RCADSa scales^a.

	<i>Q</i> (<i>d.f.</i>)	<i>I</i> ²	<i>H</i> ²	τ^2	VAR	SE	C.I. 95%	Range
SAD	1554.04 (38) ***	97.55	40.90	.003	.20	.010	[.18, .22]	[.05, 3.94]
SP	8301.76 (49) ***	99.41	169.- 42	.011	.25	.016	[.22, .28]	[.01, 2.25]
OCD	5832.65 (38) ***	99.35	153.- 49	.012	.26	.019	[.23, .30]	[.01, 2.03]
PD	6776.25 (48) ***	99.29	141.- 17	.006	.18	.012	[.15, .20]	[.01, 1.31]
GAD	7598.34 (49) ***	99.36	155.- 07	.010	.28	.016	[.25, .31]	[.01, 3.61]
MMD	7840.62 (73) ***	99.07	107.- 41	.006	.19	.010	[.17, .21]	[.01, 2.72]
ANX	1780.63 (47) ***	97.36	37.89	.003	.14	.009	[.12, .16]	[.03, .59]
RCADS	747.15 (16) ***	97.86	46.70	.003	.14	.013	[.12, .17]	[.04, .32]

Note. SAD = Separation Anxiety Disorder; SP = Social Phobia; OCD = Obsessive-compulsive Disorder; PD = Panic Disorder; GAD = Generalized Anxiety Disorder; MMD = Major Depressive Disorder; ANX = Anxiety total score; RCADS = RCADS total score. *Q* = Cochran's heterogeneity *Q* test (Hedges y Olkin, 1985); *d.f.* = degrees of freedom; *I*² = percentage of heterogeneity (Higgins y Thompson, 2002); *H*² = heterogeneity index (Higgins y Thompson, 2002); τ^2 = between-studies variance; VAR = Estimation of the weighted variance; SE = Standard Error; α = Weighted mean alpha; 95% C.I. = 95% Confidence interval; Range = minimum and maximum variance scores from studies.

^a = Revised Child Anxiety and Depression Scale (Chorpita et al., 2000). *** = *p* < .001.

Table 5
Lower Bound Estimates^a and Fail-Safe Number^a for RCADS subscales^b.

All versions of RCADS:	SAD	SP	OCD	PD	GAD	MDD	ANX	RCADS
Reporting samples	52	62	47	59	66	114	60	64
Mean	.74	.83	.73	.81	.81	.79	.90	.91
SD	.05	.06	.07	.06	.05	.08	.05	.05
Non reporting samples	40	41	39	37	44	58	33	29
File drawer reliability estimate	.70	.78	.68	.76	.77	.72	.86	.88
Lower bound estimate from alpha	.72	.81	.71	.79	.80	.77	.89	.90
Fail-Safe Number ^a	176.55	315.62	108.52	250.11	329.79	320.08	427.02	548.75
RCADS-47								
Reporting samples	30	40	30	39	43	79	39	41
Mean	.74	.85	.74	.83	.82	.81	.92	.93
SD	.05	.05	.07	.05	.05	.06	.05	.04
Non reporting samples	36	37	36	33	39	53	31	22
File drawer reliability estimate	.70	.81	.69	.79	.78	.77	.89	.90
Lower bound estimate from alpha	.72	.83	.72	.81	.80	.79	.91	.92
Fail-Safe Number ^a	97.68	271.73	80.34	216.19	223.28	346.25	348.12	453.57

Note.

SAD = Separation Anxiety Disorder; SP = Social Phobia; OCD = Obsessive-Compulsive Disorder; PD = Panic Disorder; GAD = Generalized Anxiety Disorder; MDD = Major Depressive Disorder; ANX = Anxiety total score; RCADS = RCADS total score.

^a = Howell & Shields (2008);

^b = Revised Child Anxiety and Depression Scale (Chorpita et al., 2000).

* = number of file drawer necessities to downsize reliability under .60

Table 6
Categorical moderators analysis of RCADS scales^a.

Scale	Moderator	<i>QE</i> (<i>d.f.</i>)	<i>QM</i> (<i>d.f.</i>)	<i>I</i> ²	<i>R</i> ²	α	C.I. 95%	Range	α	C.I. 95%	Range
SAD	Language	296.27 (17) ***	.76 (2)	94.26	.00	English			Others		
						.73	[.69, .77]	[.66, .86]	.73	[.66, .78]	[.68, .78]
						USA			Others		
SP	Country	298.59 (17) ***	1.07 (2)	94.31	4.46	.75	[.68, .80]	[.67, .86]	.73	[.69, .76]	[.66, .84]
						General			Clinical		
						.73	[.70, .76]	[.66, .84]	.73	[.67, .79]	[.67, .86]
SP	Sample	295.16 (17) ***	.79 (2)	94.24	5.38						
						English			Others		
						.87	[.85, .89]	[.78, .92]	.81	[.76, .86]	[.75, .84]
SP	Country	430.20 (28) ***	13.61 (2) ***	93.49	53.04	USA			Others		
						.88	[.86, .90]	[.78, .92]	.85	[.82, .87]	[.75, .92]
						General			Clinical		
OCD	Sample	711.01 (28) ***	2.98 (2)	96.06	23.87	.86	[.84, .88]	[.75, .92]	.88	[.84, .91]	[.78, .92]
						English			Others		
OCD	Language	250.86 (17) ***	2.08 (2)	93.22	.00	.77	[.74, .80]	[.57, .88]	.73	[.67, .78]	[.68, .77]
						USA			Others		
						.79	[.75, .82]	[.57, .82]	.75	[.72, .78]	[.68, .88]
OCD	Country	158.68 (17) ***	3.85 (2)	89.29	33.49	General			Clinical		
						.76	[.73, .79]	[.68, .83]	.73	[.65, .80]	[.57, .88]

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Table 6 (continued)

Scale	Moderator	QE (d.f.)	QM (d.f.)	I ²	R ²	α	C.I. 95%	Range	α	C.I. 95%	Range
PD	Language	585.18 (27) ^{***}	1.20 (2)	95.39	3.49	English .85	[.82, .87]	[.68, .92]	Others .84	[.80, .88]	[.80, .87]
	Country	952.79 (37) ^{***}	6.70 (2) ^{**}	96.12	27.60	USA .85	[.83, .88]	[.75, .90]	Others .81	[.79, .83]	[.68, .92]
	Sample	559.91 (27) ^{***}	1.35 (2)	95.18	11.41	General .84	[.82, .86]	[.68, .90]	Clinical .85	[.81, .88]	[.75, .92]
GAD	Language	400.36 (28) ^{***}	3.60 (2)	93.01	.75	English .84	[.82, .86]	[.70, .89]	Others .83	[.78, .86]	[.72, .90]
	Country	767.18 (28) ^{***}	6.67 (2) [*]	90.25	29.22	USA .85	[.83, .87]	[.70, .89]	Others .83	[.81, .85]	[.72, .90]
	Sample	400.53 (28) ^{***}	3.73 (2)	94.66	8.92	General .84	[.82, .86]	[.72, .90]	Clinical .83	[.80, .86]	[.70, .89]
MM-D	Language	2434.48 (51) ^{***}	1.28 (2)	97.91	1.38	English .83	[.80, .86]	[.63, .94]	Others .84	[.75, .90]	[.79, .87]
	Country	1152.97 (51) ^{***}	8.39 (2) ^{**}	95.58	51.55	USA .86	[.83, .88]	[.63, .93]	Others .82	[.79, .84]	[.71, .94]
	Sample	2413.95 (51) ^{***}	1.35 (2)	97.89	3.02	General .83	[.80, .86]	[.71, .94]	Clinical .83	[.78, .87]	[.63, .91]
ANX	Language	191.60 (24) ^{***}	2.89 (2)	87.47	11.37	English .90	[.88, .92]	[.70, .96]	Others .90	[.86, .93]	[.92, .95]
	Country	190.87 (24) ^{***}	3.34 (2)	87.43	7.21	USA .90	[.87, .92]	[.70, .95]	Others .90	[.88, .93]	[.85, .96]
	Sample	178.83 (24) ^{***}	7.12 (2) [*]	86.58	16.12	General .91	[.88, .93]	[.85, .95]	Clinical .89	[.85, .91]	[.70, .96]
RCA-DS	Language	82.58 (11) ^{***}	2.25 (2)	86.68	.00	English .93	[.91, .95]	[.78, .97]	Others .93	[.90, .95]	[.88, .96]
	Country	83.64 (11) ^{***}	2.39 (2)	86.85	.00	USA .93	[.91, .95]	[.78, .96]	Others .93	[.91, .95]	[.87, .97]
	Sample	83.36 (11) ^{***}	2.44 (2)	86.81	.00	General .93	[.91, .95]	[.78, .97]	Clinical .93	[.91, .95]	[.92, .97]

Note. SAD = Separation Anxiety Disorder; SP = Social Phobia; OCD = Obsessive-compulsive Disorder; PD = Panic Disorder; GAD = Generalized Anxiety Disorder; MMD = Major Depressive Disorder; ANX = Anxiety total score; RCADS = RCADS total score. Q = Cochran's heterogeneity Q test (Hedges y Olkin, 1985); QM = heterogeneity explained by the model; QE = residual error heterogeneity; d.f. = degrees of freedom; I² = percentage of heterogeneity (Higgins y Thompson, 2002); R² = coefficient of determination; α = Weighted mean alpha; 95% C.I. = 95% Confidence interval; Range = minimum and maximum alpha scores from studies.

^a = Revised Child Anxiety and Depression Scale (Chorpita et al., 2000).

* = $p < .05$;

** = $p < .01$;

*** = $p < .001$.

Table 7
Continuous moderators analysis of RCADS scales^a.

Scale	Moderator	QE (d.f.)	QM (d.f.)	I ²	R ²
SAD	Age mean	283.76 (15) ^{***}	.57 (2)	94.71	.00
	% women	298.99 (16) ^{***}	2.35 (2)	94.65	3.53
	VAR	300.26 (18) ^{***}	.79 (1)	94.01	5.68
SP	Age	550.02 (27) ^{***}	12.98 (2) ^{***}	95.09	37.24
	% women	746.66 (28) ^{***}	1.99 (2)	96.25	20.01
	VAR	746.81 (29) ^{***}	2.05 (1)	96.12	21.93
OCD	Age	202.54 (16) ^{***}	5.41 (2)	92.10	11.00
	% women	255.60 (16) ^{***}	.55 (2)	93.74	.00
	VAR	260.25 (18) ^{***}	.33 (1)	93.08	.75
PD	Age	5438.44 (26) ^{***}	9.89 (2) ^{**}	94.07	27.51
	% women	587.50 (26) ^{***}	1.51 (2)	95.58	2.32
	VAR	587.98 (28) ^{***}	1.25 (1)	95.24	10.88
GAD	Age	302.95 (25) ^{***}	7.77 (2) [*]	91.75	22.04
	% women	390.32 (27) ^{***}	3.99 (2)	93.08	9.03
	VAR	400.56 (29) ^{***}	3.34 (1)	92.76	9.31
MMD	Age	1549.11 (49) ^{***}	17.47 (2) ^{***}	96.84	35.06
	% women	2431.88 (50) ^{***}	1.33 (2)	97.94	2.56
	VAR	2438.97	1.35 (1)	97.87	4.15

(continued on next page)

Table 7 (continued)

Scale	Moderator	QE (d.f.)	QM (d.f.)	I ²	R ²
		(52) ^{***}			
ANX	Age	96.95 (22) ^{***}	5.43 (2)	77.31	37.65
	% women	188.84 (22) ^{***}	3.76 (2)	88.35	9.32
	VAR	191.86 (25) ^{***}	2.94 (1)	86.97	14.45
RCADS	Age	80.64 (10) ^{***}	5.28 (2)	87.60	.00
	% women	74.89 (10) ^{***}	5.69 (2)	86.65	.00
	VAR	85.09 (12) ^{***}	2.44 (1)	85.90	.00

Note. SAD = Separation Anxiety Disorder; SP = Social Phobia; OCD = Obsessive-compulsive Disorder; PD = Panic Disorder; GAD = Generalized Anxiety Disorder; MMD = Major Depressive Disorder; ANX = Anxiety total score; RCADS = RCADS total score. Q = Cochran's heterogeneity Q test (Hedges y Olkin, 1985); QM = heterogeneity explained by the model; QE = residual error heterogeneity; d.f. = degrees of freedom; I² = percentage of heterogeneity (Higgins y Thompson, 2002); R² = coefficient of determination.

^a = Revised Child Anxiety and Depression Scale (Chorpita et al., 2000).

* = $p < .05$;

** = $p < .01$;

*** = $p < .001$.

Table 8

Analysis of the RCADS^a version as moderator.

Scale	Version	QE (d.f.)	QM (d.f.)	I ²	R ²	α	C.I. 95%	Range
SAD		377.96 (34) ^{***}	3.05 (4)	91.00	4.06			
	RCADS-25					.74	[.71, .76]	[.71, .80]
	RCADS-30					.71	[.69, .73]	[.66, .80]
	RCADS-38					.75	[.68, .81]	[.76, .82]
SP		828.68 (45) ^{***}	39.90 (4) ^{***}	94.57	48.01			
	RCADS-25					.76	[.72, .79]	[.74, .76]
	RCADS-30					.78	[.76, .80]	[.72, .84]
	RCADS-38					.85	[.80, .89]	[.74, .85]
OCD		348.09 (32) ^{***}	14.55 (2) ^{***}	90.81	19.26			
	RCADS-30					.68	[.66, .71]	[.55, .77]
	RCADS-47					.76	[.75, .78]	[.57, .88]
PD		957.20 (43) ^{***}	14.97 (4) ^{**}	95.39	20.99			
	RCADS-25					.74	[.69, .78]	[.73, .75]
	RCADS-30					.77	[.75, .79]	[.65, .83]
	RCADS-38					.90	[.85, .93]	[.90, .90]
GAD		505.19 (45) ^{***}	10.85 (4)	91.09	16.56			
	RCADS-25					.83	[.80, .85]	[.82, .83]
	RCADS-30					.80	[.79, .82]	[.72, .86]
	RCADS-38					.84	[.79, .88]	[.84, .84]
MMD		2710.75 (79) ^{***}	35.89 (5) ^{***}	97.09	19.63			
	RCADS-25					.66	[.63, .70]	[.46, .82]
	RCADS-SV					.82	[.77, .86]	[.80, .85]
	RCADS-30					.74	[.70, .77]	[.59, .82]
ANX		229.46 (40) ^{***}	80.44 (4) ^{***}	82.57	66.99			
	RCADS-38					.85	[.76, .91]	[.85, .85]
	RCADS-47					.83	[.82, .84]	[.63, .94]
	RCADS-25					.82	[.81, .84]	[.76, .89]
RCADS		219.74 (26) ^{***}	122.04 (4) ^{***}	88.17	81.65			
	RCADS-SV					.80	[.78, .83]	[.80, .91]
	RCADS-30					.87	[.82, .90]	[.93, .93]
	RCADS-47					.90	[.89, .91]	[.70, .96]
RCADS		219.74 (26) ^{***}	122.04 (4) ^{***}	88.17	81.65			
	RCADS-19					.73	[.67, .77]	[.81, .88]
	RCADS-25					.86	[.85, .87]	[.84, .92]
	RCADS-SV					.84	[.82, .86]	[.79, .86]
RCADS		219.74 (26) ^{***}	122.04 (4) ^{***}	88.17	81.65			
	RCADS-30					.87	[.86, .88]	[.86, .93]
	RCADS-47					.93	[.92, .93]	[.78, .97]
	RCADS-19					.73	[.67, .77]	[.81, .88]

Note. SAD = Separation Anxiety Disorder; SP = Social Phobia; OCD = Obsessive-compulsive Disorder; PD = Panic Disorder; GAD = Generalized Anxiety Disorder; MMD = Major Depressive Disorder; ANX = Anxiety total score; RCADS = RCADS total score. Q = Cochran's heterogeneity Q test (Hedges y Olkin, 1985); d.f. = degrees of freedom; I² = percentage of heterogeneity (Higgins y Thompson, 2002); R² = coefficient of determination; α = Weighted mean alpha; 95% C.I. = 95% Confidence interval; Range = minimum and maximum alpha scores from studies.

* = $p < .05$;

^a = Revised Child Anxiety and Depression Scale (Chorpita et al., 2000); RCADS-19 (Hogendoorn et al., 2011); RCADS-25 (Muris et al., 2002a); RCADS-SV (Ebesutani et al., 2012a); RCADS-30 (Sandin et al., 2010); RCADS-38 (Weems et al., 2010); RCADS-47 (Chorpita et al., 2000).

** = $p < .01$;

*** = $p < .001$.

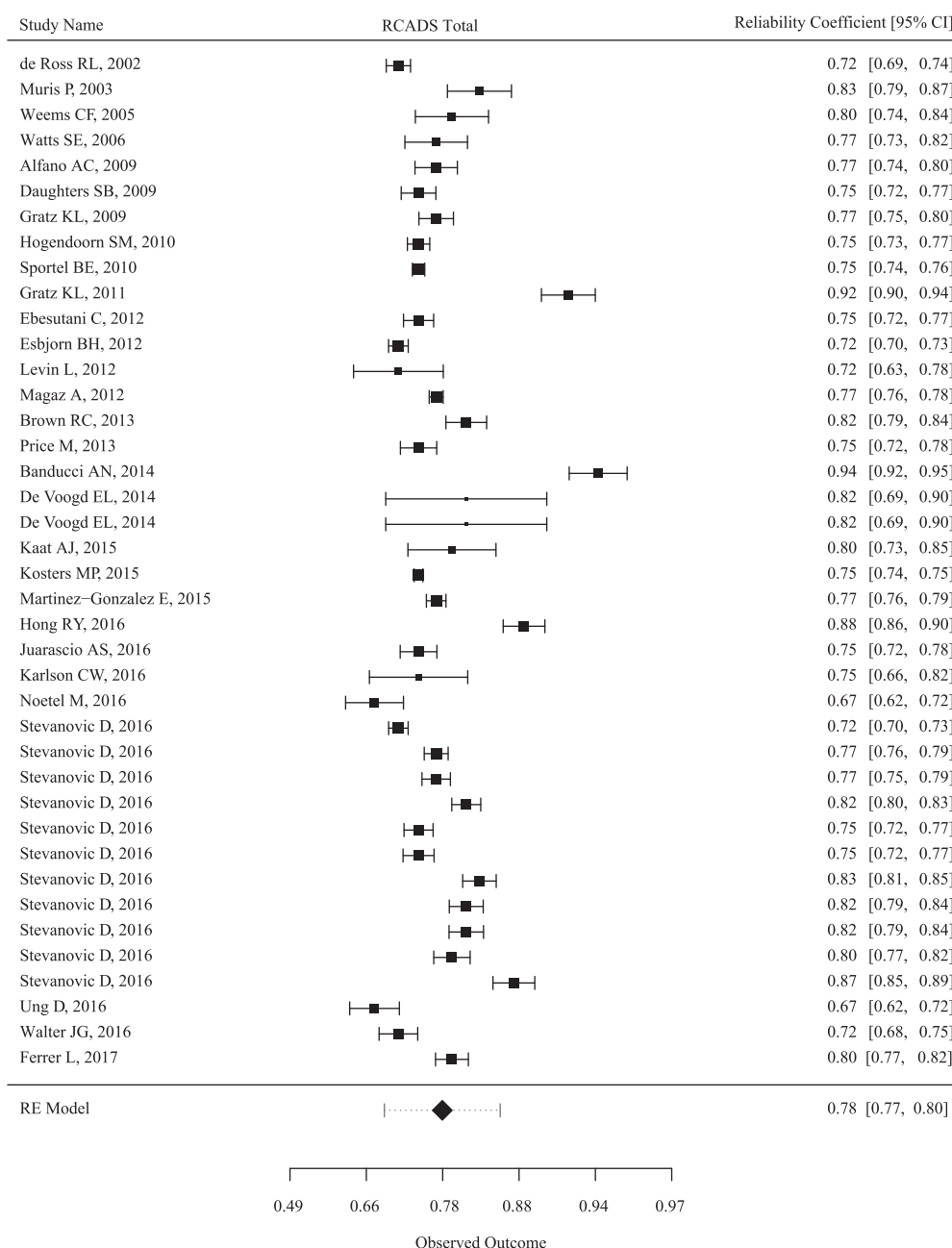


Fig. 9. Forest Plot illustrating the heterogeneity exhibited by reliability coefficients in studies. RCADS Total.

Appendix A. Supplementary material

Supplementary data associated with this article can be found in the online version at <http://dx.doi.org/10.1016/j.jad.2017.04.022>.

References¹

- Alfano, A.C., Zakem, A.H., Costa, N.M., Taylor, L.K., Weems, C.F., 2009. Sleep problems and their relation to cognitive factors, anxiety, and depressive symptoms in children and adolescents. *Dep. Anx.* 26, 503–512.
- Araya, R., Montero-Marín, J., Barrioilhet, S., Fritsch, R., Montgomery, A., 2013. Detecting depression among adolescents in Santiago, Chile: Sex difference. *Bmc Psychiatry* 13, 122–134.
- Banducci, A.N., Gomes, M., MacPherson, L., Lejuez, C.W., Potenza, M.N., Gelernter, J., Amstadter, A.B., 2014. A preliminary examination of the relationship between the 5-HTTLPR and childhood emotional abuse on depressive symptoms in 10–12-year-old youth. *Psychol. Trauma* 1, 1–7.
- Baptista, G.S., Sanz, Y.A., 2013. La RCADS-30: una técnica psicológica para evaluar conjuntamente la ansiedad y depresión en niños y adolescentes. Valoración de las propiedades psicométricas [The RCADS-30: a psychological technique to jointly assess anxiety and depression in children and adolescents. Evaluation of psychometric properties]. *Atlante. Cuadernos de Educación y Desarrollo* Retrieved from: <<http://atalante.eumed.net/rcads>>.
- Beck, A.T., Steer, R.A., Brown, G.K., 1996. BDI-II Manual. The Psychological Corporation, San Antonio.
- Beck, A.T., Ward, C.H., Mendelson, M., Mock, J., Erbaugh, J., 1961. An inventory for measuring depression. *Arch. Gen. Psychiatry* 1, 561–571.
- Becker, S.P., Luebbe, A.M., Joyce, A.M., 2015. The child concentration inventory (CCI): initial validation of a child self-report measure of sluggish cognitive tempo. *Psychol. Assess.* 27, 1037–1052.
- Bilsky, S.A., Knapp, A.A., 2016. Parental psychological control and adolescent panic symptom frequency. *Int. J. Cogn. Ther.* 9, 1–15.
- Blumenthal, H., Ham, L.S., Cloutier, R.M., Bacon, A.K., Douglas, M.E., 2015. Social anxiety, disengagement coping and alcohol-use behaviours among adolescents. *Anxiety Stress Coping* 29, 432–446.
- Blumenthal, H., Leen-Feldner, E.W., Trainor, C.D., Babson, K.A., Bunaciu, L., 2009. Interactive roles of pubertal timing and peer relations in predicting social anxiety symptoms among youth. *J. Adolesc. Health* 44, 401–403.
- Blumenthal, H., Leen-Feldner, E.W., Frala, J.L., Badour, C.L., Ham, L.S., 2010. Social anxiety and motives for alcohol use among adolescents. *Psychol. Addict. Behav.* 24,

¹ References preceded by an asterisk were included in the meta-analysis.

- 529–534.
- Bornas, X., Balle, M., de la Torre-Luque, A., Fiol-Veny, A., Llabres, J., 2015. Ecological assessment of heart rate complexity: differences between high and low anxious adolescents. *Int. J. Psychophysiol.* 98, 112–118.
- Botella, J., Meca, J., 2015. *Meta-análisis en ciencias sociales y de la salud [Meta-analysis in social and health sciences]*, Síntesis, Madrid.
- Botella, J., Suero, M., Gámbara, H., 2010. Psychometric inferences from a meta-analysis of reliability and internal consistency coefficients. *Psychol. Methods* 15, 386.
- Bouman, T., van der Meulen, M., Goossens, F.A., Olthof, T., Vermande, M.M., Aleve, E.A., 2012. Peer and self-reports of victimization and bullying: their differential association with internalizing problems and social adjustment. *J. Sch. Psychol.* 50, 759–774.
- Bouvard, M., Denis, A., Roulin, J.L., 2015. The French version of the Revised Child anxiety and depression scale (RCADS) in a nonclinical sample. *Swiss. J. Psychol.* 74, 119–127.
- Broeren, S., Muris, P., Bouwmeester, S., van der Heijden, K.B., Abe, A., 2011. The role of repetitive negative thoughts in the vulnerability for emotional problems in non-clinical children. *J. Child Fam. Stud.* 10, 2–32.
- Brown, H.M., Eley, T.C., Broeren, S., MacLeod, C., Rinck, M., Hadwin, J.A., Lester, K.J., 2014. Psychometric properties of reaction time based experimental paradigms measuring anxiety-related information processing biases in children. *J. Anxiety Disord.* 28, 97–107.
- Brown, R.C., Clark, S.L., Dahne, J., 2015. Testing the temporal relationship between maternal and adolescent depressive and anxiety symptoms in a community sample. *J. Clin. Child Adolesc. Psychol.* 44, 566–579.
- Brown, R.C., Yaroslavsky, I., Quinoy, A.M., Friedman, A.D., Brookman, R.R., Southam-Gerow, M.A., 2013. Factor structure of measures of anxiety and depression symptoms in african American youth. *Child Psychiatry Hum. Dev.* 44, 525–536.
- Bunaci, L., Leen-Feldner, E.W., Blumenthal, H., Knapp, A.A., Badour, C.L., Feldner, M.T., 2014. An experimental test of the effects of parental modeling on panic-relevant escape and avoidance among early adolescents. *Behav. Ther.* 45, 517–529.
- Cannon, M.F., Weems, C.F., 2010. Cognitive biases in childhood anxiety disorders: do interpretive and judgments biases distinguish anxious youth from their non-anxious peers? *J. Anx. Disord.* 24, 751–758.
- Chin, E.G., Ebesutani, C., Young, J., 2013. Application of the tripartite model to a complicated sample of residential youth with externalizing problems. *Child Psychiatry Hum. Dev.* 44, 469–478.
- Chisholm, D., Sweeny, K., Sheehan, P., Rasmussen, B., Smit, F., Cuijpers, P., Saxena, S., 2016a. Scaling-up treatment of depression and anxiety: a global return on investment analysis. *Lancet* 3, 415–424.
- Chisholm, D., Sweeny, K., Sheehan, P., Rasmussen, B., Smit, F., Cuijpers, P., Saxena, S., 2016b. Scaling-up treatment of depression and anxiety: a global return on investment analysis. *Lancet* 3, 415–424.
- Chorpita, B.F., Moffitt, C.E., Gray, J., 2005. Psychometric properties of the Revised Child Anxiety and Depression Scale in a clinical sample. *Behav. Res. Ther.* 43, 309–322.
- Chorpita, B.F., Yim, L., Moffitt, C.E., 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. *Behav. Change* 19, 90–101.
- Chuang, C.W., Chan, C., Leventhal, A.M., 2016. Adolescents emotional pathology and lifetime history of alcohol or drug use with and without comorbid tobacco use. *J. Dual Diagn.* 12, 27–35.
- Cloutier, R.M., Blumenthal, H., Mischel, E.M., 2016. An examination of social anxiety in marijuana and cigarette use motives among adolescents. *Subst. Use Misuse* 51, 408–418.
- Cummings, C.M., Caporino, N.E., Kendall, P.C., 2014. Comorbidity of anxiety and depression in children and adolescents: 20 years after. *Psychol. Bull.* 140, 816–845.
- Cummings, J.R., Bornoalova, M.A., Ojanen, T., Hunt, E., MacPherson, L., Lejuez, C., 2013. Time doesn't change everything: the longitudinal course of distress tolerance and its relationship with externalizing and internalizing symptoms during early adolescence. *J. Abnorm. Child Psychol.* 41, 735–748.
- Daughters, S.B., Reynolds, E.K., MacPherson, L., Kahler, C.W., Danielson, C.K., Zvolensky, M., Lejuez, C.W., 2009. Distress tolerance and early adolescent externalizing and internalizing symptoms: the moderating role of gender and ethnicity. *Behav. Res. Ther.* 47, 198–205.
- De Hullu, E., de Jong, P.J., Sportel, E., Nauta, M.H., 2011. Threat-related automatic associations in socially anxious adolescents. *Behav. Res. Ther.* 49, 518–522.
- De la Torre-Luque, A., Fiol-Veny, A., Balle, M., Bornas, X., 2016. Heartbeat scaling in early adolescents: its association with anxiety symptoms and sensitivity to punishment. *Int. J. Clin. Health Psychol.* 16, 287–294.
- De Ross, R.L., Gullone, E., Chorpita, B.F., 2002. The Revised Child Anxiety and Depression Scale: a psychometric investigation with Australian youth. *Behav. Change* 19, 90–101.
- De Voogd, E.L., Wiers, R.W., Prins, P.J.M., Salemink, E., 2014. Visual search attentional bias modification reduced social phobia in adolescents. *J. Behav. Ther. Exp. Psychol.* 45, 252–259.
- Dia, D.A., Bradshaw, W., 2008. Cognitive risk factors to the development of anxiety and depressive disorders in adolescents. *Child Adol Social. Work J.* 25, 469–481.
- Dickson, J.M., Moberly, N.J., 2013. Goal Internalization and outcome expectancy in adolescent anxiety. *J. Abnorm. Child Psychol.* 41, 389–397.
- Diehle, J., de Roos, C., Boer, F., Lindauer, R.J.L., 2013. A cross-cultural validation of the clinician administered PTSD scale for children and adolescents in a Dutch population. *Eur. J. Psychotraumatol.* 4.
- Ebesutani, C., Bernstein, A., Chorpita, B.F., Weisz, J.R., 2012a. A transportable assessment protocol for prescribing youth psychosocial treatments in real-world settings: reducing assessment burden via self-report scales. *Psychol. Assess.* 24 (141–*).
- Ebesutani, C., Helmi, K., Fierstein, M., Taghizadeh, M.E., Chorpita, B.F., 2016a. A pilot study of modular cognitive-behavioral therapy and cognitive behavioral hypnotherapy for treating anxiety in Iranian girls. *Int. J. Cogn. Ther.* 9, 13–37.
- Ebesutani, C., Korathu-Larson, P., Nakamura, B.J., Higa-McMillan, C., Chorpita, B., 2016b. The revised child anxiety and depression scale 25-parent version: scale development and validation in a school-based and clinical sample. *Assessment* 1–17.
- Ebesutani, C., Bernstein, A., Nakamura, B.J., Chorpita, B.F., Higa-McMillan, C.K., Weisz, J.R., 2010. Concurrent validity of the Child Behavior Checklist DSM-Oriented Scales: correspondence with DSM diagnoses and comparison to syndrome scales. *J. Psychopathol. Behav. Assess.* 32, 373–384.
- Ebesutani, C., Chorpita, B.F., Higa-McMillan, C.K., Nakamura, B.J., Regan, J., Lynch, R.E., 2011. A psychometric analysis of the Revised Child Anxiety and Depression Scales – Parent Version in a school sample. *J. Abnorm. Child Psychol.* 39 (173–185), 155.
- Ebesutani, C., Reise, S.P., Chorpita, B.F., Ale, C., Regan, J., Young, J., Higa-McMillan, C., Weisz, J.R., 2012b. The revised child anxiety and depression scale-short version: scale reduction via exploratory bifactor modeling of the broad anxiety factor. *Psychol. Assess.* 24, 833–845.
- Erskine, H., Moffitt, T., Copeland, W., Costello, E., Ferrari, A., Patton, G., Degenhardt, L., Vos, T., Whitford, H., Scott, J., 2015. A heavy burden on young minds: the global burden of mental and substance use disorders in youth. *Psychol. Med.* 45, 1551–1563.
- Esbjorn, B.H., Somhøvd, M., Turnstedt, C., Reinholdt-Dunne, M.L., 2012. Assessing the Revised Child Anxiety and Depression Scale (RCADS) in a National Sample of Danish Youth Aged 8–16 years. *Plos One* 7, e37339.
- Esbjorn, B.H., Breinholst, S., Kriss, A., Hald, H.H., Steele, H., 2015. Can attachment and peer relation constructs predict anxiety in ethnic minority youths? A longitudinal exploratory study. *Attach. Hum. Dev.* 17, 599–614.
- Esbjorn, B.H., Normann, N., Lonfeldt, N.N., Tolstrup, M., Reinholdt-Dunne, M.L., 2016. Exploring the relationships between maternal and child metacognitions and child anxiety. *Scand. J. Psychol.* 57, 201–206.
- Essau, C.A., Conradt, J., Sasagawa, S., Ollendick, T.H., 2012. Prevention of anxiety symptoms in children: results from a universal school-based trial. *Behav. Ther.* 43, 450–464.
- Ferdinand, R.F., van Lang, N.D.J., Ormel, J., Verhulst, F.C., 2006. No distinctions between different types of anxiety symptoms in pre-adolescents from the general population. *J. Anxiety Disord.* 20, 207–221.
- Ferdinand, R.F., Dieleman, G., Ormel, J., Verhulst, F.C., 2007. Homotypic versus heterotypic continuity of anxiety symptoms in young adolescents: evidence for distinctions between DSM-IV subtypes. *J. Abnorm. Child Psychol.* 35, 325–333.
- Ferrer, L., Martín-Vivar, M., Pineda, D., Sandin, B., 2017. Relationship of anxiety and depressive symptomatology in adolescents with two transdiagnostic mechanisms: perfectionism and rumination. Manuscript submitted for publication.*
- Fleiss, J.L., 1971. Measuring nominal scale agreement among many raters. *Psychol. Bull.* 76, 378.
- Frala, J.L., Leen-Feldner, E.W., Blumenthal, H., Barreto, C.C., 2009. Relations among perceived control over anxiety-related events, worry, and generalized anxiety disorder in a sample of adolescents. *J. Abnorm. Child Psychol.* 38, 237–247.
- García-López, L.J., Sáez-Castillo, A.J., Fuentes-Rodríguez, G., 2017. Psychometric properties of the Youth Anxiety Measure for DSM-5, Part I (YAM-5-I) in a community sample of Spanish-speaking adolescents. *J. Affect. Disord.* 208, 455–459.
- García-Olcina, M., Piqueras, J.A., Martínez-González, A.E., 2014. Datos preliminares de la validación del Cuestionario de Detección vía web para los trastornos emocionales (DETECTA-web) en adolescentes españoles [preliminary data of validation of the web-based screening Questionnaire for emotional mental disorders (DETECTA-web) in Spanish adolescents]. *Rev. De. Psicol. Clínica con Niños Y. Adolesc.* 1, 69–77.
- García-Olcina, M., Piqueras, J.A., Rivera-Riquelme, M., Cuijpers, P., 2017. Development and validation of a brief Web-based Screening Questionnaire for the Continuum of Mental Health - Distress in children and adolescents: DetectaWeb-Distress. Manuscript submitted for publication.*
- Gill, A.D., Stickle, T.R., 2016. Affective differences between psychopathy variants and genders in adjudicated youth. *J. Abnorm. Child Psychol.* 44, 295–307.
- Gratz, K.L., Litzman, R.D., Tull, M.T., Reynolds, E.K., Lejuez, C.W., 2011. Exploring the association between emotional abuse and childhood borderline personality features: the moderating role of personality traits. *Behav. Ther.* 42, 493–508.
- Gratz, K.L., Tull, M.T., Reynolds, E.K., Bagge, C.L., Litzman, R.D., Daughters, S.B., Lejuez, C.W., 2009. Extending extant models of the pathogenesis of borderline personality disorder to childhood borderline personality symptoms: the roles of affective dysfunction, disinhibition and self-and emotion regulation deficits. *Dev. Psychopathol.* 21, 1263–1291.
- Greaves-Lord, K., Ferdinand, R.F., Sondejker, F.E.P.L., Dietrich, A., Oldehinkel, A.J., Rosmalen, J.G.M., Ormel, J., Verhulst, F.C., 2007. Testing the tripartite model in young adolescents: Is hyperarousal specific for anxiety and not depression? *J. Affect. Disord.* 102, 55–63.
- Greaves-Lord, K., Tulen, J., Dietrich, A., Sodeijker, F., van Roon, A., Oldehinkel, A., Ormel, J., Verhulst, F., Huizink, A., 2010. Reduced autonomic flexibility as a predictor for future anxiety in girls from the general population: the TRAILS study. *Psychiat. Res.* 179, 187–193.
- Green, S.B., Lissitz, R.W., Mulaik, S.A., 1977. Limitations of coefficient alpha as an index of test unidimensionality. *Educ. Psychol. Meas.* 37, 827–838.
- Greene, F.N., Chorpita, B.F., Austin, A.A., 2009. Examining youth anxiety symptoms and suicidal ideation in the context of the tripartite model of emotion. *J. Psychopathol. Behav. Assess.* 31, 405–411.
- Hakstian, A.R., Whalen, T.E., 1976. A k-sample significance test for independent alpha coefficients. *Psychometrika* 41, 219–231.
- Hedges, L., Olkin, I., 1985. *Statistical Models For Meta-Analysis*. Academic Press, New York.
- Higa, C.K., Daleiden, E.L., Chorpita, B.F., 2002. Psychometric properties and clinical utility of the School Refusal Assessment Scale in a multiethnic sample. *J.*

- Psychopathol. Behav. Assess. 24, 247–258.
- Higgins, J., Thompson, S.G., 2002. Quantifying heterogeneity in a meta-analysis. *Stat. Med.* 21, 1539–1558.
- Hoff, A.L., Palermo, T.M., Schluchter, M., Zbracki, K., Drotar, D., 2006. Longitudinal relationships of depressive symptoms to pain intensity and functional disability among children with disease-related pain. *J. Pediatr. Psychol.* 31, 1046–1056.
- Hogendoorn, S.M., Wolters, L.H., Vervoort, L., Prins, P.J.M., Boer, F., Kooij, E., de Haan, E., 2010. Measuring negative and positive thoughts in children: an adaptation of the children's automatic thoughts scale (CATS). *Cogn. Ther. Res.* 34, 467–478.
- Hogendoorn, S.M., Prins, P.J.M., Vervoort, L., Wolters, L.H., Nauta, M.H., Hartman, C.A., Moorlag, H., de Haan, E., Boer, F., 2011. Positive thinking in anxiety disordered children reconsidered. *J. Anxiety Disord.* 26, 71–78.
- Hong, R.Y., Lee, S.M.L., Chng, R.Y., Zhou, Y., Tsai, F.F., Tan, S.H., 2016. Developmental trajectories of maladaptive perfectionism in middle childhood. *J. Pers.* <http://dx.doi.org/10.1111/jopy.12249>.
- Howell, R.T., Shields, A.L., 2008. The file drawer problem in reliability generalization: a strategy to compute a fail-safe N with reliability coefficients. *Educ. Psychol. Meas.* 68, 120–128.
- Hung, A.H., 2016. Adolescent reaction to parental emotion socialization: gender, ethnicity, and relation to depression & emotion regulation. *Electronic Thesis*: <https://etd.ohiolink.edu/>.*.
- Jong, P.J., Sportel, B.E., Hullu, E., Nauta, M.H., 2012. Co-occurrence of social anxiety and depression symptoms in adolescence: differential links with implicit and explicit self-esteem? *Psychol. Med.* 42, 475–484.
- Jurascio, A.S., Felton, J.W., Borges, A.W., Manasse, S.M., Murray, H.B., Lejuez, C.W., 2016. An investigation of negative affect, reactivity, and distress tolerance as predictors of disordered eating attitudes across adolescence. *J. Adolesc.* 49, 91–98.
- Kaat, A.J., Lecavalier, L., 2015. Reliability and validity of parent- and child-rated anxiety measures in autism spectrum disorder. *J. Autism Dev. Disord.* 45, 3219–3231.
- Karlson, C.W., Baker, A.M., Bromberg, M.H., Elkin, T.D., Majumdar, S., Palermo, T.M., 2016. Daily pain, physical activity, and home fluid intake in pediatric sick cell disease. *J. Pediatr. Psychol.* 30, jsw061.
- Knapp, A.A., Blumenthal, H., Mischel, E.R., Badour, C.L., Leen-Feldner, E.W., 2015. Anxiety sensitivity and its factors in relation to generalized anxiety disorder among adolescents. *J. Abnorm. Child Psychol.* 44, 233–244.
- Kosters, M.P., Chinapaw, M.J.M., van der Wal, M.F., Koot, H.M., 2015. Structure, reliability, and validity of the revised child anxiety and depression scale (RCADS) in a multi-ethnic urban sample of Dutch Children. *BMC Psychiatry* 15, 132–140.
- Kovacs, M., 1985. The children's depression inventory (CDI). *Psychopharmacol. Bull.* 21, 995–998.
- Kovacs, M., 2015. Children's Depression Inventory CDI and CDI 2. In: Cautin, R.L., Lilienfeld, S.O. (Eds.), *The Encyclopedia of Clinical Psychology Set 1* John Wiley & Sons, Hoboken.
- Landis, J.R., Koch, G.G., 1977. The measurement of observer agreement for categorical data. *Biometrics* 159–174.
- Lara-Ros, M., Rodriguez-Jimenez, T., Martinez-Gonzalez, A.E., Piqueras, J.A., 2017. Relación entre el bullying y el estado emocional y social en niños de educación primaria. *Rev. Psicol. Clin. Niños Adol.* 4, 59–64.
- Lau, K.S.L., Marsee, M.A., Kunimatsu, M.M., Fassnacht, G.M., 2010. Examining associations between narcissism, behavior problems and anxiety in non-referred adolescents. *Child Youth Care. Forum* 40, 153–176.
- Leventhal, A.M., Strong, D.R., Sussman, S., Kirkpatrick, M.G., Unger, J.B., Barrington-Trimis, J.L., Audrain-McGovern, J., 2016. Psychiatric comorbidity in adolescent electronic and conventional cigarette use. *J. Psychiat. Res.* 73, 71–78.
- Levin, L., Henderson, H.A., Ehrenreich-May, J., 2012. Interpersonal predictors of early therapeutic alliance in a transdiagnostic cognitive-behavioral treatment for adolescents with anxiety and depression. *Psychotherapy* 49, 218–230.
- Lewandowski, A.S., Palermo, T.M., 2009. Parent-teen interactions as predictors of depressive symptoms in adolescents with headache. *J. Clinical Psychol. Med. Settings* 16, 331–338.
- Lewandowski, A.S., Palermo, T.M., Kirchner, H.L., Drotar, D., 2009. Comparing diary and retrospective reports of pain and activity restriction in children and adolescents with chronic pain conditions. *Clin. J. Pain.* 25, 299–306.
- Liu, L., Wang, L., Cao, C., Qing, Y., Armour, C., 2015. Testing the dimensional structure of DSM-5 posttraumatic stress disorders symptoms in a non-clinical trauma-exposed adolescent sample. *J. Child Psychol. Psychiatry* 57, 204–212.
- Long, A.C., Krishnamurthy, V., Palermo, T.M., 2007. Sleep disturbances in school-age children with chronic pain. *J. Pediatr. Psychol.* 33, 258–268.
- Long, A.C., Palermo, T.M., Mannes, A.M., 2008. Brief report: using actigraphy to compare physical activity levels in adolescents with chronic pain and healthy adolescents. *J. Pediatr. Psychol.* 33, 660–665.
- Magaz, A., 2012. El maltrato entre iguales (bullying): Epidemiología y características psicológicas y sociodemográficas. *Electronic Thesis*. Retrieved from: http://portal.uned.es/portal/page?_pageid=93,535060&dad=portal.
- March, J.S., Parker, J.D.A., Sullivan, K., Stallings, P., Conners, K., 1997. The multidimensional anxiety scale for children (MASC): factor structure, reliability, and validity. *J. Am. Acad. Child Adolesc. Psychiatry* 36, 554–565.
- Marin-Martinez, F., Sanchez-Meca, J., Lopez-Lopez, J.A., 2009. Meta-analysis in the health Sciences: an indispensable methodology for the efficient accumulation of knowledge. *Fisioterapia* 31, 107–114.
- Marsee, M.A., Weems, C.F., Taylor, L.K., 2007. Exploring the association between aggression and anxiety in youth: a look at aggressive subtypes, gender, and social cognition. *J. Child Fam. Stud.* 17, 154–168.
- Martinez-Gonzalez, A.E., Rodriguez-Jimenez, T., Piqueras, J.A., Vera-Villarreal, P., Godoy, A., 2015. Psychometric properties of the Obsessive-Compulsive Inventory-Child Version (OCI-CV) in Chilean children and adolescents. *Plos One* 10, e0136842.
- Mathyssek, C.M., Olino, T.M., Hartman, C.A., Ormel, J., Verhulst, F.C., Van Oort, F.V., 2013. Does the Revised Child Anxiety and Depression Scale (RCADS) measure anxiety symptoms consistently across adolescence? The TRAILS study. *Int. J. Methods Psychiatr. Res.* 22, 27–35.
- Morren, M., Muris, P., Kindt, M., 2004. Emotional reasoning and parent-based reasoning in normal children. *Child Psychiatry Hum. Dev.* 35, 3–21.
- Morren, M., Muris, P., Kindt, M., Schouten, E., van den Hout, M., 2008. Emotional reasoning and parent-based reasoning in non-clinical children, and their prospective relationships with anxiety symptoms. *Child Psychiatry Hum. Dev.* 39, 351–367.
- Muris, P., Meesters, C., 2002. Attachment, behavioral inhibition, and anxiety disorders symptoms in normal adolescents. *J. Psychopathol. Behav. Assess.* 24, 97–106.
- Muris, P., van Doorn, M., 2003. Danger is lurking everywhere, even in parts of a Jigsaw Puzzle: anxiety-related threat perception abnormalities in children: their assessment with projective material. *Behav. Change* 20, 151–159.
- Muris, P., van der Heiden, S., 2006. Anxiety, depression, and judgments about the probability of future negative and positive events in children. *J. Anxiety Disord.* 20, 252–261.
- Muris, P., Vlaeyen, J., Meesters, C., 2001. The relationship between anxiety sensitivity and fear of pain in healthy adolescents. *Behav. Res. Ther.* 39, 1357–1368.
- Muris, P., Meesters, C., Schouten, E., 2002a. A brief questionnaire of DSM-IV-defined anxiety and depression symptoms among children. *Clin. Psychol. Psychother.* 9, 430–442.
- Muris, P., Meesters, C., Spinder, M., 2003a. Relationships between child- and parent-reported behavioural inhibition and symptoms of anxiety and depression in normal adolescents. *Pers. Individ. Dif.* 34, 759–771.
- Muris, P., Merckelbach, H., van Spauwen, I., 2003b. The emotional reasoning heuristic in children. *Behav. Res. Ther.* 41, 261–272.
- Muris, P., Meesters, C., Knoop, M., 2005b. The relation between gender role orientation and fear and anxiety in nonclinic-referred children. 2005. *J. Clin. Child. Adol. Psychol.* 34, 326–332.
- Muris, P., Meesters, C., Rombelberg, L., 2006. Attention control in middle childhood: relations to psychopathological symptoms and threat perception distortions. *Behav. Res. Ther.* 45, 997–1010.
- Muris, P., Fokke, M., Kwik, D., 2009. The ruminative response style in adolescents: an examination of it specific link to symptoms of depression. *Cogn. Ther. Res.* 33, 21–32.
- Muris, P., Merckelbach, H., Schmidt, H., Mayer, B., 1998. The revised version of the Screen for Child Anxiety Related Emotional Disorders (SCARED-R): factor structure in General population children. *Pers. Individ. Dif.* 26, 99–112.
- Muris, P., Schouten, E., Meesters, C., Gijbbers, H., 2003c. Contingency-competence-control-related beliefs and symptoms of anxiety and depression in a young adolescent sample. *Child Psychiatry Hum. Dev.* 33, 325–339.
- Muris, P., Meesters, C., Schouten, E., Hoge, E., 2004. Effects of perceived control on the relationship between perceived parental rearing behaviors and symptoms of anxiety and depression in nonclinical preadolescents. *J. Youth Adolesc.* 33, 51–58.
- Muris, P., Meesters, C., de Kanter, E., Timmerman, P.E., 2005a. Behavioural inhibition and behavioural activation system scales for children: relationships with Eysenck's personality traits and psychopathological symptoms. *Pers. Individ. Differ.* 38, 831–841.
- Muris, P., Mayer, B., van Lint, C., Hofman, S., 2008a. Attentional control and psychopathological symptoms in children. *Pers. Individ. Differ.* 44, 1495–1505.
- Muris, P., van der Pennen, E., Sigmond, R., Mayer, B., 2008b. Symptoms of anxiety and depression, and aggression in non-clinical children: relationship with self-report and performance-based measures of attention and effortful. *Child Psychiatry Hum. Dev.* 39, 455–467.
- Muris, P., Merckelbach, H., Ollendick, T., King, N., Bogie, N., 2002b. Three traditional and three new childhood anxiety questionnaires: their reliability and validity in a normal adolescent sample. *Behav. Res. Ther.* 40, 753–772.
- Muris, P., Simon, E., Lijphart, H., Bos, A., Hale, W., Schmeitz, K., 2016. The Youth anxiety measure for DSM-5 (YAM-5): development and first Psychometric Evidence of a new scale for Assessing anxiety disorders symptoms of children and adolescents. *Child Psychiatry Hum. Dev.* 1, 1–17.
- Noetel, M., Miskovic-Wheatley, J., Crosby, R.D., Hay, P., Madden, S., Touyz, S., 2016. A clinical profile of compulsive exercise in adolescent inpatients with anorexia nervosa. *J. Eat. Dis.* 4, 1–10.
- Orgilés, M., Fernández-Martínez, I., Guillén-Riquelme, A., Espada, J.P., Essau, C.A., 2016. A systematic review of the factor structure and reliability of the Spence Children's Anxiety Scale. *J. Affect. Disord.* 190, 333–340.
- Oswald, T.M., Winter-Messiers, M.A., Gibson, B., Schmidt, A.M., Herr, C.M., Solomon, M., 2016. Sex differences in internalizing problems during adolescence in autism spectrum disorder. *J. Autism Dev. Disord.* 46, 624–636.
- Owens, M., Stevenson, J., Hadwin, J.A., 2012. Anxiety and depression in academic performance: an exploration of the mediating factors of worry and working memory. *Sch. Psychol. Int.* 33, 433–449.
- Palermo, T.M., Kiska, R., 2005. Interactive roles of pubertal timing and peer relations in predicting social anxiety symptoms among youth. *J. Pain.* 6, 201–207.
- Palermo, T.M., Riley, C.A., Mitchell, B.A., 2008b. Daily functioning and quality of life in children with sickle cell disease pain: relationship with family and neighborhood socioeconomic distress. *J. Pain.* 9, 833–840.
- Palermo, T.M., Whitherspoon, D., Valenzuela, D., Drotar, D.D., 2004. Development and validation of the child activity limitations interview: a measure of pain-related functional impairment in school-age children and adolescents. *Pain* 109, 461–470.
- Palermo, T.M., Platt-Houston, C., Kiska, R.E., Berman, B., 2005. Headache symptoms in pediatric sickle cell patients. *J. Pediatr. Hematol. Onc.* 27, 420–424.
- Palermo, T.M., Putnam, J.B.A., Armstrong, G.M.A., Daily, S.B.A., 2007a. Adolescent autonomy and family functioning are associated with headache-related disability. *Clin. J. Pain.* 23, 458–465.

- Palermo, T.M., Toliver-Sokol, M., Fonareva, I., Koh, J.L., 2007b. Objective and subjective assessment of sleep in adolescents with chronic pain compared to healthy adolescents. *Clin. J. Pain.* 23, 812–820.
- Palermo, T.M., Lewandowski, A.S., Long, A.C., Burant, C.J., 2008a. Validation of a self-report questionnaire version of the child activity limitations interview (CALI): the CALI-21. *Pain* 139, 644–652.
- Palermo, T.M., Wilson, A.C., Peters, M., Lewandowski, A., Somhegyi, H., 2009. Randomized controlled trial of an internet-delivered family cognitive-behavioral therapy intervention for children and adolescent with chronic pain. *Pain* 146, 205–213.
- Peterson, C.C., Palermo, T.M., 2004. Parental reinforcement of recurrent pain: the moderating impact of child depression and anxiety on functional disability. *J. Pediatr. Psychol.* 29, 331–341.
- Pina, A.A., Villalta, I.K., Ortiz, C.D., Gottschall, A.C., 2008. Social support, discrimination, and coping as predictors of posttraumatic stress reactions in youth survivors of Hurricane Katrina. *J. Clin. Child. Adolesc. Psychol.* 37, 564–574.
- Piqueras, J.A., Rodríguez-Jiménez, T., Ortiz, A.G., Moreno, E., Lázaro, L., Godoy, A., 2015. Validation of the Short Obsessive-Compulsive Disorder Screener (SOCS) in children and adolescents. *Brit. J. Psychiat. Open* 1, 21–26.
- Piqueras, J.A., Rodríguez-Jiménez, T., Ortiz, A.G., Moreno, E., Lázaro, L., Storch, E.A., 2017. Factor Structure, Reliability, and Validity of the Spanish Version of the Children's Florida Obsessive Compulsive Inventory (C-FOCI). *Child Psychiatry Hum. Dev.* 48, 166–179.
- Polanczyk, G.V., Salum, G.A., Sugaya, L.S., Caye, A., Rohde, L.A., 2015. Annual research review: a meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *J. Child Psychol. Psychiat.* 56, 345–365.
- Pomerantz, H.E., 2016. Pubertal timing and youth internalizing psychopathology: the role of relational aggression. *Electronic Thesis. Retrieved from* <https://scholarworks.uvm.edu/cgi/*>.
- Price, M., Chin, M.A., Higa-McMillan, C., Kim, S., Frueh, B.C., 2013. Prevalence and internalizing problems of ethnically diverse victims of traditional and cyber bullying. *Sch. Ment. Health* 5, 183–191.
- Queen, A.H., Barlow, D.H., Ehrenreich-May, J., 2014. The trajectories of adolescent anxiety and depressive symptoms over the course of a transdiagnostic treatment. *J. Anxiety Disord.* 28, 511–521.
- R Core Team, 2016. R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Austria.
- Radloff, L.S., 1977. The CES-D Scale: a self-report depression scale for research in the general population. *Appl. Psych. Meas.* 1, 385–401.
- Reinholdt-Dunne, M.L., Mogg, K., Esbjorn, B.H., Bradley, B.P., 2011. Effects of age and anxiety on processing threat cues in healthy children. *J. Exp. Psychopathol.* 3, 30–41.
- Reynolds, C.R., Richmond, B.O., 1978. What I think and feel: a revised measure of Children's Manifest Anxiety. *J. Abnorm. Psych.* 6, 271–285.
- Risco, C.M., Collado, A.D., Reynolds, E.K., Lejuez, C.W., MacPherson, L., 2016. Evaluation of the environmental supports scale with a community sample of adolescents. *Prev. Sci.* 17, 493–502.
- Ritchwood, T.D., Ebesutani, C.K., Chin, E.G., Young, J., 2016. The loneliness questionnaire. *Establ. Meas. Invariance Across Ethn. Groups Assess.* 1–12.
- Rodríguez-Jiménez, T., Piqueras, J.A., Lázaro, L., Moreno, E., Ortiz, A.G., Godoy, A., 2016. Metric invariance, reliability, and validity of the Child version of the obsessive compulsive Inventory (OCI-CV) in community and clinical samples. *J. Obsessive. Compuls. Relat. Disord.* 9, 1–8.
- Roelofs, J., Meesters, C., ter Huurne, M., Bamelis, L., Muris, P., 2006. On the links between attachment style, parental rearing behaviors, and internalizing and externalizing problems in non-clinical children. *J. Child. Fam. Stud.* 15, 319–332.
- Rowell, M., Doyle, S., Francis, S.E., 2016. The role of BIS sensitivity in the relationship between family enmeshment and child anxiety. *J. Child Fam. Stu.* 25, 2585–2596.
- Sanchez-Meca, J., Lopez-Pina, J.A., 2008. El enfoque meta-analítico de generalización de la fiabilidad [The meta-analytic approach of reliability generalization]. *Accion. Psicol.* 5, 37–64.
- Sanchez-Meca, J., Botella, J., 2010. Revisiones sistemáticas y meta-análisis: Herramientas para la práctica profesional [Systematic reviews and meta-analysis: tools for the professional practice]. *Pap. Psicol.* 31, 7–17.
- Sandin, B., Valiente, R.M., Chorot, P., 2009. RCADS: evaluación de los síntomas de los trastornos de ansiedad y depresión en niños y adolescentes [RCADS: assessment of anxiety and depression symptoms in children and adolescents]. *Rev. Psicopatol. Psicol. Clin.* 14, 193–206.
- Sandin, B., Chorot, P., Valiente, R.M., Chorpita, B.F., 2010. Desarrollo de una versión de 30 items de la Revised Child anxiety and depression scale [development of a 30-item version of the Revised Child anxiety and depression scale]. *Rev. Psicopatol. Psicol. Clin.* 15, 165–178.
- Schmidt, N., Keough, M.E., Mitchell, M.A., Reynolds, E.K., MacPherson, L., Zvolensky, M.J., Lejuez, C.J., 2010. Anxiety sensitivity: prospective prediction of anxiety among early adolescents. *J. Anxiety Disord.* 24, 503–508.
- Scrimin, S., Moscardino, U., Altoe, G., Mason, L., 2016. Effects of perceived school well-being and negative emotionality on students' attentional bias for academic stressors. *Br. J. Educ. Psychol.* 86, 278–295.
- Southam-Gerow, M., Chorpita, B.F., 2007. Fears and anxieties. In: Mash, E.J., Barkley, R.A. (Eds.), *Assessment of child disorders*. Guilford, New York.
- Spence, S.H., 1997. The structure of anxiety symptoms among children: a confirmatory factor analytic study. *J. Abnorm. Psychol.* 106, 280–297.
- Spence, S.H., 1998. A measure of anxiety symptoms among children. *Behav. Res. Ther.* 36, 545–566.
- Spielberger, C.D., 1973. State-Trait anxiety inventory for children. Preliminary manual. Consulting Psychologist Press, California.
- Sportel, B.E., Nauta, M.H., de Hullu, E., de Jong, P.J., Hartman, C.A., 2010. Behavioral inhibition and attentional control in adolescents: robust relationships with anxiety and depression. *J. Child Fam. Stud.* 20, 149–156.
- Stallard, P., Skryabina, E., Taylor, G., Phillips, R., Daniels, H., Anderson, R., Simpson, N., 2014. Classroom-based cognitive behaviour therapy (FRIENDS): a cluster randomised controlled trial to prevent Anxiety in children through education in schools (PACES). *Lancet* 1, 185–192.
- Stevanovic, D., Lalic, B., Batinic, J., Damjanovic, R., Jovic, V., Brkic-Cvetkovic, S., Jancic, J., 2016b. Children's negative cognitive error questionnaire-revised: the factor structure and associations with anxiety and depressive symptoms across age, gender and clinical/community samples. *Cogn. Ther. Res* 40, 584–592.
- Stevanovic, D., Bagheri, Z., Attilola, A., Vostanis, P., Stupar, D., Moreira, P., Franic, T., Davidovic, N., Knez, R., Niksic, A., Dodig-Curkovic, K., Avicenna, M., Noor, M.I., Nussbaum, L., Deljkovic, A., Thabet, A.A., Petrov, P., Ubalde, D., Monteiro, L.A., Ribas, R., 2016a. Cross-cultural measurement invariance of the Revised Child anxiety and depression scale across 11 world-wide societies. *Epidemiol. Psychiat. Sci.* 1, 11–13.
- Stickle, T.R., Marini, V.A., Thomas, J.N., 2011. Gender differences in psychopathic traits, types and correlates of aggression among adjudicated youth. *J. Abnorm. Child. Psychol.* 40, 513–525.
- Takishima-Lacasa, J.Y., Higa-McMillan, C.K., Ebesutani, C., Smith, R.L., Chorpita, B.F., 2014. Self-consciousness and social anxiety in youth: the revised self-consciousness scales for children. *Psychol. Assess.* 26, 1292–1306.
- Taylor, L.K., Weems, C.F., 2009. What do youth report as a traumatic event? Toward a developmentally informed classification of traumatic stressors. *Psychol. Trauma* 1, 91–106.
- Ung, D., 2016. Peer victimization in youth with high functioning autism spectrum disorder. *Electronic Thesis. Retrieved from* <<https://scholarcommons.usf.edu/etd/6421>>.*.
- Urrutia, G., Bonfill, X., 2010. Declaración PRISMA: una propuesta para mejorar la publicación de revisiones sistemáticas y metaanálisis [PRISMA declaration: a proposal to improve the publication of systematic reviews and meta-analyses]. *Med. Clin.* 135, 507–511.
- Van der Veek, S.M.C., Nobel, R.A., Derkx, H.H.F., 2012. The relationship between emotion awareness and somatic complaints in children and adolescents: investigating the mediating role of anxiety and depression. *Psychol. Health* 27, 1359–1374.
- Van Lang, N.D.J., Ferdinand, R.F., Oldehinkel, A.J., Ormel, J., Verhulst, F.C., 2005. Concurrent validity of the DSM-IV scales affective problems and anxiety problems of the Youth Self-Report. *Behav. Res. Ther.* 43, 1485–1494.
- Van Oort, F.V., Greaves-Lord, K., Verhulst, F.C., Ormel, J., Huizink, A.C., 2009. The developmental course of anxiety symptoms during adolescence: the TRAILS study. *J. Child Psychol. Psychiatry* 50, 1209–1217.
- Van Tuijl, L.A., de Jong, P.J., Sportel, B.E., de Hullu, E., Nauta, M.H., 2014. Implicit and explicit self-esteem and their reciprocal relationship with symptoms of depression and social anxiety: a longitudinal study in adolescents. *J. Behav. Ther. Exp. Psychiatry* 45, 113–121.
- Vervoot, L., Wolters, L.H., Hogendoorn, S.M., de Haan, E., Boer, F., Prins, P.J.M., 2010. Sensitivity of gray's behavioral inhibition system in clinically anxious and non-anxious children and adolescents. *Pers. Individ. Dif.* 48, 629–633.
- Viechtbauer, W., 2010. Conducting meta-analyses in R with the metafor package. *J. Stat. Softw.* 36, 1–48.
- Walter, J.G., Kahn, S.A., Noe, J.D., Schurman, J.V., Miller, S.A., Greenley, R.N., 2016. Feeling fine: anxiety and depressive symptoms in youth with established IBD. *Inflamm. Bowel Dis.* 22, 402–409.
- Wang, L., Zhang, L., Armour, C., Chengqi, C., Qing, Y., Zhang, J., Liu, P., Zhang, B., Wu, Q., Zhao, Z., Fan, G., 2015. Assessing the underlying dimensionality of DSM 5 PTSD symptoms in Chinese adolescents surviving 2008 Wenchuan earthquake. *J. Anxiety Disord.* 31, 90–97.
- Weems, C.F., Costa, N.M., 2005. Developmental Differences in the expression of childhood anxiety symptoms and fears. *J. Am. Acad. Child. Adolesc. Psychiatry* 44, 656–663.
- Weems, C.F., Scott, B.G., Taylor, L.K., 2010. Test anxiety prevention and intervention programs in schools: program development and rationale. *Sch. Ment. Health* 2, 62–71.
- Weems, C.F., Graham, R.A., Scott, B.G., Banks, D.M., Russell, J.D., 2013. Suppressor effects and age differences in the expression of anxious emotion. *Pers. Individ. Dif.* 55, 283–287.
- Weems, C.F., Pina, A.A., Costa, N.M., Watts, S.E., Taylor, L.K., Cannon, M.F., 2007. Predisaster trait anxiety and negative affect predict posttraumatic stress in youths after hurricane Katrina. *J. Consult. Clin. Psychol.* 75, 154–159.
- Whalen, D.J., Malkin, M.L., Freeman, M.J., Young, J., Gratz, K.L., 2015. Brief report: borderline personality symptoms and perceived caregiver criticism in adolescents. *J. Adolesc.* 41, 157–161.
- WHO, 2008. mhGAP: Mental Health Gap Action Programme: Scaling up Care for Mental, Neurological and Substance use Disorders. World Health Organization, Geneva.
- Winer, J.P., Parent, J., Forehand, R., Breslend, N.L., 2015. Interactive effects of psychosocial stress and early pubertal timing of youth depression and anxiety: contextual amplification in family and peer environments. *J. Child. Fam. Stud.* 25, 1375–1384.
- Wolpert, M., Cheng, H., Deighton, J., 2015. Measurement Issues: review of four patient reported outcome measures: sdq, RCADS, C/ORS and GBO-their strengths and limitations for clinical use and service evaluation. *Child Adolesc. Ment. Health* 20, 63–70.
- Wynney, C., Doyle, C., Kenny, R., Brosnan, E., Sharry, J., 2016. A first-level evaluation of a family intervention for adolescent social, emotional and behavioural difficulties in child and adolescent mental health services. *J. Child Adolesc. Ment. Health* 28, 33–46.