
BRIEF REPORTS

Maternal Daily Diary Report in the Assessment of Childhood Separation Anxiety

Jennifer L. Allen, Judith Blatter-Meunier, Antonia Ursprung, and Silvia Schneider

Department of Clinical Child and Adolescent Psychology, University of Basel

The current study evaluated the feasibility and validity of a parent-report measure of separation anxiety, the Separation Anxiety Daily Diary (SADD). Mother and child participants consisted of three groups: 96 children (aged 4–15 years) with separation anxiety disorder, 49 children with “other” anxiety disorders, and 43 healthy controls. The SADD assesses the frequency of anxiety-provoking and non-anxiety-provoking separations, along with associated parental anxiety, thoughts, child behaviors, and corresponding parental reactions. The SADD demonstrated acceptable compliance and convergent validity with hypothesized measures. Substantial improvement in the prediction of diagnostic group membership was shown when SADD items assessing child symptoms were added to information gathered from a separation anxiety symptom questionnaire.

Parental monitoring is a common component of treatment programs for anxious children (e.g., Kendall, 1994; Schneider & Blatter-Meunier, 2004). Daily diaries represent one form of monitoring used to assess anxiety in children (e.g., Beidel, Neal, & Lederer, 1991). The present study evaluated a daily diary designed to assess childhood separation anxiety and associated parent factors. Separation anxiety disorder (SAD) is characterized by developmentally inappropriate and excessive anxiety about separation from caregivers, usually the mother. SAD may cause great distress and impairment and represents a risk factor for later psychopathology

(Brückl et al., 2007). Its early age of onset ($Mdn = 7$ years; Kessler et al., 2005) and status as the most common anxiety disorder in childhood (Cartwright-Hatton, McNicol, & Doubleday, 2006) highlight the need for acceptable and valid parent-report measures.

Few parent-report measures are specifically designed to assess separation anxiety. The Multidimensional Anxiety Scale for Children (March, Parker, Sullivan, Stallings, & Conners, 1997), Screen for Child Related Anxiety Disorders (Birmaher et al., 1997), and Spence Child Anxiety Scale (Nauta et al., 2004; Spence, 1999) include a separation anxiety scale and possess good psychometric properties. All of these measures possess a questionnaire format, offering ease of scoring and administration and the provision of normative data. However, the ability of questionnaires to provide a functional analysis of behavior patterns relating to parent–child interaction is limited. In contrast, daily diaries assess anxious behaviors along with their antecedents and consequences and may be particularly suited to SAD given its specific focus on parent–child separation (Silverman & Ollendick, 2005).

Diaries need to be evaluated in terms of their feasibility and validity if they are to be considered worthy of inclusion in an assessment protocol for SAD (cf. Silverman & Ollendick, 2005). Compliance may be

This study was supported by grant PP001-68701; 105314-116517/1, “Etiology and Psychological Treatment of Separation Anxiety Disorder in Childhood,” awarded to Silvia Schneider by the Swiss National Science Foundation. We would like to thank the families who participated, as well as the research assistants and graduate students who worked on the TAFF project at the University of Basel. We also thank Andrea Meyer (University of Basel) and Terry Lewin (Hunter New England Mental Health) for their assistance with the statistical analyses.

Jennifer Allen is now at the Institute of Psychiatry, Kings College London.

Correspondence should be addressed to Silvia Schneider, Department of Clinical Child and Adolescent Psychology, Missionsstrasse 64a, Basel, 4055, Switzerland. E-mail: s.schneider@unibas.ch

problematic due to the motivation and forgetfulness of respondents. The only study to evaluate a daily diary with anxious children found modest completion rates (averaging 7.5 days over 14 days) for child report of evaluative social events (Beidel et al., 1991). Child diary report also discriminated anxious from nonanxious children on distress ratings and behavioral responses (e.g., crying, avoidance). The convergent validity of diaries with established measures of anxiety symptoms and associated impairment (e.g., child quality of life) remains to be evaluated. It is also important to determine whether diaries can provide information of clinical relevance beyond what is provided by more traditional methods. That is, do diaries demonstrate incremental validity?

The Separation Anxiety Daily Diary (SADD) assesses parent-child separations that are anxiety-provoking (hereafter, anxious separations) or non-anxiety-provoking (hereafter, nonanxious separations) for children along with associated distress, thoughts, and behaviors. Parents of anxious children are more likely than parents of healthy controls to be anxious themselves (Last, Hersen, Kazdin, Orvaschel, & Perrin, 1991), to reinforce their child's avoidant behaviors (Barrett, Rapee, Dadds, & Ryan, 1996), and to report dysfunctional thoughts about their child's ability to cope (Kortlander, Kendall, & Panichelli-Mindel, 1997). The SADD therefore also covers parental anxiety, thoughts, and avoidance given the role these factors may play in maintaining child anxiety (Chorpita & Barlow, 1998; Hudson & Rapee, 2004; Rapee, 2001).

The current study investigated compliance with the SADD and its validity in children with SAD, children with "other" anxiety disorders (hereafter, clinical controls) and healthy controls. Mothers of children with SAD were predicted to report significantly (a) more anxious and fewer nonanxious separations, (b) increased anxiety, (c) more dysfunctional thoughts, (d) more negative child reactions, and (e) greater avoidance of separation than mothers of children in the two comparison groups. Maternal SADD report was expected to improve prediction of diagnostic status over and above the contribution of a questionnaire assessing separation anxiety symptoms. In relation to its convergent validity, we predicted that greater child anxiety symptoms and poorer quality of life would be associated with more anxious separations, negative child reactions, maternal avoidance, and dysfunctional thoughts and fewer nonanxious separations.

METHOD

Participants

Participants in the two clinical samples were recruited through press articles, advertisements at university-based and community outpatient mental health clinics

in Basel and Zurich, Switzerland. The *separation anxiety sample* consisted of 96 children with SAD aged 4 to 15 years (M age = 8.54, SD = 2.42 years; 51 female, 45 male) and their mothers (M age = 40.36 years, SD = 5.21). Children were required to meet DSM-IV criteria for SAD as a primary diagnosis on the basis of a structured interview (see below). The *clinical control sample* consisted of 49 children (mean age = 9.22, SD = 2.31 years; 28 females, 21 males) with an anxiety disorder aged 5 to 14 years and their mothers (mean age = 40.32, SD = 4.79 years). Children were excluded from this sample if they met *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev. [DSM-IV-TR]; American Psychiatric Association, 2000) criteria for SAD. No specific incentives were offered for diary completion; rather, the diaries formed part of a broader research protocol completed prior to subsidized treatment. The primary and comorbid diagnoses of children in the two clinical samples are presented in Table 1. A two-tailed independent samples t test revealed no significant difference between the SAD and clinical control samples on the number of comorbid diagnoses, $t(135) = .44, p < .025$.

The *healthy control sample* comprised 43 children aged 5 to 14 years (M age = 9.35, SD = 2.28 years; 20 female, 23 male) and their mothers (M age = 41.53,

TABLE 1
Frequency of Primary and Comorbid Diagnoses Across SAD and Clinical Control Samples

	Primary Diagnosis ^a		Comorbid Diagnosis ^a	
	SAD	Clinical Control	SAD	Clinical Control
Frequency (n)				
SAD	96			
Social Phobia		25	12	6
Specific Phobia		13	24	5
GAD		4	9	4
PD With Agoraphobia		2	0	0
OCD		2	0	1
Agoraphobia Without PD		1	1	0
Enuresis		1	2	1
Primary Insomnia		1	10	6
Sleep Disorder		0	3	0
ADHD		0	5	2
ODD		0	5	4
Major Depression		0	2	0
Dysthymia		0	0	4
Tic Disorder		0	4	3
Tourette's Disorder		0	1	0

Note. SAD = separation anxiety disorder; GAD = generalized anxiety disorder; PD = panic disorder; OCD = obsessive-compulsive disorder; ADHD = attention-deficit hyperactivity disorder; ODD = oppositional defiant disorder.

^aPrimary diagnosis status was decided based on the highest severity rating assessing overall interference; comorbid diagnoses represent all other diagnoses where DSM-IV diagnostic criteria were met.

$SD = 4.91$ years) recruited through advertisements and parent information evenings. Healthy controls were included if the child did not meet *DSM-IV-TR* criteria for any axis I mental disorders. Mothers were paid for their participation (CH20, US \$19 per hour), and children were given a small gift.

Measures

The SADD gathers descriptive information about parent-child separations (Table 2). SADD items were selected on the basis of behavioral analysis (i.e., situations, thoughts, feelings, behaviors, consequences) and guided by factors identified as important in the maintenance of child anxiety (Chorpita & Barlow, 1998; Hudson & Rapee, 2004; Rapee, 2001). As a literature review revealed no pre-existing diary for separation anxiety, diaries designed for socially anxious children and anxious adults served as models (e.g., Beidel et al., 1991; Margraf, Taylor, Ehlers, Roth, & Agras, 1987). Selection of item stems for maternal thoughts and child reactions in response to parent-child separation were based on the findings of a pilot study. Ten mothers of

children with SAD completed a structured interview, and their most frequent responses concerning these factors were selected. Due to the small sample and preliminary nature of these results, SADD item selection was also informed by literature on the phenomenology of SAD.

The SADD starts with an overview, where parents record the number of anxious and nonanxious separations (or attempted separations) for eight separate dates. Situation sheets allow parents to record when the separation occurred, the nature of the separation for their child (anxious vs. nonanxious), type of separation, anxiety level, thoughts, child reactions, and their corresponding reaction. Situation sheets list preset options for each area assessed, all of which include an "other" answer category. Respondents place a cross next to items reflecting their experience. Preset options for the nature and type of separation are mutually exclusive, whereas multiple responses are permitted in the remaining sections. Parents record how accurately anxiety described how they felt on separation using a 4-point scale, from 4 (*applies to me exactly*) to 1 (*does not apply to me at all*). For each reported separation, codes of -1 or 1 are applied if any dysfunctional or positive thought options are selected, respectively. Likewise, child reactions are coded -1 if any negative reactions are selected (six items) or 1 if any positive/neutral reactions are selected (two items). If any dysfunctional thought or negative reaction is selected *and* any positive/neutral thought or reaction is selected, a score of 0 is awarded for that particular separation. Thus a score of -1 is only allocated if at least one negative and no positive/neutral items are selected. Lower scores indicate a tendency toward more dysfunctional thinking and more negative child reactions in response to parent-child separation.

The Diagnostic Interview for Children and Youth for *DSM-IV-TR*: Child and Parent Versions (Kinder-DIPS; *DSM-IV-TR* Version; Schneider, Unnewehr, & Margraf, 2009) are structured interviews designed to assess mental disorders in children according to *DSM-IV-TR* criteria (American Psychiatric Association, 2000). Qualified clinical psychologists or graduate students provided diagnoses following separate parent and child interviews. Clinician-based diagnoses were based on information combined from parent and child interviews, unless the child was younger than 8 years, in which case diagnoses were based on parent interview only. The Kinder-DIPS has good validity and retest reliability for all axis I primary diagnoses (child version: $\kappa_s = .48-.88$; parent version: $\kappa_s = .74-.96$) (Schneider et al., 2009). Schneider et al. found moderate parent-child agreement for SAD ($\kappa = .54$, Yule's $Y = .94$). Interrater reliability estimates for the current sample were good for SAD diagnoses ($\kappa = .67$) and very good for an overall diagnosis of anxiety ($\kappa = .89$).

TABLE 2
List of Separation Anxiety Daily Diary Items

Overview
1. Total number of anxious separations per day; date of occurrence
2. Total number of nonanxious separations per day; date of occurrence Situation Sheet
1. Anxiety or non-anxiety-provoking separation for child
2. Type of separation
i. Parent(s) intended to go out without child
ii. Child was supposed to go out without parent(s)
iii. Child was supposed to go to sleep in own bed or bedroom
3. Anxiety rating
4. Thoughts
i. I am a bad mother/father
ii. It is my fault my child is so anxious
iii. My child is simply not yet able to be by him/herself
iv. My child will be traumatized if I go
v. I can't bear to leave my child alone
vi. My child will enjoy spending time without me/my partner
vii. My child will make it!
5. Child reactions
i. Cried
ii. Clung to parent
iii. Screamed
iv. Complained
v. Accepted it
vi. Looked sad
vii. Threw a tantrum
viii. Looked happy
6. Parent reactions
i. Parent stayed at home with their child
ii. Parent went out without their child
iii. Parent insisted that their child faced the situation

The Revised Children's Manifest Anxiety Scale: Child and Parent versions (RCMAS-C/P; Pina, Silverman, Saavedra, & Weems, 2001; Reynolds & Richmond, 1978) assess child anxiety symptoms and have been validated in German-speaking samples (Boehnke, Silbereisen, Reynolds, & Richmond, 1986). Alphas were .88 and .87, respectively, in the current sample.

The Separation Anxiety Inventory for Children: Child and Parent versions (SAI-C/P; Schneider & In-Albon, in press) each consist of 12 items assessing the degree of distress and avoidance of separations on a 5-point scale from 0 (*never*) to 4 (*always*). Child and parent versions have shown good retest reliability ($r_s = .84, .66$), internal consistency (Cronbach's $\alpha_s = .80, .81$), and moderate agreement ($r = .47$). Alphas were .85 and .90 for SAI-C/P total scores in the current sample.

The Inventory for the Assessment of Quality of Life in Children and Adolescents: Child and Parent versions (ILC-C/P; Mattejat et al., 1998; Mattejat et al., 2005) consist of seven items rated on a 5-point scale from 1 (*very good*) to 5 (*very bad*). The ILC-C/P can discriminate between children attending in-patient and out-patient psychiatric services (Mattejat et al., 2003, 2005). Alphas were .73 and .66 for the child and parent versions in the current sample.

The Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) is a 21-item self-report inventory assessing anxiety symptom severity that was used to assess maternal level of anxiety. The reliability and validity of the BAI has been tested in German-speaking samples (Margraf & Ehlers, 2007). The alpha was .89 in the current sample.

Procedure

The written informed consent of parents and assent of children was obtained after all study procedures were approved by the Ethics Commission Board of the government of the canton of Basel, Switzerland. Families were mailed questionnaires, which were returned at the Kinder-DIPS assessment. Younger children (<8 years) were assisted with questionnaire completion by therapists at the assessment session. However, for some, this task remained too difficult (SAD=12, clinical control=4, healthy controls=3). Therapists then introduced the SADD, working through one example separation with each mother to demonstrate correct completion. Mothers were asked to complete one situation sheet for every anxious separation encountered for 8 consecutive days. Recording of only one nonanxious separation each day was requested to reduce participant burden. Participants in the clinical samples completed the SADD prior to treatment. Diaries erroneously completed by fathers ($n = 8$) were excluded from the analyses.

RESULTS

Sample Characteristics

The majority of children were Swiss (77%) with the remainder identified as "other" European (33%). All participants were white. Most mothers were currently married or in a de facto relationship (89%). Monthly household income (Swiss francs) indicated a primarily middle to upper-middle-class sample (6% less than 2,000; 43% 2,000–6,000; 37% 6,000–10,000; 13% 10,000 or more). Two-tailed between-subjects analyses of variance revealed no group differences for mother or child age,¹ $F(2, 179) = .87$; $F(2, 188) = 3.17$, $ps > .017$. A few mothers did not report all requested sociodemographic information, resulting in some missing data. Chi-square analyses did not detect any group differences on child gender, $\chi^2(2, 188) = 1.06$; nationality, $\chi^2(2, 183) = 1.07$; household income, $\chi^2(6, 172) = 2.95$; or whether mothers were married/partnered or single, $\chi^2(2, 182) = 6.97$, all $ps > .017$.

Compliance With the SADD

Thirty-three mothers (SAD=17, clinical control=14, healthy control=2) did not complete any part of the SADD. These noncompleters did not differ from completers on any demographic measures.² Four mothers (SAD=1, clinical controls=2, healthy controls=1) completed the overview but no situation sheets, whereas three mothers in the SAD sample completed the situation sheets but not the overview. Completion rates averaged 7.16 dates ($SD = 1.85$) for the overview and 5.46 dates ($SD = 2.43$) for situation sheets. Comparisons revealed no group differences in completion rates for the overview or situation sheets, suggesting that compliance was not influenced by the greater relevance of the diary to the SAD sample. The most missing data³ was present for mother thoughts (22%), reactions (19%), and child reactions (23%). The best compliance was for the nature and type of separation, with 91% or more of these items completed.

Calculation of SADD Variables

The total number of anxious separations during the 8-day assessment period was summed and divided by the total number of reported separations (anxious and nonanxious). This same process was applied to the number of nonanxious separations, yielding separate proportions for both variables and controlling for differences in the number of separations reported across subjects. These proportions were then multiplied by 8

¹Bonferroni adjustments were applied, with alpha set at $p = .017$ given three post hoc group comparisons.

²Interested readers may contact the first author for the exact statistics.

³Two-tailed chi-squared analyses did not reveal any significant group differences on the percentage of missing data (all $ps > .017$).

TABLE 3
Group Differences on SADD Variables

SADD Variables	SAD M (SD)	Clinical Control M (SD)	Healthy Control M (SD)	F	η^2
Total separations	13.01 (6.03)	11.91 (7.00)	13.68 (5.74)	.779	.011
Anxious separations	.89 (.64) _a	.39 (.39) _a	.03 (.07) _a	42.808***	.374
Non-anxious separations	.94 (.75) _{a,b}	1.40 (.97) _a	1.76 (.68) _b	14.633***	.170
Parent(s) intended to go out and leave child at home	.16 (.19)	.21 (.25)	.25 (.27)	2.205	.031
Maternal anxiety rating	3.37 (.70) _a	3.43 (.77) _b	3.81 (.29) _{a,b}	6.255*	.082
Maternal thoughts	.23 (.76) _a	.51 (.71) _b	.97 (.09) _{a,b}	16.250***	.205
Child reactions	.10 (.68)	.35 (.75)	.43 (.57)	3.113	.048
Mother stayed at home with child	.17 (.23)	.09 (.22)	.13 (.21)	1.205	.019

Note. SADD = Separation Anxiety Daily Diary; SAD = separation anxiety disorder. Means with different subscripts differ significantly at $p < .017$.

* $p < .017$, *** $p \leq .001$.

to represent estimates of the frequency of anxious and nonanxious separations encountered during the entire 8-day assessment period. Thus, a one-unit change in increment on these variables represents one additional anxious or nonanxious separation over the 8-day period. The remaining SADD items (maternal dysfunctional thoughts, maternal separation-related anxiety, child reactions, and maternal avoidance of separation variables) were summed and then averaged across the total number of responses provided during the 8-day assessment period. Data were checked for univariate and multivariate outliers, however, none required removal. Means and standard deviations for SADD variables are presented in Table 3.

Group Comparisons on SADD Variables

One-way analyses of variance with post hoc Bonferroni adjustments examined the main effect of group on SADD variables (see Table 3). Groups did not differ significantly on the total number of separations reported. Mothers in the SAD sample reported more anxious and fewer nonanxious separations than mothers of healthy and clinical control children. More dysfunctional thoughts about separation and increased separation-related anxiety differentiated mothers in the SAD sample from mothers of healthy but not clinical control children. Groups did not differ on variables assessing maternal avoidance of separation.

Prediction of Diagnostic Group by the SADD and SAI-P

Multinomial logistic regression analyses were conducted for maternal report on the SAI and SADD to predict membership in one of three outcome categories (SAD, clinical, or healthy control group), with the SAD sample as the reference category. The SAI is confined to the

assessment of child separation anxiety symptoms, namely avoidance of parent-child separation and associated distress. Examination of the incremental validity of the SADD in relation to the SAI was therefore confined to SADD items assessing child separation anxiety symptoms (i.e., the frequency of anxious and nonanxious separations, child reactions to separation) and excluding items assessing parent factors to provide a more equivalent test.

Analyses were first conducted using the SAI-P score as a predictor and then after addition of SADD items assessing separation anxiety symptoms. For mother report, 37 cases with missing values on predictor variables were deleted leaving 115 cases. The model with the SAI-P as a lone predictor was significant, $\chi^2(2, N = 115) = 75.87, p < .001$, indicating reliable differentiation between diagnostic groups. After addition of SADD-reported anxious separations, nonanxious separations and child reactions as additional predictors, $\chi^2(8, N = 115) = 113.66, p < .001$, Nagelkerke $R^2 = .72$.

TABLE 4
Multinomial Logistic Regression Analyses: Diagnostic Predictive Validity of the SAI-P and SADD

Predictor Variables	Clinical Controls ^a OR No. (95% CI)	Healthy Controls ^a OR No. (95% CI)
SAI-P Only		
SAI-P	1.10*** (1.05, 1.16)	1.31*** (1.19, 1.44)
SAI-P and SADD Symptom Variables		
SAI-P	1.07 (1.01, 1.14)	1.30*** (1.13, 1.50)
Anxious Separations	1.22 (1.00, 1.49)	4.40*** (1.82, 10.63)
Nonanxious Separations	.96 (.87, 1.05)	.88 (.76, 1.02)
Child Reaction	1.08 (.49, 2.41)	1.67 (.46, 5.88)

Note. SAI-P = Separation Anxiety Inventory: Parent version (Schneider & In-Albon, in press); SADD = Separation Anxiety Daily Diary.

^aThe separation anxiety group is the reference category.

*** $p \leq .001$; no. odds ratio and 95% confidence intervals.

TABLE 5
Relationship Between Clinical Measures and SADD Variables

<i>SADD Variables</i>	<i>ILC-P</i>	<i>ILC-C</i>	<i>RCMAS-P</i>	<i>RCMAS-C</i>	<i>SAI-P</i>	<i>SAI-C</i>	<i>BAI</i>
Anxious Separations	.25**	.23**	.22*	.34**	.59**	.63**	.06
Nonanxious Separations	-.34**	-.15	-.23*	-.21*	-.36**	-.46**	-.10
Parent(s) Intended to Go Out and Leave Child at Home	-.15	-.07	-.21*	-.09	-.16	-.18	.08
Maternal Anxiety Rating	.28**	.14	.29**	.11	.22*	.20*	.19*
Maternal Thoughts	-.22*	-.23*	-.22*	-.31**	-.46**	-.42**	.03
Child Reactions	.03	.00	-.17	-.09	-.28**	-.23*	-.08
Mother Stayed at Home With Child	.12	.12	.15	.12	.17	.01	.09

Note. SADD = Separation Anxiety Daily Diary; ILC-C/P = Inventory for the Assessment of Quality of Life in Children and Adolescents: Child and Parent versions (Mattejat et al., 1998, 2005); RCMAS-C/P = Revised Children's Manifest Anxiety Scale: Child and Parent versions (Pina et al., 2001; Reynolds & Richmond, 1978); SAI-C/P = Separation Anxiety Inventory for Children: Child and Parent versions (Schneider & In-Albon, in press); BAI = Beck Anxiety Inventory (Beck et al., 1988).

* $p < .05$. ** $p < .01$.

Comparison of log-likelihood ratios for models with and without SADD symptom variables revealed significant improvement with the additional predictors, $\chi^2(6, N = 115) = 37.79, p < .001$. Although all variables contributed to the model, increased separation anxiety symptoms (SAI-P) and a greater frequency of anxious separations (SADD) significantly increased the odds of being in the SAD sample rather than the healthy control group (see Table 4). A child is therefore 4.40 times more likely to be separation anxious with every increased report of an anxious separation during the assessment period and 1.30 times more likely to be separation anxious with each one unit increment on the SAI-P scale. No single predictor variable increased the odds of inclusion in the SAD versus clinical control sample.

Relationships Between SADD Variables and Clinical Measures

The relationships between clinical measures and SADD variables were examined for the entire sample using two-tailed Pearson correlation coefficients (Table 5). Greater child separation anxiety symptoms (SAI), general anxiety symptoms (RCMAS), and perceived child quality of life (ILC) showed moderate to strong significant associations with most SADD variables. Greater maternal anxiety on separation was significantly associated with increased maternal anxiety symptoms (BAI). Maternal reluctance to leave home without her child was associated with greater mother-reported child anxiety (RCMAS-P). No other associations between variables assessing maternal avoidance of separation and clinical measures were significant.

DISCUSSION

Despite calls for the development and evaluation of daily diaries for specific anxiety disorders (Beidel et al.,

1991; Silverman & Ollendick, 2005), the present study was the first to examine the psychometric properties of a parent-report daily diary in a large sample of children with SAD. Findings showed that the SADD can discriminate children with SAD from healthy control children, consistent with past research using diaries (Beidel et al., 1991). The clinical utility of the SADD was demonstrated through the substantial improvement of the prediction of diagnosis when SADD items assessing child symptoms were added to information gathered from the SAI. Although all information from the SAI and the SADD contributed to the significant prediction of membership in the SAD versus clinical or healthy control samples, the frequency of anxious separations was especially helpful in differentiating children with SAD from healthy controls. The convergent validity of the SADD was demonstrated by moderate to strong associations with measures of separation anxiety (SAI), general anxiety (RCMAS), and child quality of life (ILC). Contrary to expectations and at odds with theories emphasizing the role of parental overprotection in child anxiety (Chorpita & Barlow, 1998; Hudson & Rapee, 2004; Rapee, 2001), findings provided little or no support for a link between separation anxiety and maternal avoidance of separation. This may be due to reactivity, with mothers recognizing unhelpful behaviors through the process of monitoring and altering their behavior as a result.

Compliance with the SADD was acceptable, with the overview and situation sheets completed by mothers for an average of 7.16 and 5.46 days of the 8-day assessment period. Reasons for noncompliance may include lack of motivation, forgetfulness, or the failure of preset options to reflect the experience of all participants. It is difficult to conceive of how one could construct a diary capable of assessing the huge potential variability of responses to anxiety provoking situations that would be practical for use with children (Beidel et al., 1991). This is therefore one inherent limitation of the diary approach.

Compliance with the SADD may improve during therapy, as parental awareness of its clinical utility increases. Future research could evaluate different strategies to improve compliance, such as limiting report to especially troublesome separations or through the use of electronic diaries with preprogrammed reminder “beeps.”

Several limitations should be noted when interpreting current findings. A few mothers did not complete either the overview or the situation sheets, suggesting that particular emphasis needs to be placed on these instructions. Diagnoses were based on parent interview only for children younger than 8 years, due to the poor reliability of diagnosis for this age group (Schniering, Hudson, & Rapee, 2000). We felt, however, that it was important to include younger children given the prevalence of SAD in childhood (Cartwright-Hatton et al., 2006) and its early age of onset (Kessler et al., 2005). Finally, the SADD performed better at distinguishing children with SAD from healthy controls compared to children with other anxiety disorders. Difficulty discriminating between the childhood anxiety disorders is a problem shared by other methods, including diagnostic interviews and questionnaires (Schniering et al., 2000).

Implications for Research, Policy, and Practice

Findings provided evidence for the feasibility and validity of maternal daily diary report in the assessment of SAD. The SADD may be used to enhance our understanding of the nature and impact of separation anxiety. For example, reported associations between increased symptoms (e.g., an increased frequency of anxious separations) and a negative maternal experience of parent-child separation with poor quality of life highlight the strain this disorder places on children and their families. It was interesting to see that although anxious separations occurred frequently for children with SAD in the current study, separations that did not produce anxiety also occurred regularly. This information can form a basis for cognitive restructuring of parental and child beliefs about the ability to cope with separation. Potential clinical applications of the SADD include functional analysis of parent-child interactions during separation and the ongoing evaluation of treatment progress. Future research could examine the sensitivity of the SADD to treatment effects. In sum, the SADD appears to be a useful assessment tool with the ability to obtain detailed information about anxious behaviors in the context within which they occur.

REFERENCES

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders—text revision* (4th ed.). Washington, DC: Author.
- Barrett, P. M., Rapee, R. M., Dadds, M. R., & Ryan, S. M. (1996). Family enhancement of cognitive style in anxious and aggressive children. *Journal of Abnormal Child Psychology*, *24*, 187–203.
- Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, *56*, 893–897.
- Beidel, D. C., Neal, A. M., & Lederer, A. S. (1991). The feasibility and validity of a daily diary for the assessment of anxiety in children. *Behavior Therapy*, *22*, 505–517.
- Birmaher, B., Khetarpul, S., Brent, D., Cully, M., Balach, L., Kaufman, J., et al. (1997). The screen for child anxiety related emotional disorders (SCARED): Scale construction and psychometric characteristics. *Journal of the American Academy of Child and Adolescent Psychiatry*, *36*, 545–553.
- Boehnke, K., Silbereisen, R. K., Reynolds, C. R., & Richmond, B. O. (1986). What I think and feel—German experience with the revised form of the Children’s Manifest Anxiety Scale. *Personality and Individual Differences*, *7*, 553–560.
- Brückl, T. M., Wittchen, H.-U., Höfler, M., Pfister, H., Schneider, S., & Lieb, R. (2007). Childhood separation anxiety and the risk for subsequent psychopathology: Results from a community study. *Psychotherapy and Psychosomatics*, *76*, 47–56.
- Cartwright-Hatton, S., McNicol, K., & Doubleday, E. (2006). Anxiety in a neglected population: Prevalence of anxiety disorders in pre-adolescent children. *Clinical Psychology Review*, *26*, 817–833.
- Chorpita, B. F., & Barlow, D. H. (1998). The development of anxiety: The role of control in the early environment. *Psychological Bulletin*, *124*, 3–21.
- Hudson, J. L., & Rapee, R. M. (2004). From anxious temperament to disorder: An etiological model of generalized anxiety disorder. In R. G. Heimberg, C. L. Turk, & D. S. Mennin (Eds.), *The etiology and development of generalised anxiety disorder* (pp. 51–74). New York: Guilford.
- Kendall, P. C. (1994). Treating anxiety disorders in children: Results of a randomised clinical trial. *Journal of Consulting and Clinical Psychology*, *65*, 724–730.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, *62*, 593–602.
- Kortlander, E., Kendall, P. C., & Panichelli-Mindel, S. M. (1997). Maternal expectations and attributions about coping in anxious children. *Journal of Anxiety Disorders*, *11*, 297–315.
- Last, C. G., Hersen, M., Kazdin, A., Orvaschel, H., & Perrin, S. (1991). Anxiety disorders in children and their families. *Archives of General Psychiatry*, *48*, 928–934.
- March, J. S., Parker, J. D., Sullivan, K., Stallings, P., & Conners, C. K. (1997). The Multidimensional Anxiety Scale for Children (MASC): Factor structure, reliability, and validity. *Journal of the American Academy of Child and Adolescent Psychiatry*, *36*, 554–565.
- Margraf, J., & Ehlers, A. (2007). *BAI—Beck-Angst-Inventar*. [BAI—Beck Anxiety Inventory.] Frankfurt, Germany: Harcourt.
- Margraf, J., Taylor, C. B., Ehlers, A., Roth, W. T., & Agras, W. S. (1987). Panic attacks in the natural environment. *Journal of Nervous and Mental Disease*, *175*, 558–565.
- Mattejat, F., Jungmann, J., Meusers, M., Moik, C., Schaff, C., Schmidt, M.-H., et al. (1998). Das Inventar zur Erfassung der Lebensqualität bei Kindern und Jugendlichen (ILK). Eine Pilotstudie. [The Inventory for the Assessment of the Quality of Life in Children and Adolescents (IQLC): A pilot study.] *Zeitschrift für Kinder- und Jugendpsychiatrie und Psychotherapie*, *26*, 174–182.
- Mattejat, F., König, U., Barchewitz, C., Felbel, D., Herpetz-Dahlmann, B., Hoehne, D., et al. (2005). Zur Lebensqualität von psychisch kranken Kindern und ihren Eltern. Ergebnisse der ersten multizentrischen Studie mit der Elternversion des Inventars zur

- Erfassung der Lebensqualität bei Kindern und Jugendlichen (ILK). [Quality of life of psychiatrically disturbed children and their parents. Results of the first multicenter study with the parents' version of the Inventory for the Assessment of the Quality of Life in Children and Adolescents (ILC).] *Kindheit und Entwicklung*, 14, 39–47.
- Mattejat, F., Simon, B., König, U., Quaschner, K., Barchewitz, C., Felbel, D., et al. (2003). Lebensqualität bei psychisch kranken Kindern und Jugendlichen: Ergebnisse der ersten multizentrischen Studie mit dem Inventar zur Erfassung der Lebensqualität bei Kindern und Jugendlichen (ILK). Quality of life in children and adolescents with psychiatric disorders—Results of the first multicenter-study with the ILK. *Zeitschrift für Kinder- und Jugendpsychiatrie und Psychotherapie*, 31, 293–303.
- Nauta, M. H., Scholing, A., Rapee, R. M., Abbott, M., Spence, S. H., & Waters, A. (2004). A parent-report measure of children's anxiety: Psychometric properties and comparison with child-report in a clinic and normal sample. *Behaviour Research & Therapy*, 42, 813–839.
- Pina, A. A., Silverman, W. K., Saavedra, L. M., & Weems, C. F. (2001). An analysis of the RCMAS lie scale in a clinic sample of anxious children. *Journal of Anxiety Disorders*, 15, 443–457.
- Rapee, R. M. (2001). The development of generalized anxiety. In M. W. Vasey & M. R. Dadds (Eds.), *The developmental psychopathology of anxiety* (pp. 481–503). Oxford, UK: Oxford University Press.
- Reynolds, C. R., & Richmond, B. O. (1978). What I think and feel: A revised measure of children's manifest anxiety. *Journal of Abnormal Child Psychology*, 6, 271–280.
- Schneider, S., & Blatter-Meunier, J. (2004). *TrennungsAngstprogramm Fuer Familien (TAFf)*. [Separation Anxiety Program for Families.] Basel, Switzerland: University of Basel.
- Schneider, S., & In-Albon, T. (in press). Trennungsangst Inventar- Kind/Elternversion (TAI-K/E). [Separation Anxiety Inventory-Child/Parent versions (SAI-C/P).] In C. Barkmann, M. Schulte-Markwort, & E. Brähler (Eds.), *Ratingskalen zur Diagnostik psychischer Störungen des Kindes- und Jugendalters*. Göttingen, Germany: Hogrefe.
- Schneider, S., Unnewehr, S., & Margraf, J. (2009). *Diagnostisches Interview psychischer Störungen im Kindes- und Jugendalter (Kinder-DIPS; 2nd ed.)*. [Diagnostic Interview for Psychological Disorders in Childhood and Adolescence (Kinder-DIPS).] Berlin, Germany: Springer.
- Schniering, C. A., Hudson, J. L., & Rapee, R. M. (2000). Issues in the diagnosis and assessment of anxiety disorders in children and adolescents. *Clinical Psychology Review*, 20, 453–478.
- Silverman, W. K., & Ollendick, T. H. (2005). Evidence-based assessment of anxiety and its disorders in children and adolescents. *Journal of Clinical Child and Adolescent Psychology*, 34, 380–411.
- Spence, S. H. (1999). *Spence Children's Anxiety Scale (parent version)*. Brisbane, Australia: University of Queensland.