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Attentional Control Scale for Children: Factor Structure and Concurrent Validity Among Children and Adolescents Referred for Anxiety Disorders

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Abstract

Objective—The present study examined the factor structure and concurrent validity of the Attentional Control Scale for Children (ACS-C; Muris, de Jong, & Engelen, 2004), a youth self-rating scale of attentional control.

Method—A multisource assessment approach was used with 186 children and adolescents referred to an anxiety disorders specialty clinic.

Results—Exploratory factor analysis yielded a 2-factor structure with internally consistent and moderately correlated subscales of Attentional Focusing and Attentional Shifting. Total ACS-C and subscale scores demonstrated significant associations with youth and parent ratings of youth anxiety symptoms, youth self ratings of depressive symptoms, and youth diagnosis of attention deficit–hyperactivity disorder.

Conclusions—These findings support use of the ACS-C as a self-rating scale of attentional control among referred youth. Future research is encouraged to examine retest reliability of the ACS-C and to evaluate whether its internal structure could be enhanced by removing or modifying items that performed poorly.

Keywords

children; adolescent; anxiety; attentional control; factor analysis

Introduction

Attentional processes play a prominent role in information processing models of anxiety and its disorders particularly with regard to development, maintenance, and treatment (Field, Hadwin, & Lester, 2011). One attentional process that is garnering growing interest is attentional control. Attentional control (AC) refers to the ability to voluntarily and strategically focus, sustain, and shift one's attention (Derryberry & Reed, 2002). High levels

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of AC enable children and adolescents (henceforth referred to as “youth”) to modulate their emotional experiences by strategically focusing attention on and shifting attention away from stimuli (Puliafico & Kendall, 2006). Low levels of AC hinder youths’ ability to adaptively engage with negatively valenced and threatening stimuli, thereby contributing to the development and maintenance of anxiety and its disorders (Lonigan, Vasey, Phillips, & Hazen, 2004; Muris & Ollendick, 2005; Susa, Pitica, Benga, & Miclea, 2012). Low levels of AC also have been implicated in the development and maintenance of disorders that frequently co-occur with anxiety in youth, including depression and attention–deficit hyperactivity disorder (ADHD; Bechor, Melendez, Rey, Pettit, & Silverman, 2015; Nigg, 2006).

AC is commonly assessed in adults using the Attentional Control Scale (ACS; Derryberry & Reed, 2002), a 20-item self-report measure. The ACS comprises 9-item and 11-item subscales that represent two proposed facets of AC: maintaining attention on a stimulus (attentional focusing) and shifting attention from one stimulus to another (attentional shifting; Derryberry & Rothbart, 1988). Support for the two-factor structure of the ACS has been obtained among samples of undergraduate students in the United States (Judah, Grant, Mills, & Lechner, 2014), Iceland (Ólafsson et al., 2011), and Poland (Fajkowska & Derryberry, 2010).

Internal consistency for ACS total score and ACS subscales has been adequate: alpha coefficients for total score range from $\alpha = .71$ (Gyurak & Ayduk, 2007) to $\alpha = .88$ (Derryberry & Reed, 2002); alpha coefficients for the Focusing subscale are $\alpha = .82$ (Judah et al., 2014; Ólafsson et al., 2011); and alpha coefficients for the Shifting subscale range from $\alpha = .68$ (Ólafsson et al., 2011) to $\alpha = .77$ (Judah et al., 2014). Convergent validity and predictive validity have been supported via significant associations between the ACS and other self-report and performance-based measures of AC (Fajkowska & Derryberry, 2010; Judah et al., 2014).

Further, differential validity of the ACS subscales has been reported: the Focusing subscale uniquely predicted anxiety symptoms after controlling for depressive symptoms and the Shifting subscale uniquely predicted depressive symptoms after controlling for anxiety symptoms (Ólafsson et al., 2011). These differential validity findings are consistent with research and theory indicating difficulties primarily in shifting, or disengaging, attention from negative stimuli in depression (e.g., Gotlib & Joormann, 2010), and difficulties primarily in focusing attention in anxiety due to vigilant monitoring of the environment for threat cues (Moran & Moser, 2015).

AC has been most commonly assessed in youth using the Attentional Control Scale for Children (ACS-C; Muris, de Jong, & Engelen, 2004), which is a 20 item self-rating scale. The ACS-C is a downscaled adaptation of the adult ACS (Derryberry & Reed, 2002). Research supports the ACS-C’s convergent validity and concurrent validity among nonreferred youth. With regards to convergent validity, significant associations have been found between ACS-C scores and scores on performance-based tests of selective attention, attentional switching, and sustained attention ($r = .26$ to .35; Muris, Mayer, Lint, & Hofman, 2008). With regards to concurrent validity, significant cross-sectional associations have been

reported between ACS-C scores and both self and parent ratings on measures of youth anxiety symptom severity (*r*s = −.52 to −.39; Muris et al., 2004; Muris et al., 2008; Muris, Meesters, & Rompelberg, 2007), youth depressive symptom severity (*r*s = −.31 to −.23; Muris et al., 2008; Muris et al., 2007), and youth ADHD symptom severity (*r*s = −.61 to −.43; Muris et al., 2008; Muris et al., 2007).

We are not aware of any published study on the factor structure of the ACS-C. One study (Verstraeten, Vasey, Claes, & Bijttebier, 2010) evaluated the factor structure of a Dutch-language version of the ACS (adult version) among 280 nonreferred youths (mean $[M]_{age}$ = 12.28 years, standard deviation [*SD*] = 2.46) sampled from two Belgian schools. Among these 280 youths, support was obtained for a two-factor model with factors representing attentional focusing and attentional shifting (Verstraeten et al., 2010). We also are not aware of any published study that has reported on the psychometric properties or validity of the ACS-C in a clinic-referred sample, including youth referred for anxiety and its disorders.

Given the theorized role of AC in development and maintenance of anxiety (Derryberry & Reed, 2002), depression (Joormann & Quinn, 2014), and ADHD (Nigg, 2006), as well as growing interest in targeting AC in interventions for youth with anxiety (Heeren, de Raedt, Koster, & Philippot, 2013; Wass, Porayska-Pomsta, & Johnson, 2011) and with ADHD (Shalev, Tsal, & Mevorach, 2007), there is a need to establish whether the ACS-C is a psychometrically sound measure of AC for use among referred youth. The present study sought to address this need by examining the factor structure and concurrent validity of the ACS-C among youth referred for anxiety. Exploratory factor analysis was used because this was the first study to evaluate the factor structure of the ACS-C. Concurrent validity was evaluated via associations between youth self ratings on the ACS-C and parent ratings and youth self ratings on a measure of anxiety symptoms.

As in past studies among nonreferred youth (Muris et al., 2008; Muris et al., 2007), concurrent validity also was evaluated via associations between youth self ratings on the ACS and youth self ratings on a measure of depressive symptoms and youth diagnosis of co-occurring ADHD. Given low to modest agreement across informant sources in the youth anxiety literature (Silverman & Ollendick, 2005), a multisource assessment approach was used to evaluate concurrent validity. Consistent findings across informant sources would enhance confidence in the robustness of findings. Based on theory and past empirical research in nonreferred samples, we expected scores on the ACS-C would be significantly and negatively associated with scores on measures of anxiety symptoms and depressive symptoms. We also expected youth who met diagnostic criteria for ADHD would display significantly lower scores on the ACS-C than youth who did not meet criteria for ADHD.

Differential validity of ACS-C subscales in relation to anxiety and depressive symptoms was examined in light of theory and evidence supporting differential validity of the ACS in adult samples (Judah et al., 2014; Ólafsson et al., 2011). We expected attentional focusing would significantly predict anxiety symptoms after controlling for depressive symptoms and attentional shifting would significantly predict depressive symptoms after controlling for anxiety symptoms.

Method

Participants

Participants were 186 youths aged 6 to 17 years (58% boys; M_{age} = 9.66; SD_{age} = 2.48) who were referred to an anxiety disorders specialty clinic. Approximately 83% of the sample identified as Hispanic/Latino, 12% identified as European American, and 5% identified as other race/ethnicity. Annual household income was reported by parents and was as follows: 11% reported below $21,000, 13% reported between $21,000 and $40,000, 20% reported between $41,000 and $60,000, 16% reported between $61,000 and $80,000, and 40% reported over $81,000. The most common primary diagnoses were generalized anxiety disorder (29.0%), social anxiety disorder (21.0%), separation anxiety disorder (18.3%), and specific phobia (11.8%). Of the sample, 20% met criteria for a diagnosis of ADHD (primary, secondary, or tertiary) and 4% met criteria for a diagnosis of major depressive disorder or dysthymia (primary, secondary, or tertiary).

Measures

Diagnostic measure

Anxiety Disorders Interview Schedule-Child and Parent Version-IV (ADIS-C/P-IV; Silverman & Albano, 1996): The ADIS-C/P contains 0- to 8-point clinician severity rating scales to assess the severity and interference of diagnoses. Before conducting interviews, evaluators received extensive training in administration and scoring protocol and met 100% reliability criterion on five videotaped child–parent assessments. The ADIS-C/P has yielded good to excellent interrater reliability estimates for specific anxiety diagnoses (kappa = .57 to 1.0) and ADHD (kappa = .80), as well as excellent retest reliability estimates over 2 weeks (r = .80 to .92; Lyneham, Abbott, & Rapee, 2007; Silverman, Saavedra, & Pina, 2001; Silverman, Kurtines, Jaccard, & Pina, 2009).

Convergent validity for anxiety diagnoses has been demonstrated via significant associations with youths' self ratings on anxiety (Silverman et al., 2001; Wood, Piacentini, Bergman, McCracken, & Barrios, 2002). The ADIS-C/P also has previously been used as a primary instrument for diagnosing ADHD (Halldorsdottir et al., 2015). Convergent validity for ADHD diagnosis has been demonstrated via significant associations with parent and teacher ratings of youth externalizing symptoms and attention problems (Anderson & Ollendick, 2012; Jarrett, Wolff, & Ollendick, 2007).

Measures completed by youth

ACS-C (Muris et al., 2004): The ACS-C is a 20-item youth self-rating scale that assesses abilities to focus and shift attention. Responses are scored on a 4-point Likert scale that ranges from 1 (*almost never*) to 4 (*always*). After reverse coding, higher scores indicate better AC. Cronbach's alpha for this sample was .74.

Revised Children's Manifest Anxiety Scale-Child Version (RCMAS-C; Reynolds & Richmond, 1978): The RCMAS-C is a 37-item youth self-rating scale that assesses anxiety symptoms. Each item is rated either *yes* or *no*, scored 1 or 0. A Total Anxiety score is computed by summing ratings on 28 items. A lie subscale comprises the remaining nine

items. The RCMAS-C has demonstrated high retest reliability (.98) over a 3-week period (Pela & Reynolds, 1982). Convergent validity has been demonstrated via significant correlations with trait anxiety and fear (Ollendick, 1983). Cronbach's alpha for this sample was .88.

Children's Depression Inventory (CDI; Kovacs, 1985): The CDI is a 27-item youth self-rating scale that assesses depressive symptoms. Each item contains a unique set of three response options (e.g., *I am sad once in a while, I am sad many times*, and *I am sad all the time*) and youths are instructed to select the option that best describes them during the previous two weeks. Thirteen items are reverse scored and summed with the remaining items to obtain an overall score. Convergent validity has been demonstrated via significant correlations with independent evaluator-rated measures of depressive symptoms and youth self ratings on other measures of depressive symptoms (Brooks & Kutcher, 2001; Klein, Dougherty, & Olino, 2005; Shain, Naylor, & Alessi, 1990). Cronbach's alpha for this sample was .88.

Measure completed by parents

RCMAS-Parent Version (RCMAS-P; Reynolds & Richmond, 1978): In the RCMAS-P, the wording of RCMAS-C items was changed from *I* to *my child*, as was done in past research (e.g., Kendall, 1994; Silverman et al., 1999, 2009). Cronbach's alpha for this sample was .85.

Procedures

The present study was approved by the institutional review board. Parents provided informed consent and youth provided assent. Graduate students who had been thoroughly trained in the study's procedures conducted the assessments. Upon arrival at the clinic, youth participants and their parents (usually mothers) were administered the respective versions of ADIS-C/P-IV and the RCMAS-C/P. Youth also completed the ACS-C and CDI. All measures were completed at a pretreatment intake assessment.

Statistical Analysis

Statistical analyses were performed using the SPSS statistical software program (version 20). Missing data were minimal, not exceeding 4.8% of cases for any variable. We assessed missing data bias by computing a dummy variable representing the presence or absence of missing data for each variable. This dummy variable was then correlated with all other variables including demographic variables. No significant correlations were observed, indicating no evidence of bias due to missing data. Missing data were accommodated using maximum likelihood multiple imputation averaged across 10 iterations (Graham, 2009).

The data were examined for evidence of non-normality. Evidence of skew was present on the CDI. Evidence of kurtosis was present on the CDI and RCMAS-C. Because of its ability to accommodate non-normality of the data, principal axis factoring was used to examine the factor structure of the ACS-C (Fabrigar, Wegener, MacCallum, & Strahan, 1999). The number of factors to be extracted was determined by scree plot and a parallel analysis using an SPSS macro (O'Connor, 2000). The scree plot was evaluated such that the primary bend

in the plot was used to determine the number of factors for extraction. Oblique (Direct Oblimin) rotations were used because we expected factors to be intercorrelated. Items with loadings of .32 or greater were considered indicators of a factor (Costello & Osborne, 2005).

Bivariate correlations were used to evaluate associations between scores on the ACS-C and other measured variables. Two-tailed Pearson correlations were used for analyses involving pairs of continuous variables. Point biserial correlations were used for analyses involving dichotomous variables for presence or absence of ADHD. Hierarchical regression models were used to examine differential validity of the ACS-C subscales in relation to measures of anxiety and depressive symptom severity.

Results

Means, standard deviations, and correlations between measured variables are presented in Table 1. Scores on the ACS-C did not significantly vary according to youth age, sex, race, or ethnicity. Scores also did not significantly vary by anxiety diagnosis or depression diagnosis.

Exploratory factor analysis

Evaluation of the scree plot and results of the parallel analysis suggested the extraction of three factors. Therefore, three factors were retained for the first exploratory factor analysis. The three-factor solution accounted for 27.79% of the variance in ACS-C items. Only three items loaded on the third factor and internal consistency of the third factor was inadequate (α = .33). Because of the inadequate internal consistency of the third factor, which is common in subscales with a low number of items (Floyd & Widaman, 1995), a two-factor solution was evaluated.

The two-factor solution accounted for 22.97% of the variance in ACS-C items. Item loadings for the two-factor solution are presented in Table 2. Nine items had loadings of .32 or higher on the first factor, with the majority describing ability to focus attention. The first factor was thus labeled “attentional focusing.” Responses to these nine items were summed to create total scores on an Attentional Focusing subscale (α = 0.77). Six items, all describing ability to shift attention, had loadings of .32 or higher on the second factor. Therefore, the second factor was labeled “attentional shifting.” Responses to these six items were summed to create total scores on an Attentional Shifting subscale (α = 0.64). Items 4, 5, 9, 15, and 16 did not have loadings of 0.32 or higher on either factor.

Concurrent Validity

Bivariate correlations were used to evaluate concurrent associations between scores on the total ACS-C, the two ACS-C subscales, measures of youth anxiety symptoms, the measure of youth depressive symptoms, and youth diagnosis of ADHD (see Table 1). Based on youth and parent responses to the ADIS, dichotomously scored variables representing presence (1) or absence (0) of youth ADHD diagnosis were created and used in analyses. As hypothesized, total scores on the ACS-C were significantly and negatively correlated with scores on measures of youth self-rated and parent-rated anxiety symptom severity and scores on the measure of youth depressive symptom severity (rs = −.39 to −.19). Scores on the total ACS-C also were significantly associated with a diagnosis of ADHD, such that youth who

met diagnostic criteria for ADHD displayed significantly lower levels of AC than youth who did not meet criteria for ADHD ($r = -.24$).

The correlation between attentional focusing and attentional shifting was significant and positive; the strength of the correlation was moderate ($r = 0.42$). Scores on both the Attentional Focusing subscale and the Attentional Shifting subscale were significantly and negatively correlated with scores on measures of youth self-rated and parent-rated anxiety symptom severity, scores on the measure of youth depressive symptom severity, and a youth diagnosis of ADHD (rs = −.34 to −.16).

Differential Validity

Three hierarchical regression models were used to examine differential validity of the ACS-C subscales in relation to anxiety and depressive symptom severity. In the first model, depressive symptoms was placed as the criterion variable. Youth ratings and parent ratings of anxiety were entered as predictors on the first step, and the Attentional Shifting and Attentional Focusing subscales were entered on the second step. In the second and third models, youth and parent ratings of anxiety were placed as the criterion variables, respectively. Depression symptoms was entered on the first step and the Attentional Shifting and Attentional Focusing subscales were entered on the second step. Results for all three models are shown in Table 3. Attentional focusing significantly predicted youth self ratings of anxiety severity controlling for depressive symptom severity and attentional shifting. In no other instance did attentional focusing or attentional shifting significantly predict symptoms of anxiety or depression.

Discussion

Findings from this exploratory factor analysis of the ACS-C among referred youth provide evidence of two moderately correlated and internally consistent factors: Attentional Focusing and Attentional Shifting. The two-factor structure found in this sample aligns with findings of a two-factor structure on the adult ACS (Judah et al., 2014; Ólafsson et al., 2011). The correlation between the subscales in the present sample ($r = .42$) was comparable to those among adult samples (rs = .45 to .73; Judah et al., 2014; Ólafsson et al., 2011).

Converging evidence from both youth and adult samples indicates the construct of AC as measured by the ACS, and the ACS-C comprises two related but distinguishable factors: One factor, Attentional Focusing, describes the ability to maintain attention on a stimulus; a second factor, Attentional Shifting, describes the ability to shift attention from one stimulus to another. Although the majority of items loaded on either the Attentional Focusing factor or the Attentional Shifting factor, five items did not load on either factor. These same five items also did not load on either factor of the adult ACS in a sample of nonreferred adults (Judah, et al., 2014). These items do not appear to measure either attentional focusing or attentional shifting in youths or adults. If replicated in other youth samples, removal of these items from the ACS-C may lead to improved internal structure.

Three items originally purported to measure attentional shifting on the adult ACS (Derryberry & Reed, 2002) that was loaded on the Attentional Focusing factor of the ACS-C

in this sample (items 11, 12, and 20). Two of these same items (items 12 and 20) also were loaded on an Attentional Focusing factor in studies on the factor structure of the adult ACS (Judah et al., 2014; Ólafsson et al., 2011). Thus, a growing body of evidence indicates items 12 and 20, and possibly item 11, should be considered measures of attentional focusing rather than attentional shifting. Of note, the wording of these items appears to align as closely with focusing as shifting (e.g., *When I have to start a new task, it takes me a while to get really involved in it; When the teacher explains something, I find it difficult to understand and write it down at the same time*).

Concurrent validity of the ACS-C was supported via significant cross-sectional correlations with youth and parent ratings on anxiety symptoms, youth self ratings on depressive symptoms, and a youth diagnosis of ADHD. Although statistically significant, correlation coefficients demonstrating concurrent validity were in the small to moderate range (Cohen, 1988), consistent with reported correlation coefficients for the adult ACS (Judah et al., 2014; Ólafsson et al., 2011) but somewhat lower than reported correlation coefficients for the ACS-C in nonreferred samples of children (Muris et al., 2004, 2008, 2007).

The small to moderate correlations found in the present study may be due to the complex nature of anxiety, depression, and ADHD. These disorders are influenced by and exert influence on many variables, including AC. The strength of the association with any one given variable may be relatively small and may vary across levels of a third variable (i.e., there may be interactive effects). The small to moderate correlations found in the present study also may be due in part to our strategy of sampling youth who were referred to an anxiety disorder specialty clinic. This sampling strategy may have led to a restricted range of scores on symptom measures, which deflate correlation coefficients.

Similar to findings reported in adult samples (Judah et al., 2014; Ólafsson et al., 2011), the present study found some evidence of differential validity of the ACS-C subscales. Attentional focusing was significantly associated with youth self ratings of anxiety after controlling for depression. This finding is consistent with theory and research indicating that impairments in attentional focusing may be specific to anxiety, not depression, and may correspond to high vigilance for threatening stimuli (Moran & Moser, 2015). Attentional shifting was not significantly associated with depression after controlling for anxiety. Support for differential validity of attentional shifting might be found in a sample with more severe levels of depression than the present sample, which had a low rate (4%) of comorbid depression diagnosis.

Strengths and Limitations

The findings of this study should be interpreted in light of its strengths and limitations and characteristics of the sample. Strengths include the use of a clinic-referred sample of youth, semistructured interviews to establish diagnoses, and a multisource assessment approach for youth anxiety symptoms. Limitations include our inability to examine retest reliability of the ACS-C and evaluate its convergent validity via associations with other self-rating or performance-based measures of AC. Further, although ACS-C scores were not significantly correlated with participant age in this study, it would be of interest to examine the ACS-C from a developmental perspective. For example, when do focusing and shifting emerge as

separate facets of AC? And do their respective associations with anxiety symptom severity differ across developmental levels? Given sample size constraints and a preponderance of participants in late childhood to early adolescence, we were not in a position to evaluate the factor structure and concurrent validity of the ACS-C across development.

The present sample comprised predominantly Hispanic/Latino participants. The generalizability of findings to other populations is unknown. Previous research using samples of predominantly Hispanic/Latino youth with anxiety disorders generally indicates high similarity to youth from other ethnic groups with respect to phenomenology and treatment response (e.g., Pina, Silverman, Fuentes, Kurtines, & Weems, 2003; Pina & Silverman, 2004). However, the factorial invariance of youth anxiety rating scales across ethnic groups has received mixed support, with some studies supporting factorial invariance (e.g., Pina, Little, Knight, & Silverman, 2009; Varela & Biggs, 2006) and other studies finding different factor structures in Hispanic/Latino youth compared to youth from other ethnic groups (e.g., Wren et al., 2007). The factorial invariance of the ACS-C across ethnic groups remains an open empirical question.

Conclusion

In summary, the present study provides the first empirical data on the factor structure of the ACS-C and evidence of concurrent validity of the ACS-C among referred youth. These findings support use of the ACS-C as a self-rating scale of attentional focusing and attentional shifting among referred youth. The brevity of the measure makes it easy to administer across a variety of clinical settings. As treatments intervening on AC gain traction, the ACS-C holds potential as a tool for gauging treatment progress and outcomes. To this end, researchers are encouraged to evaluate the sensitivity of the ACS-C to treatments that target AC. Future research is encouraged to examine retest reliability and convergent and discriminant validity of the measure and to evaluate whether the internal structure of the measure could be enhanced by removing items that performed poorly.

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Table 1

Means of, Standard Deviations of, and Correlations Between Measured Variables

	1	2	3	4	5	6	7
1. ACS-C	–						
2. Focusing	.81**	–					
3. Shifting	.87**	.42**	–				
4. RCMAS-C	−.39**	−.34**	−.32**	–			
5. RCMAS-P	−.19**	−.16*	−.21**	.23**	–		
6. CDI	−.35**	−.29**	−.34**	.72**	.29**	–	
7. ADHD Dx	−.24**	−.21**	−.22*	.10	.21**	.16*	–
M	50.71	23.00	27.54	12.34	13.63	10.40	–
SD	8.64	4.69	5.68	6.59	5.84	8.20	–

Note. N = 186. M = mean; SD = standard deviation; ACS-C = Attentional Control Scale for Children; Focusing = ACS-C Attentional Focusing Subscale; Shifting = ACS-C Attentional Shifting Subscale; RCMAS-C = Revised Children's Manifest Anxiety Scale-Child Version; RCMAS-P = Revised Children's Manifest Anxiety Scale - Parent Version; CDI = Children's Depression Inventory; ADHD Dx = presence of an ADHD diagnosis.

* $p < .05$.

** $p < .01$.

Table 2

Factor Loadings of ACS-C Items

Item	Focusing	Shifting
1. It's very hard for me to concentrate on a difficult lesson if there is a lot of noise in the class.	**.55**	.09
2. If I have to concentrate and solve a difficult math problem, I have trouble focusing my attention.	**.58**	−.11
3. When I am working hard on something, I still get distracted by things going on around me.	**.65**	−.12
4. My concentration is good, even when somebody turns the music on.	.21	.19
5. When I concentrate myself, I do not notice what is happening in the room around me.	−.16	.27
6. When I am reading in the classroom, I am easily disturbed by other children talking to each other.	**.62**	.02
7. When I try to concentrate myself, I find it difficult not to think about other things.	**.49**	−.04
8. I find it difficult to concentrate myself when I am excited about something.	**.34**	−.05
9. When I am concentrated, I do not notice that I am hungry or thirsty.	−.03	.06
10. When I am doing something, I can easily stop and switch to some other task.	−.04	**.40**
11. When I have to start a new task, it takes me a while to get really	**.58**	.07
12. When the teacher explains something, I find it difficult to understand and write it down at the same time.	**.54**	−.05
13. When it is necessary, I can become interested in a new topic very quickly.	−.03	**.57**
14. It is easy for me to read or write while I am also talking to someone on the telephone.	.03	**.43**
15. I have trouble having two conversations at the same time.	.19	.14
16. I find it difficult to come up with new ideas quickly.	.30	.12
17. After being interrupted or distracted, I can easily shift my attention back to what I was doing before.	.31	**.35**
18. When I am daydreaming or having distracting thoughts, it is easy for me to switch back to the work I have to do.	.31	**.41**
19. It is easy for me to switch back and forth between two different tasks.	.16	**.60**
20. I find it difficult to let go my own way of thinking about something, and to look at it in a different way.	**.40**	−.09
Initial eigenvalues	3.88	2.14
Extraction sums of squared loadings	3.18	1.42
Percentage of variance	15.90	7.08
Internal consistency	.77	.64

Note. ACS-C Attentional Control Scale for Children. Items 1, 2, 3, 6, 7, 8, 11, 12, 15, 16, 18, and 20 are reversed for scoring. Items retained in the exploratory factor analysis are bolded.

Table 3

Hierarchical Regressions Using Attentional Focusing and Attentional Shifting to Predict Anxiety and Depressive Symptom Severity

	B	*SE* B	Beta
Dependent variable: CDI			
Step 1 ($\Delta R^2 = .54^{***}$)			
RCMAS-C	.82	.07	$.66^{***}$
RCMAS-P	.15	.07	$.11^{*}$
Step 2 ($\Delta R^2 = .01$)			
ACS-C Attentional Focusing	.00	.10	.00
ACS-C Attentional Shifting	−.17	.08	−.12
Dependent variable: RCMAS-C			
Step 1 ($\Delta R^2 = .52^{***}$)			
CDI	.54	.04	$.67^{***}$
Step 2 ($\Delta R^2 = .02^{*}$)			
ACS-C Attentional Focusing	−.21	.08	$-.15^{*}$
ACS-C Attentional Shifting	−.03	.07	−.02
Dependent variable: RCMAS-P			
Step 1 ($\Delta R^2 = .08$)			
CDI	.16	.05	$.23^{**}$
Step 2 ($\Delta R^2 = .02$)			
ACS-C Attentional Focusing	−.08	.10	−.07
ACS-C Attentional Shifting	−.10	.08	−.09

Note. N = 186. SE = standard error; CDI = Children's Depression Inventory; RCMAS-C = Revised Children's Manifest Anxiety Scale - Child Version; RCMAS-P = Revised Children's Manifest Anxiety Scale - Parent Version; ACS-C = Attentional Control Scale for Children.

* $p < .05$.

** $p < .01$.

*** $p < .001$.