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Confirmatory factor analysis of the School Refusal Assessment Scale – Revised in an African American community sample

Aaron R. Lyon^a

^aUniversity of Washington, Department of Psychiatry and Behavioral Sciences

Abstract

The current study used confirmatory factor analysis techniques to investigate the construct validity of the child version of the School Refusal Assessment Scale – Revised (SRAS-R) in a community sample of low socioeconomic status, urban, African American fifth and sixth graders ($n = 174$). The SRAS-R is the best-researched measure of school refusal behavior in youth and typically yields four functional dimensions. Results of the investigation suggested that a modified version of the four-factor model, in which three items from the tangible reinforcement dimension are removed, may have construct validity in the current sample of youth. In addition, youth endorsement of the dimension measuring avoidance of social and/or evaluative situations was positively associated with unexcused absences. Implications for further psychometric research and early identification and prevention of problematic absenteeism in low-SES, ethnic minority community samples are highlighted.

Keywords

school refusal behavior; absenteeism; factor analysis; assessment; community

Problematic school absenteeism is associated with a range of concurrent and future problems including dropout, delinquency, and mental illness (Alexander, Entwisle, & Horsey, 1997; Epstein & Sheldon, 2002; Loeber & Farrington, 2000; Robins & Robertson, 1996). Consistent evidence has demonstrated that even low levels of absenteeism predict increasingly severe patterns in the future (Barth, 1984; Zhang, 2003). Early identification of individuals at risk is essential to disrupt this negative trajectory. School refusal behavior (SRB), one prominent type of problematic absenteeism, has been defined as “child-motivated refusal to attend school or difficulties remaining in school for an entire day” (Kearney & Silverman, 1996; p.345). Prevalence estimates for SRB vary from 5 to 28%, depending on the operational definition of the problem and the demographics of study participants (Kearney, 2001).

The importance of prevention and early intervention for youth at risk for SRB has been clearly detailed (Kearney & Hugelschofer, 2000). Within the United States, ethnic minority and low-socioeconomic status (SES) groups are more likely to experience absenteeism than other youth (Puzzanchera, Stahl, Finnegan, Tierney, & Snyder, 2003; National Center for Education Statistics, 2006). Unfortunately, these groups are rarely selected for inclusion in SRB research and significant barriers exist to increasing their representation in the literature (Lyon & Cotler, 2007). Most notable among these barriers is that fact that no research studies to date have investigated whether existing school refusal measures are valid for youth who are at greater risk for absenteeism (i.e., low-SES, ethnic minorities), but might not yet demonstrate sufficient

attendance problems to be clinically referred. Valid assessment tools are an important first step toward understanding how attendance problems develop in high-risk populations and can guide prevention and intervention efforts.

The School Refusal Assessment Scale

The School Refusal Assessment Scale – Revised (SRAS-R; Kearney, 2002) is the only measurement tool specifically designed for the assessment of children and adolescents who are experiencing SRB. The measure utilizes a functional model of school refusal (Kearney & Silverman, 1990) and evaluates the relative strength of four functional conditions in the maintenance of SRB for an individual child or adolescent. Assessment of the function of SRB avoids etiological assumptions (e.g., anxiety-based) about the origins of the problem (Kearney, 2001).

Functional dimensions include: (a) Avoidance of school-related stimuli provoking negative affectivity, (b) Escape from aversive social or evaluative situations, (c) Garnering parental attention, and (d) Positive tangible reinforcement. Each dimension is subsequently represented by a factor of the SRAS-R (Kearney, 2002) and is accompanied by prescriptive intervention guidelines (Kearney & Albano, 2007). The highest-rated dimension on the measure is considered to be the primary maintaining factor in a particular child's SRB and is targeted for intervention. The dimensions can also be grouped conceptually into negative reinforcement (functions 1 & 2) and positive reinforcement (functions 3 & 4). Child and parent versions of the SRAS-R are currently available (Kearney, 2002; 2006a).

Primary psychometric validation of the SRAS-R has been conducted using two samples of children and adolescents with a combined sample size of 168 ($n = 115$ and 53 , respectively; Kearney, 2002). The first sample, drawn from a juvenile detention facility where participants were incarcerated "partly or wholly because of extensive difficulties attending school" (p.237), was ethnically diverse (47.8% Caucasian, 16.5% African American, 13.0% Latino). The second sample was drawn from a university outpatient school refusal clinic and was primarily (96.2%) Caucasian. Findings from this validation study indicated adequate to good inter-item correlations for both the parent and child versions of the SRAS-R. In addition, the SRAS-R has demonstrated good concurrent validity with the earlier version of the measure (SRAS; Kearney & Silverman, 1993).

Recently, Kearney (2006b) demonstrated that the functional categories of SRB, as identified by the SRAS-R, were superior to the presentation of clinical symptoms (e.g., anxiety, depression, and other fears) when predicting absenteeism severity in a sample of 222 youth. Indeed, the utility of the functional model for the assessment of youth with SRB has been documented, and preliminary investigations into the effectiveness of interventions that make use of functional assessments have yielded positive results (Chorpita, Albano, Heimberg, & Barlow, 1996; Kearney & Silverman, 1990; Kearney & Silverman, 1999).

Although the original four-factor structure has typically been used in research applications of the SRAS-R and its earlier version, some studies have reported difficulty fitting that factor structure to their data. For instance, Higa, Daleiden, and Chorpita (2002) assessed the usefulness of the original SRAS in a sample of primarily multiethnic, Japanese American, and Caucasian ($n = 30$) anxious/depressed Hawaiian children, who were treated for SRB at a university mental health center. Although not a structural validity study, their findings revealed significant correlations and a large effect size ($r = .77$; $p < .01$) between the negative reinforcement dimensions of the SRAS (avoidance of stimuli provoking negative affectivity, escape from social evaluative situations). As a result of their study, Higa et al. (2002) concluded that the negative reinforcement dimensions might measure a unitary construct, a finding that

supported a three-factor model in which the negative reinforcement dimensions were combined.

In response to the findings from Higa and colleagues, Kearney (2006a) conducted a confirmatory factor analysis of the SRAS-R using the sample from the original investigation of the measure's psychometrics ($n = 168$, Kearney, 2002). Both the original four-factor model and the alternative three-factor model were assessed using goodness of fit statistics. Results of the analyses revealed that neither model fit the data well enough to meet the criteria for a "good fit." Instead, a four-factor structure that eliminated two items from the tangible reinforcement subscale was identified through a process of model trimming.

Although applications of the SRAS-R with ethnic minority samples have been limited to incarcerated juvenile offenders (Kearney, 2002) and Japanese and "multiethnic" children living in Hawaii (Higa et al., 2002), the existing evidence suggests that the measure has the potential for applicability with a range of ethnic and cultural groups. As a result, Kearney (2006a) has wisely called for more research examining the use of the measure with diverse samples of youth. Given the relatively low rates at which ethnic minority youth utilize traditional mental health services (Harrison, McKay, & Bannon, 2004; Kataoka, Zhang, & Wells, 2002; Rawal, Romansky, Jenuwine, & Lyons, 2004), it is unlikely that typical clinical research settings will be effective in the completion of this task and community samples will be necessary. In addition to increasing sample diversity, implementing models of SRB in community settings has the added benefit of supporting prevention efforts.

Nevertheless, community samples are seldom utilized in SRB research despite Kearney and Hugelshofer's (2000) call for increased research investigating methods by which to identify at-risk youth across settings. In addition, Egger, Costello, and Angold (2003) have specifically advocated for the use of the SRAS in population-based studies. Recent increases in the attention paid to SRB interventions that span multiple systems (Kearney, 2008; Lyon & Cotler, 2009) have further underscored the need for research assessing the applicability of current models to youth from community and other non-clinical settings.

The current study addresses the research gaps identified above by using confirmatory factor analysis to explore the construct validity of the SRAS-R in a community sample of low-SES, urban, African American youth. The SRAS-R has never been used with a non-referred community sample, where it has the potential to be useful in the early identification and prevention of SRB with at-risk populations. The three existing factor structures for the SRAS-R were explored, including the original four-factor structure (Kearney, 2002), a three-factor structure (Higa et al., 2002), and a revised four-factor structure (Kearney, 2006a). Due to the high intercorrelation reported for the two negative reinforcement dimensions, it was hypothesized that the three factor model would best fit the present data. Further, in light of research indicating the predictive power of the functional dimensions for absenteeism severity (Kearney 2006b), associations between factors in the final model and levels of student absenteeism were also explored. Analyses were intended to determine which model best fit the identified sample and to inform future use of the measure with low-SES, ethnic minority youth.

Method

Participants

A sample of low-SES, urban, African American early adolescents was recruited for this study. Following institutional review board approval, participants were recruited from three public schools in Chicago and were not necessarily demonstrating problematic levels of absenteeism at the time of assessment. Schools were considered for participation based on data published by the Chicago Public School Department of Data Management (2004). To be considered,

schools needed to meet the following criteria: (a) At least 90% of the student body was classified as low-income and (b) The student body was at least 97% African American. School programs were also classified as “general,” meaning that charter, magnet, and special education schools were ineligible. As a result of this process, the student bodies at all three participating schools were classified as at least 99% low income.

All students enrolled in 5th and 6th grade regular education classrooms were eligible to participate regardless of attendance history. Students were recruited through in-class presentations two weeks prior to data-collection. Interested students were given parental consent forms to be signed and returned prior to participation. Fifty-one percent of the children enrolled across classrooms were able to participate in the project. In all, 174 African American youth were recruited from three different elementary schools (14 classrooms) for the study. Participants were 54% female with a mean age of 11.65 years ($SD = .83$). Participants were equally divided between 5th and 6th grade.

Measures

Absenteeism—School attendance data were collected from classroom teachers in May and June of the year in which the study was conducted. Data gathered included students’ excused absences and unexcused absences, as well as the number of days over which attendance data had been recorded. Except for students who had transferred into the classroom mid-year, attendance data were typically available since the beginning of the academic year. Participants were absent from school an average of 4.3% of possible days ($SD = 3.9$), with absentee rates ranging between 0% and 18%. Unexcused absences were higher in the sample than excused absences (see Table 1).

School Refusal Assessment Scale – Revised (child version)—In order to assess the function of SRB, the child version of the School Refusal Assessment Scale – Revised (SRAS-R; Kearney, 2002) was used. The SRAS-R includes 24 items, each of which is scored along a 7-point scale that ranges from never (0) to always (6). As stated earlier, the SRAS-R rates four functional dimensions. Previous research with the SRAS and SRAS-R has demonstrated adequate psychometrics including one to two week test-retest reliability ($\alpha = .68$) for the child version (Kearney & Silverman, 1993) and inter-item reliability coefficients ranging from .56 to .78 across subscales (Kearney, 2002). Furthermore, Kearney (2002) demonstrated significant correlations between the child versions of the SRAS and SRAS-R (range among subscales = .56 - .77, mean = .68), allowing for the cautious application of findings from previous versions to the SRAS-R. In the current sample, inter-item reliabilities for the four original subscales (Avoidance of Negative Affectivity, Escape from Social/Evaluative Situations, Attention-Getting Behavior, Tangible Reinforcement) were found to be .59, .40, .63, and .62, respectively.

Procedure

On the days of data collection, students participating in the study were administered assent forms before completing the measures. The SRAS-R was then administered as part of a larger battery, which included measures of youth demographics and family, school, and community environments. The child version of the SRAS-R was administered to all participating children in each classroom simultaneously. All items were read aloud as children completed the measure and project personnel were on hand to answer any questions that arose. Data analyses for the confirmatory factor analysis in the current study were conducted using the MPlus 5 software package (Muthén & Muthén, 2007). Because categorical data frequently result from ordinal scales (Finney & Distefano, 2006), categorical indicators were used in the primary analyses to avoid potentially spurious assumptions about the continuous nature of the data collected. Instead of assuming that item responses are themselves truly continuous, categorical

confirmatory factor analysis assumes that ordered-categorical item responses simply represent continuous latent responses (Wirth & Edwards, 2007).

In order to explore the validity of the SRAS-R for assessing the cognitions surrounding problematic absenteeism in a non-referred sample of ethnic minority youth, the original four-factor (Kearney, 2002), revised four-factor (Kearney, 2006a), and three-factor (Higa et al., 2002) structures of the SRAS-R were examined using three goodness-of-fit indices: the comparative fit index (CFI), weighted root mean square residual (WRMR), and root mean square error of approximation (RMSEA). Acceptable model fit was operationalized as a CFI of at least .90 (Bentler, 1990), RMSEA below .08 (Brown & Cudeck, 1993), and WRMR below 1.00 (Yu, 2002). In addition, model trimming and adjustments occurred until fit criteria were met. Adjustments included exploration of the fit of continuous data models.

Results

Table 2 displays descriptive data for the SRAS-R items and subscales. Table 3 displays a correlation matrix of all SRAS-R items. Univariate normality of items was assessed relative to recommended cutoffs of skewness = 3 and kurtosis = 10 (Klein, 1998; West, Finch, & Curran, 1995). Two items demonstrated skewness or kurtosis in excess of these limits (item 2: skew = 3.15, kurtosis = 10.37; item 10: skew = 4.40, kurtosis = 23.62), and all others were well below this range. Due the small number of non-normal variables, no transformations were performed because doing so would have resulted in non-integer data and precluded the use of categorical data analytic techniques.

Each of the three competing models was assessed using the fit indices described above. The original four-factor model did not meet the criteria for a good model fit (CFI = .841, RMSEA = .081, WRMR = 1.003). Similarly, Kearney's (2006a) revision of the SRAS-R, which included the removal of items 20 and 24 from the tangible reinforcement subscale, did not produce a noticeably better fit (CFI = .854, RMSEA = .082, WRMR = .982). The three-factor model identified by Higa and colleagues (2002) for use with the original SRAS was also tested. Their model involved combining the two negative reinforcement factors (Avoidance of stimuli provoking negative affectivity, Escape from aversive social/evaluative situations). However, contrary to what was hypothesized, the three factor model did not produce statistics that indicated a good fit with the current data (CFI = .844, RMSEA = .080, WRMR = 1.006).

Model trimming and adjustments were then conducted, based on the model modification indices provided by MPlus. Items 17 and 18, which state "If you had less bad feelings (e.g., scared, nervous, sad) about school, how often would it be easier for you to go to school?" and "If it were easier for you to make new friends, would it be easier for you to go to school?" were found to be strongly interrelated and their covariation produced a chi-square modification index of 19.988. The conditional wording of these two items on the SRAS-R is unique and it is hypothesized that wording was responsible for their identified relationship. As a result, the errors of the two items were allowed to covary in order to improve model fit. In addition, item 16, which asks "How often do you refuse to go to school because you want to have fun outside of school?," was found to have multiple loadings on both of the negative reinforcement dimensions in addition to its anticipated loading on the tangible reinforcement dimension and was consequently removed. In order to determine if the original models (including the Higa et al. three-factor model) met goodness-of-fit criteria following model trimming and adjustments, all of the adjustments previously described were applied to each of the three competing SRAS-R models in the order listed above (i.e., first the model was tested while allowing the errors of items 17 and 18 to covary and then that model was rerun with item 16 removed). Results indicated that only the adjusted version of Kearney's (2006a) revised four-factor structure met goodness-of-fit criteria (CFI = .917, RMSEA = .062, WRMR = .854). Figure 1 displays this

model, which also indicated a high correlation ($r = .96$) between the two negative reinforcement dimensions. Additional continuous data models were run at each stage of model trimming and adjustment, but consistently resulted in a less favorable model fit. Internal consistency for the revised fourth dimension (tangible reinforcement) was .63. The other three subscales were unchanged and reliabilities are reported in the methods.

Analyses were also conducted to determine whether the revised functional dimensions of the revised SRAS-R were correlated with teacher-reported student absences; excused, unexcused, and total absences. Of the four factors, only escape from aversive social or evaluative situations was positively associated with unexcused absences ($r = .148, p = .05$), such that youth who reported missing or wanting to miss school in order to avoid situations in which they had to interact with peers or were evaluated in class were more likely to have higher unexcused absences. None of the other three functional dimensions were significantly associated with excused, unexcused, or total absences.

Discussion

This study was the first to investigate the construct validity of the SRAS-R in a community sample of low-SES, urban, African American youth. Although a factor analysis, in and of itself, cannot fully establish construct validity, it does provide important evidence to support construct validity and contribute to the preliminary research on the use of the SRAS-R in a school setting. Contrary to the hypothesized superiority of the three-factor model proposed by Higa and colleagues (2002), results suggested that a revised version of Kearney's (2006a) four-factor structure best fit the current data. Even following model trimming, the four-factor solution fit the data whereas the three-factor solution did not. In addition to Kearney's removal of items 20 and 24, the best-supported model involved the removal of item 16 from the tangible reinforcement subscale. Furthermore, the errors of items 17 and 18 were allowed to covary. As stated previously, items 17 and 18 share conditional wording, beginning with "If" statements. In contrast, all other items on the SRAS-R are worded in a more definitive fashion (e.g., "How often..."). Allowing the errors of the indicators to covary accounted for this similarity.

The removal of item 16 also improved model fit. Item 16 states "How often do you refuse to go to school because you want to have fun outside of school." Of all the SRAS-R items, item 16 is perhaps the least specific. Simultaneously, a desire to "have fun outside of school" seems nearly universal among early adolescents. Some participants might have overlooked the first clause of the item which places having fun outside of school in the context of refusal to attend. These complications with item 16 are similar to those described by Kearney (2006a) when discussing the removal of items 20 and 24 from the tangible reinforcement subscale. Interestingly, in Kearney's revised four-factor solution, item 16 was found to have the lowest loading on its latent factor of any remaining SRAS-R item.

Although a four-factor solution was found to best fit the current data, the intercorrelation between the two negative reinforcement dimensions ($r = .96$) was very high. This finding suggests a strong relationship between the avoidance of stimuli provoking negative affectivity and escape from aversive social or evaluative situations. In research with clinical samples, the two negative reinforcement dimensions have also been found to be strongly interrelated (e.g., $r = .77$ in Higa et al., 2002), a finding that served as the foundation for the hypothesized, but unsupported, superiority of a three-factor model. In the current study, the negative reinforcement dimensions were maintained as separate factors on the basis of the confirmatory factor analysis, which yielded acceptable fit statistics for a four-factor model and unacceptable fit for the combined, three-factor model. Relative to clinic-based school refusal research, which frequently involves youth with diagnosable internalizing disorders (Lyon & Cotler, 2007), it

is possible that the negative reinforcement dimensions are somewhat less well-differentiated in samples drawn directly from community settings.

In contrast, the tangible reinforcement dimension, which taps behavior more synonymous with traditional notions of “truancy” (Kearney, 2001), might have been more applicable to and readily endorsed in the current sample. As suggested by other authors, it is possible that items from this subscale were perceived as being safer, less stigmatizing, and more socially desirable to endorse than items that loaded on the other subscales (Brandibas, Jeunier, Clanet, & Fouraste, 2004). For example, most children do not have difficulty expressing the notion that they would rather be having fun at home or in their neighborhood than in their classrooms at school (e.g., “Would it be easier for you to go to school if you could do more things you like to do after school hours?”). Despite the apparent applicability of the tangible reinforcement dimension, it is noteworthy that all three items that were removed to improve model fit came from that dimension. Indeed, the items removed differed from those retained in that the items retained all asked specifically about participants’ behavior, “When you are not in school during the week...” It is possible that this wording prompted students to think specifically about their own school absences rather than more hypothetical situations (“Would it be easier for you to go to school if you could do more things you like to do after school hours?”) and resulted in responses more closely linked to the actual construct of interest. Although the model trimming process resulted in a tangible reinforcement dimension comprised of only three items, adequate variability was still observed for this subscale.

Although the effect size was small, the significant, positive relationship between one of the negative reinforcement dimensions of the SRAS-R (avoidance of social/evaluative situations) and teacher-reported unexcused absences is potentially important because it suggests a distinction between the two negative reinforcement dimensions. SRB research has not typically investigated the relationships between each functional dimension and levels of absenteeism, but one study by Kearney (2006b) found that each of the functions of the child-rated version of the SRAS was a significant predictor of the degree of absenteeism in a clinical sample. In the current community sample, youth who endorse missing or wanting to miss school in order to avoid social interactions or evaluations might have been experiencing a higher level of distress than their classmates, putting them at especially high risk for problematic absenteeism. Nevertheless, this finding should be interpreted with caution due to the relatively low reliability of the avoidance of social/evaluative situations subscale.

Implications and Future Directions

This study suggests that a revised version of the SRAS-R, in which items 16, 20, and 24 are removed, may have construct validity in a sample of low-SES, African American early adolescents who have not been referred for mental health services. Of course, support for the four-factor structure of the SRAS-R does not, in itself, directly support prevention or early intervention efforts and further research is warranted to assess the psychometrics and validity of the measure in the school setting. Due to the relatively low reliability of the escape from social/evaluative situations subscale, additional item development may be indicated. Nevertheless, the findings presented here are important, as they represent an initial step toward the use of the SRAS-R as an early detection tool for children living in communities where the risk of SRB and other forms of problematic absenteeism is disproportionately high. If future research can support the reliability, stability, and sensitivity of the SRAS-R, elevated scores among children who are not yet identified as exhibiting high rates of SRB could indicate the presence of *school refusal ideation*, warranting continued monitoring and potential intervention. School refusal ideation (SRI) can be defined as favorable cognitions and disposition toward school absenteeism and school refusal behavior. SRI might precede identifiable levels of behaviors designed to bring about the goal of school absence. Although

he has never explicitly identified the concept of SRI, Kearney (2003) has frequently suggested that the population of school refusing youth includes children and adolescents who actively desire to miss school "but have not yet reached that goal" (p.60). Pending further psychometric research, future studies could examine longitudinally the utility of the SRAS-R in predicting attendance problems on the basis of SRI and establish cutoffs for prevention and intervention.

Limitations

One limitation of the current study is the relatively small sample size used to assess the construct validity of the SRAS-R and the functional model. Nevertheless, the sample in the current study ($n = 174$) was approximately equal to that which was used to establish the initial psychometrics of the SRAS-R and to conduct the only other published confirmatory factor analysis of the measure ($n = 168$) (Kearney, 2002; 2006a). Despite this, further research with larger samples is warranted in order to replicate the present findings surrounding the modified model.

Another limitation of the present study is that SRAS-R assessments were limited to child-report. Although it was not feasible to collect parent-report data in the current study, evidence exists that the parent version of the SRAS-R can contribute distinct information about children's SRB (Higa et al., 2002). Although this study was focused on the practical application of established methods of school refusal assessment in community settings, the additional predictive contribution of parent and teacher reports should be investigated in order to determine whether the benefits of collecting data from additional informants outweighs the costs. A teacher version of the SRAS-R has not yet been published, but the original version of the SRAS (Kearney & Silverman, 1993) contained a teacher scale that could be updated to include the new SRAS-R items. Future research should examine the psychometrics and construct validity of such a scale in at-risk community samples.

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Figure 1.
Modified four-factor model of the School-Refusal Assessment Scale – Revised (Child Version) with standardized path coefficients.

Table 1
Percentage of Excused, Unexcused, and Total Student Absences over Days Possible

	Mean (%)	SD	Range (%)
Excused	1.4	2.5	0 – 12
Unexcused	2.9	3.5	0 – 12
Total	4.3	3.9	0 – 18

$n = 174$

Table 2
Descriptive Data for the School Refusal Assessment Scale – Revised

Item / Subscale ^a	Mean	SD
Item 1 (SPNA)	0.85	1.50
Item 2 (ESES)	0.36	0.99
Item 3 (PCA)	2.90	2.18
Item 4 (TR1/TR2)	3.73	2.28
Item 5 (SPNA)	0.58	1.22
Item 6 (ESES)	0.62	1.42
Item 7 (PCA)	4.23	1.94
Item 8 (TR1/TR2)	3.67	2.14
Item 9 (SPNA)	1.30	1.75
Item 10 (ESES)	0.22	0.75
Item 11 (PCA)	3.21	2.11
Item 12 (TR1/TR2)	4.42	1.89
Item 13 (SPNA)	1.46	1.94
Item 14 (ESES)	1.85	1.97
Item 15 (PCA)	2.33	2.30
Item 16 (TR1)	2.28	2.28
Item 17 (SPNA)	2.39	2.40
Item 18 (ESES)	3.76	2.36
Item 19 (PCA)	1.31	2.21
Item 20 (TR1)	4.24	2.14
Item 21 (SPNA)	1.01	1.58
Item 22 (ESES)	1.77	1.90
Item 23 (PCA)	2.73	2.17
Item 24 (TR1)	3.74	2.16
SPNA	1.27	1.02
ESES	1.41	0.83
PCA	2.77	1.28
TR1	3.67	1.27
TR2	3.50	1.49

Note. SPNA = Avoidance of situations the provoke negative affectivity; ESES = Escape from social / evaluative situations; PCA = Parent / caregiver attention; TR1 = Tangible reinforcement, original subscale; TR2 = Tangible reinforcement, revised subscale

^a All ranges = 0 – 6, except for Avoidance of Situations the Provoke Negative Affectivity subscale

^b Range = 0 – 4

Table 3
Inter-item correlation matrix for the School Refusal Assessment Scale – Revised

	SRAS1	SRAS2	SRAS3	SRAS4	SRAS5	SRAS6	SRAS7	SRAS8	SRAS8	SRAS9	SRAS10	SRAS11	SRAS12	SRAS13	SRAS14	SRAS15	SRAS16	SRAS17	SRAS18	SRAS19	SRAS20	SRAS21	SRAS22	SRAS23	SRAS24
SRAS1	1	.281 <i>b</i>	.163	.127	.346 <i>b</i>	.194 <i>a</i>	.107	.014	.334 <i>b</i>	.244 <i>b</i>	.178 <i>a</i>	.098	.293 <i>b</i>	.286 <i>b</i>	.263 <i>b</i>	.207 <i>b</i>	.011	.072	.093	.078	.248 <i>b</i>	-.015	.126	.126	.126
SRAS2		1	.055	.128	.372 <i>b</i>	.306 <i>b</i>	.136	-.083	.286 <i>b</i>	.479 <i>b</i>	.063	-.003	.253 <i>b</i>	.168 <i>a</i>	.122	.244 <i>b</i>	.101	.046	-.026	-.019	.389 <i>b</i>	.052	.046	.133	.133
SRAS3			1	.116	.182 <i>a</i>	.188 <i>a</i>	.161 <i>a</i>	.118	.226 <i>b</i>	.147	.597 <i>b</i>	.288	.137	-.059	.203 <i>b</i>	.339 <i>b</i>	.003	.159 <i>a</i>	.203 <i>a</i>	.103	.076	.180 <i>a</i>	.370 <i>b</i>	.284 <i>b</i>	.284 <i>b</i>
SRAS4				1	.060	.098	.081	.446 <i>b</i>	.165 <i>a</i>	.067	.127	.331 <i>b</i>	.017	.084	.101	.286 <i>b</i>	-.020	.020	-.062	.118	-.078	.047	.050	.118	.118
SRAS5					1	.322 <i>b</i>	.127	.030	.286 <i>b</i>	.292 <i>b</i>	.020	.050	.132	.105	.174 <i>a</i>	.097	.033	.118	.026	-.100	.220 <i>b</i>	-.104	.035	.064	.064
SRAS6						1	.087	.036	.280 <i>b</i>	.458 <i>b</i>	-.013	.090	.170 <i>a</i>	.094	-.017	.159 <i>a</i>	.099	.226 <i>b</i>	.200 <i>b</i>	.012	.276 <i>b</i>	-.016	-.027	.057	.057
SRAS7							1	.010	.126	.045	.206 <i>b</i>	.033	.080	.104	.029	.044	.202 <i>b</i>	.153	.194 <i>a</i>	.065	.182 <i>a</i>	.184 <i>a</i>	.242 <i>b</i>	.204 <i>b</i>	.204 <i>b</i>
SRAS8								1	.040	.004	.115	.310 <i>b</i>	-.094	.114	-.021	.165 <i>a</i>	.030	.026	-.063	.244 <i>b</i>	-.040	-.001	.080	.064	.064
SRAS9									1	.263 <i>b</i>	.205 <i>b</i>	.189 <i>a</i>	.186 <i>a</i>	.211 <i>b</i>	.141	.263 <i>b</i>	.150	.166 <i>a</i>	.114	.068	.307 <i>b</i>	.072	.010	.099	.099
SRAS10										1	.070	-.008	.288 <i>b</i>	.130	.098	.226 <i>b</i>	.067	.126	.031	.037	.380 <i>b</i>	.212 <i>b</i>	.072	.029	.029
SRAS11											1	.286 <i>b</i>	-.011	-.107	.405 <i>b</i>	.415 <i>b</i>	.010	.076	.083	.058	.142	.167 <i>a</i>	.421 <i>b</i>	.310 <i>b</i>	.310 <i>b</i>
SRAS12												1	-.043	.068	.163 <i>a</i>	.145	.015	.090	-.044	.099	-.067	-.070	.049	.266 <i>b</i>	.266 <i>b</i>
SRAS13													1	.189 <i>a</i>	.087	.256 <i>b</i>	.103	.074	.188 <i>a</i>	.073	.326 <i>b</i>	.107	.069	.119	.119
SRAS14														1	.150	.069	.123	-.038	-.113	.113	.148	.016	.028	.003	.003
SRAS15															1	.212 <i>b</i>	-.010	-.016	-.027	-.110	.186 <i>a</i>	.180 <i>a</i>	.183 <i>a</i>	.026	.026
SRAS16																1	.002	-.086	.049	.026	.222 <i>b</i>	.032	.198 <i>b</i>	.310 <i>b</i>	.310 <i>b</i>
SRAS17																	1	.391 <i>b</i>	.034	.142	.243 <i>b</i>	.070	-.057	.094	.094
SRAS18																		1	.191 <i>a</i>	.135	.239 <i>b</i>	.099	.079	-.043	-.043
SRAS19																			1	-.073	.056	.050	.041	.048	.048
SRAS20																				1	-.078	-.045	.067	.183 <i>a</i>	.183 <i>a</i>
SRAS21																					1	.189 <i>a</i>	.026	.051	.051
SRAS22																						1	.118	.104	.104
SRAS23																							1	.274 <i>b</i>	.274 <i>b</i>
SRAS24																								1	1

^aCorrelation is significant at $p < .05$.

^bCorrelation is significant at $p < .01$.