



Mother reports of maternal support following child sexual abuse: Preliminary psychometric data on the Maternal Self-report Support Questionnaire (MSSQ)[☆]

Daniel W. Smith^{a,*}, Genelle K. Sawyer^a, Lisa M. Jones^b, Theodore Cross^{b,1}, Michael R. McCart^a, M. Elizabeth Ralston^c

^a National Crime Victims Research & Treatment Center, Medical University of South Carolina, Charleston, SC, USA

^b Crimes Against Children Research Center, University of New Hampshire, Durham, NH, USA

^c Dee Norton Lowcountry Children's Center, Charleston, SC, USA

ARTICLE INFO

Article history:

Received 14 April 2009

Received in revised form 5 February 2010

Accepted 11 February 2010

Available online 17 September 2010

Keywords:

Child sexual abuse
Maternal support
Assessment

ABSTRACT

Objective: Maternal support is an important factor in predicting outcomes following disclosure of child sexual abuse; however, definition of the construct has been unclear and existing measures of maternal support are utilized inconsistently and have limited psychometric data. The purpose of this study was to develop a reliable and valid mother-report measure for assessing maternal support following the disclosure of child sexual abuse.

Methods: Data from 2 very similar samples of mother-child pairs seeking forensic evaluation following the discovery of child sexual abuse were combined, resulting in a final sample of 246.

Results: Exploratory factor analysis resulted in two reliable 7-item factors labeled “Emotional Support” and “Blame/Doubt,” each of which had acceptable internal consistency. Analyses with a child-report measure of general maternal support the construct validity of the MSSQ. Concurrent validity analyses revealed unique relations with maternal ratings of child behavior problems and case characteristic data.

Conclusions: The study resulted in the development of a brief, easily scored self-report measure of maternal support with reasonable preliminary psychometric properties that could easily be utilized in other studies of sexually abused children.

Practice implications: Adoption of this promising measure in future research will reduce the lack of cross-study measurement comparability that has characterized the maternal support literature to date, increase the feasibility of expanding upon current literature on maternal support, and may produce important information leading to clinical and theoretical innovation.

© 2010 Published by Elsevier Ltd.

Introduction

A person's level of social support (e.g., the quality of their social relationships) is an important predictor of psychopathology (Fokias & Tyler, 1995). For instance, several researchers have documented relations between social support and general

[☆] This research was supported by research from the US Department of Health and Human Services Administration on Children and Families (Daniel W. Smith, PI) and the Office of Juvenile Justice and Delinquency Programs (Theodore Cross, PI). The involvement of Drs. Sawyer and McCart was supported by an NIMH T32 training grant (Dean G Kilpatrick, PI). Views expressed in this paper are those of the authors and not of any of these sponsoring institutions.

* Corresponding author.

¹ Present address: RTI International in Waltham, MA, USA.

psychological functioning (e.g., Brown, Andrews, Harris, Adler, & Bridge, 1986). Social support has also been suggested to moderate the impact of various types of stressful and traumatic events (e.g., Roesler, 1994). In the child sexual abuse (CSA) literature, one particular form of support, generally referred to as “maternal support,” has been widely cited as relevant to the functioning of CSA victims after disclosure of the abuse. Several frameworks have been proposed from which to conceptualize the relation between sexual abuse and victim psychopathology (for a review, see Freeman & Morris, 2001). However, most of these conceptual frameworks do not meaningfully address the construct of maternal support.

The one exception is the Transactional Model which treats the construct of maternal support as a fundamental component (Spaccarelli, 1994). In the Transactional Model, sexual abuse is seen as comprising a host of potentially stressful experiences for the child. Some of these stressors are intrinsic to the abuse experiences themselves, others revolve around the circumstances and consequences of disclosure, and still others result from the intervention processes employed by the protective service system (Spaccarelli, 1994). The mother’s reaction to discovery and disclosure of CSA is believed to be critical in determining how the child adjusts to disclosure-related stressors and adapts to intervention-related challenges. For instance, if the mother does not support or protect the child, this may cause the child to utilize maladaptive coping strategies, such as avoidance and self-blame. In addition, non-supportive responses from the mother (e.g., blaming the child for abuse-related problems) may lead a child to experience emotional distress and negative views of the mother and others.

Consistent with the Transactional Model’s predictions, the construct of “maternal support” has been documented as a predictor of childhood adjustment following disclosure of sexual abuse (e.g., Adams-Tucker, 1982; Conte & Schuerman, 1987; Esparza, 1993; Everson, Hunter, Runyon, Edelsohn, & Coulter, 1989; Feiring, Taska, & Lewis, 1998; Lovett, 1995; Tremblay, Hebert, & Piche, 1999). In fact, several studies have also posited that maternal support may be a better predictor of psychological adjustment than abuse-related factors (Fromuth, 1986; Johnson & Kenkel, 1991; Spaccarelli & Kim, 1995). Specifically, Everson et al. (1989) examined the relation between maternal supportiveness and victim psychopathology and found that low levels of abuse-specific maternal support were associated with higher levels of childhood distress and behavior problems. Similarly, Adams-Tucker (1982) found that lack of abuse-specific support by a primary caregiver predicted higher rates of a range of behavioral problems that included withdrawn behavior, suicide attempts, running away from home, fire setting, and aggression. Similar difficulties have been found in children who perceive their mothers to be more rejecting (Lovett, 1995), while positive mother-child relationship quality has been associated with fewer externalizing problems (Esparza, 1993; Tremblay et al., 1999).

Mannarino and Cohen (1996) reported a rare deviation from this pattern of findings. These authors reported no significant relations between abuse-specific maternal non-support (“blaming”) and child symptoms. They offered two explanations for the lack of consistency between their findings and results of similar research. First, they argued that mothers in their study tended to report a high level of support, thus restricting the range of maternal supportiveness. Also, mothers rarely endorsed questionnaire response options that were socially inappropriate (Mannarino & Cohen, 1996). These observations suggested that social desirability factors may have played a role in the accuracy of reporting when mothers were directly queried about their level of support following abuse disclosure.

Taken together, there is considerable agreement across studies that maternal support is positively associated with a healthier prognosis for children following the discovery of sexual abuse (e.g., Fromuth, 1986; Johnson & Kenkel, 1991; Spaccarelli & Kim, 1995). However, a closer examination of the studies reviewed above reveals conceptual and methodological limitations that suggest the need for further research before firm conclusions may be drawn.

Current definitions of maternal support lack clear, precise, and consistently utilized criteria. Although several studies have included assessment of variables that have been termed “maternal support,” few have offered clear operational definitions. In fact, the construct of maternal support has often been assessed without reference to the abuse itself, but rather has been reflected by overall level of support or general parent-child relationship quality (e.g., Conte & Schuerman, 1987; Esparza, 1993; Feiring et al., 1998). As such, research has yet to determine if “abuse-specific” support is distinct from the pre-existing mother-child relationship or a mother’s general ability to provide her child with support.

In studies focusing on abuse-specific support, assessed variables have included one or more forms of protective action (e.g., maternal separation from perpetrator), verbal/emotional support (e.g., empathic responding) following disclosure, and/or belief of the child’s report of abuse (e.g., Adams-Tucker, 1982; Everson et al., 1989; Heriot, 1996), making comparisons across studies difficult. Furthermore, Bolen and Lamb (2004, 2007) highlighted the importance of ambivalence in maternal reactions following CSA. They defined ambivalence as a normative reaction that can occur when mothers feel a strong positive valence toward both the child and the alleged offender. Exploratory research by Bolen and Lamb (2007) suggests that ambivalence and support may be independent constructs with mothers able to feel ambivalence and still be supportive of their children at the same time.

Although it is clear that extant studies have not shared a clear operational definition of the maternal support construct, research suggests that “abuse-specific maternal support” is a multi-dimensional construct likely consisting of mother’s belief in the disclosure of sexual abuse, protective action taken by mother to prevent further victimization and to initiate appropriate intervention, and recognition and support of the child’s distress following abuse and disclosure. However, it remains unclear whether the benefits of maternal support are due primarily to the effects of one type of support (e.g., emotional support), the overall quality of the mother-child relationship, or some combination of several types of support.

Measurement has also been problematic, as researchers have used different strategies for assessing maternal support. For instance, methods of data collection have ranged from subjective chart review performed by non-researchers (Heriot, 1996;

Pintello & Zuravin, 2001) to direct administration of interviews and/or self-report questionnaires (e.g., Everson et al., 1989; Mannarino & Cohen, 1996). Among studies that have used direct administration of assessment instruments, the identity of the respondent has varied. In most studies, mental health professionals or caseworkers have provided judgments of maternal support based upon reviews of charts or interviews with the mother (e.g., Bolen & Lamb, 2002, 2007; Heriot, 1996; Leifer, Kilbane, & Grossman, 2001; Pintello & Zuravin, 2001; Sirles & Franke, 1989). Although this perspective provides important information about the mother's behavior toward the child, there are clear limits to how well these professionals are aware of the mothers' feelings and thoughts about the child and the allegations. In the interest of obtaining a more personal perspective, several studies have had non-offending mothers report their own levels of supportive behavior (e.g., Bolen & Lamb, 2004, 2007; Hsu & Smith, 2000; Mannarino & Cohen, 1996). Four studies have obtained children's perceptions of their relationship with their mothers or of general "social support" (Esparza, 1993; Feiring et al., 1998; Lovett, 1995; Tremblay et al., 1999) and only two studies obtained child-reported perceptions of abuse-specific maternal support (Cyr et al., 2003; Morisson & Clavenna-Valleroy, 1998).

Not only have respondents varied across studies; so have instruments. This is not surprising, given that many studies have established their own idiosyncratic definition of and method to assess maternal support. One relatively commonly used rating scale, the Parental Reaction to Incest Disclosure Scale (PRIDS; Everson et al., 1989), was modified to apply more broadly to both incestuous and non-incestuous cases of CSA (Cross, DeVos, & Whitcomb, 1994). While it has been frequently used as a means of measuring maternal support (e.g., Bolen & Lamb, 2002; Heriot, 1996; Leifer et al., 2001; Pintello & Zuravin, 2001; Sirles & Franke, 1989), little psychometric data on the measure have been reported. Bolen, Lamb, and Gradante (2002) developed the Needs-Based Assessment of Parental Support (NAPS-C), a 26-item, clinician-report rating scale, which demonstrated good internal consistency and strong correlation with the PRIDS. The NAPS-C requires training to administer and has not been used widely by investigators other than the developers. Mannarino and Cohen (1996) developed the Parental Support Questionnaire (PSQ) to measure parental perceptions associated with their own responses to their child's sexual abuse. The PSQ targets verbal/emotional support and "blame," but not belief in disclosure or protective action. Similar to the PRIDS, this measure has been used with small samples to date (e.g., Cohen & Mannarino, 2000) and inadequate psychometric data are available to evaluate its utility.

Taken together, research suggests that maternal support is an important factor in predicting child outcomes following disclosure; however, definition of the construct of maternal support has been unclear and existing measures of maternal support are utilized inconsistently in the literature, target the construct of maternal support in different ways, and have limited psychometric data to support reliability and validity. The purpose of this study was to develop a simple, reliable and valid mother-report measure for assessing maternal support following the disclosure of CSA. This article reports data collected in two separate studies that assessed similar populations using several measures in common, including a newly developed, self-report measure of maternal support. Both samples include mothers of children receiving forensic CSA exams at child advocacy centers. Using comparable data from two studies permitted the creation of a sample adequate for a meaningful, if preliminary, evaluation of the maternal support scale's psychometric properties.

Method

Participants and procedures

All research procedures were approved by relevant university Institutional Review Boards and similar review committees at each participating site. Recruitment methods were very similar in both samples. For both, front-line investigators approached non-offending caregivers in sexual abuse and serious physical abuse cases, briefly described the study and asked for their consent to have researchers contact them by telephone about participation. Research staff called caregivers who gave consent and arranged interviews for interested families. All assessment took place within 6 weeks of the forensic interview. Interviewers were female with at least a bachelor's degree and experience working with victims of abuse.

Sample 1. Participants were 95 mother-child pairs recruited from a child advocacy center (CAC). Inclusion criteria were that (a) children were 7–16 years old; (b) children were victims of CSA involving physical contact (e.g., fondling, penetration), as determined by a professional forensic evaluation; (c) mothers must have been in a stable, caregiving relationship with the child for at least 6 months prior to the report of CSA and not complicit or involved in the sexual abuse; and (d) the initial report of the CSA to authorities must either have occurred within the 6 weeks prior to the forensic evaluation or resulted from the evaluation itself.

Data were collected over a 3-year period, during which 1,254 youth presented to the CAC for a first-time forensic assessment. Of these youth, 957 (76.3%) were ineligible because they did not meet inclusion criteria. The primary reasons youth were excluded were non-indication of contact CSA ($n = 763$) and non-eligible age ($n = 450$). Of the 291 youth who met study criteria, 46 refused to participate, 105 were unable to be contacted, and 20 did not attend up to 4 scheduled assessment appointments. The final sample of 120 mother-child dyads represented 41% of the eligible participants, 49% of those who consented to be recruited, and 86% of those who could be located for recruitment. Of these 120 dyads, 25 were excluded from the current study due to missing or incomplete data, resulting in a final sample of 95 mothers.

Caregivers had a mean age of 37.38 ($SD = 9.22$) and were predominately biological mothers (88.4%). Approximately half of the caregivers were married (54.8%). Household income varied with 41.1% of the households earning less than 20,000 and 20% earning more than 50,000. The majority of caregivers obtained at least a high school education (81%). The mean age of

the children was 11.79 (SD = 2.65) and they were predominately female (86.3%). Approximately half of the children were identified as White (53.7%) with the remaining children being African American (44.2%) or Mixed Race (2.1%).

Sample 2. Participants in the second sample were 151 female caregivers who took part in a multi-site evaluation of CAC's (Jones, Cross, Walsh, & Simone, 2007). The evaluation project collected data on every available sexual and serious physical abuse case investigated at each of 4 CACs, or used a process simulating random selection when the number of cases exceeded resources. In a subset of cases, in-person interviews were conducted with caregivers. A total of 825 caregivers were invited to participate, and 385 interviews were conducted, a 44% participation rate. Non-participation was due to a combination of direct refusals, disconnected contact numbers, non-response, or scheduling difficulties.

The sample was further restricted to 181 cases who met inclusion criteria for this particular study: (a) children were 6–17 years old; (b) children were alleged victims of CSA; and (c) the respondent was the mother or a close female relative who had been caring for the child for at least 6 months prior to the interview and was not complicit in the CSA. Another 30 participants were excluded due to missing data, resulting in 151 cases included in the analyses.

The majority of caregivers were identified as biological mothers (90.7%). Children had a mean age of 10.36 (SD = 3.15) and were predominately female (83.4%). Regarding ethnicity, 52.3% identified as White, 32.5% African American, 8.6% Latino, and 5.3% Mixed.

Measures

Maternal Self-report Support Questionnaire (MSSQ). The MSSQ was developed as a 40-item questionnaire assessing a mother's perceptions of her behavior in 3 theoretically informed domains of abuse-specific support: *Belief in Child* (degree of credence in child's abuse description), *Emotional Support* (empathy for child's distress, absence of rejecting or negative emotions), and *Protective Action* (keeping the child safe from further abuse). These domains were selected based on a review of previous measures (e.g., PRIDS, PRQ) and the clinical literature on abuse-related support (e.g., Deblinger & Heflin, 1996), rather than any specific theoretical formulation about maternal support. Items were developed rationally in an attempt to sample the constructs comprehensively. Mothers use a scale ranging from 0 (not at all like me) to 6 (very much like me) to indicate the degree to which items describe their attitudes and behavior since the discovery of CSA.

Child Behavior Checklist (CBCL). The CBCL (Achenbach, 1991) is a widely used parent-report measure of general behavioral and social maladjustment designed for use with children ages 4–18 years. It consists of 20 social competence items and 118 items that are indicative of emotional and behavioral difficulties. The CBCL produces standardized scores for specific behavioral difficulties (e.g., Attention Problems) and broad band *T*-scores for Internalizing Behavior, Externalizing Behavior, and Social Competence. These scores can be compared across race/ethnicity and gender. A wealth of data attests to the excellent psychometric properties of the CBCL (Achenbach, 1991).

Marlowe-Crowne Social Desirability Scale (MCSDS). The MCSDS (Crowne & Marlowe, 1964) was administered to Sample 1 only and was used to measure the mother's general tendency to endorse socially acceptable response options. The scale consists of 33 true-false items on which participants rate their own personal attitudes and traits. Items are balanced between statements that are culturally acceptable but probably untrue, and statements that are probably true but are undesirable. The sum of socially desirable responses is tallied and used as a continuous measure of positive self-presentation. The MCSDS has shown high levels of both internal consistency and test-retest reliability (Crowne & Marlowe, 1964).

My Family and Friends (MFF). The MFF (Reid, Landesman, Treder, & Jaccard, 1989) was administered to Sample 1 only and was used to measure the child's perception of general social support. The MFF is an interview designed to measure children's perceptions of the availability of support and their satisfaction with the support they receive. The first portion of the interview identifies individuals within the child's support network, and cards are created for each network member (e.g., friend, mother, father). The interview then addresses different aspects of support, including emotional support (e.g., "When you want to talk about your feelings, who do you go to?"), informational support (e.g., "If there is something you don't know too much about and you need more information, who do you go to for an answer?"), affiliative support (e.g., "When you want to be with someone who makes you feel happy, how often do you go to each of these people?"), and conflict ("Who do you get upset or angry at most often, even if you don't show it?"). Children rank members of their network to indicate to whom the child turns to first, second, and so on. Children then use a barometer-type scale (0–50) to indicate their level of satisfaction with support received from each network member. The interview takes an average of 30 min to complete, has good test-retest reliability, and has been effectively used with sexually abused children (Feiring et al., 1998).

The MFF yields two types of summary scores. The first is an average rank score for each individual network member across all support situations (not including conflict). For this summary score, lower rank scores reflect greater utilization for support. The second is an average satisfaction score for each individual network member across all support situations (not including conflict). Higher scores indicate higher satisfaction with support provided. Individual ranking and satisfaction scores can also be obtained for each type of support (e.g., emotional, affiliative, informational).

Demographic information and abuse characteristics. Methods for collecting demographic data and information on sexual abuse allegations differed slightly across studies. In Sample 1 data were collected during the structured interview with the mother. In Sample 2, the demographic information was collected during the structured interview with the mother, while

abuse characteristic data were extracted from agency case files (law enforcement, child protective service agency, and CAC records) by researchers.

Results

Descriptive information on victimization history

In Sample 1, 45 (47.4%) of the youth were sexually abused by a father, sibling, or other relative and 49 (51.6%) were abused by a non-family member (e.g., adult acquaintance, peer). Over half reported CSA involving penetration (58.9%) and multiple incidents of CSA (61.1%). Of the youth in Sample 2, 85 (56.3%) were reported to have been sexually abused by a family member, while 63 (41.7%) reported extra-familial abuse. Under half (42.4%) of the allegations involved sexual penetration, and 22.5% reported multiple incidents of abuse.

Exploratory factor analysis

Consistent with our conceptualization of maternal support, we expected that this measure would be composed of different (albeit related) factors, each reflecting a unique dimension of support. We based our data analytic plan on recommendations for best practices in scale development laid out by [Worthington and Whittaker \(2006\)](#). The initial set of 40 items was developed by the authors based on several factors: a review of the maternal support literature, clinical experience with CSA victims and their families, and consultation with experts in the CSA treatment field. Items were initially selected to reflect various aspects of maternal support cited in the literature, including mother's belief of her child, verbal/emotional support, and protective action. Prior to conducting the factor analyses, 3 items related to interactions with caseworkers were deleted because several maternal caregivers had never been assigned a caseworker. Additionally, to determine factorability of the response set, the Kaiser-Meyer-Olkin (KMO) Test of Sampling Adequacy was conducted. The KMO is an index for comparing the magnitudes of the observed correlation coefficients to the magnitudes of the partial correlation coefficients, thus indicating the extent to which a correlation matrix actually contains factors or simply chance correlations between a small subset of variables. Results indicated KMO = .74, which was well above the [Tabachnick and Fidell \(2001\)](#) recommended cut-off of .60.

Responses to the 37 items were subjected to a principal-axis factor analysis using oblique rotation, to assist in identifying latent factors while allowing for associations between identified factors. Examinations of eigenvalues, scree plot, and factor interpretability determined factor retention. Results indicated that 11 factors produced eigenvalues greater than 1. We used the Cattell-Nelson-Gorsuch (CNG) scree test ([Gorsuch, 1983](#)) to discriminate among factors with eigenvalues >1.00 ([Floyd & Widaman, 1995](#)), which suggested retaining 4 factors. Preliminary analyses and visual inspection of factor items were conducted to examine the interpretability and utility of the 4 factors. The fourth factor consisted of 2 items with an alpha coefficient of less than .40; therefore, consistent with [Tabachnick and Fidell's \(2001\)](#) recommendations, the factor was not retained. Similarly, the third factor consisted of 3 items that had poor Corrected Item-Total Correlations, communalities less than .40, and an alpha coefficient less than .50, and it was therefore not retained. As a result, a 2-factor solution containing 14 of the 37 items subjected to principal-axis factor analysis was chosen for the MSSQ, accounting for 23.37% of the variance, or 14.80% and 8.57%, respectively.

Consistent with the recommendations of [Worthington and Whittaker \(2006\)](#) items were included on a factor if the item loading was .32 or greater (See [Table 1](#) for factor pattern matrix). Two highly interpretable factors emerged, each containing 7 items, and are presented in [Table 1](#). Factor 1 was labeled "Emotional Support" and is composed of 7 items reflecting a

Table 1

Communalities and factor pattern matrix for items on the Maternal Self-report Support Questionnaire.

Item description	Communalities	Factors	
		1	2
Believed your child about everything that happened.	.52	.366	-.136
Willing to talk to your child about the abuse.	.48	.371	.015
Often reassured your child that you would stand by him/her.	.81	.917	-.052
Tried to make your child feel safe.	.84	.925	-.014
Wanted to be supportive.	.52	.429	-.091
Told your child s/he did the right thing by telling you about the abuse.	.63	.523	.075
Tried to be helpful.	.61	.663	.026
Could not help feeling angry with your child.	.49	-.004	.330
Questioned your child's honesty about the abuse.	.47	.023	.343
Wondered what s/he might have done to stop the abuse from happening.	.60	-.031	.656
Wondered if your child could have stopped the abuse if s/he wanted to.	.66	-.060	.785
Could not help resenting all the trouble your child's disclosure about the abuse caused.	.59	.177	.371
Wondered if your child somehow brought the abuse on him/herself.	.60	-.068	.390
Told child they should have told you sooner.	.62	-.088	.339

Note: Boldface indicates on which factor the item was included.

Table 2

Spearman correlations among MSSQ scales and My Family and Friends.

	MSSQ Emotional Support	MSSQ Blame/Doubt
MFF overall mother average rank ^a	-.23*	.28**
MFF overall mother average satisfaction ^b	.23*	-.19
MFF emotional support – Mother avg. rank ^a	-.19	.30**
MFF emotional support – Mother avg. satisfaction ^b	.24*	-.19
MFF conflict – Mother rank ^c	.16	-.21
MFF conflict – Mother intensity ^d	-.13	.25*

* $p < .05$.** $p < .01$.^a Lower scores indicate the mother is more often approached for support.^b Higher scores indicate higher satisfaction with support provided.^c Lower scores indicate the mother is more often a source of conflict.^d Higher scores indicate higher intensity or anger of child during conflict.

mother's ability to provide emotional comfort to her child (e.g., Often reassured your child that you would stand by him/her, Told your child s/he did the right thing by telling you about the abuse). Higher scores reflect higher emotional support. Factor 2 "Blame/Doubt," includes 7 items that reflect a mother's tendency to doubt her child's disclosure and question the role the child may have played in the CSA (e.g., Questioned your child's honesty about the abuse, Wondered if your child could have stopped the abuse if s/he wanted to). Higher scores indicate greater blame/doubt of the child. As expected given the content of the items, the scales were significantly negatively correlated (Spearman's $\rho = -.22$, $p > .01$), suggesting that higher levels of maternal emotional support are modestly related to lower levels of blame and doubt directed toward the child.

The mean of the Emotional Support scale was 40.12 (SD = 4.04, range = 6–42), suggesting that the average mother views herself as providing high levels of emotional support. The mean on Blame/Doubt was 13.54 (SD = 9.76, range = 0–42). To examine the impact of social desirability on a mother's perceptions of her ability to provide her child with support, a subset of the sample ($n = 95$) completed the Marlow-Crowne Social Desirability Scale (MCSD). A modest but significant relationship was found between the MCSD and the Emotional Support scale (Spearman's $\rho = .22$, $p < .05$), suggesting that increased social desirability is related to maternal report of higher emotional support. No significant relationship was found between the MCSD and the Blame/Doubt scale.

Psychometric properties

Reliability analyses of the MSSQ were conducted to examine the internal consistency of each scale. Corrected Item-Total Correlations (CITCs) were all $> .3$, indicating no items that should be deleted. The internal consistencies for the Emotional Support and Blame/Doubt Scales were adequate, with Cronbach's α of .76 and .71, respectively, for the entire sample, and alphas of .88 and .70 for Sample 1 and .68 and .72 for Sample 2.

Construct validity was examined by exploring relations between the MSSQ and child ratings of general maternal support using the My Family and Friends interview (see Table 2). Spearman non-parametric correlations were used to correct for non-normal distributions in MSSQ scale scores (most notably Emotional Support). Modest but significant correlations were found between the child's ratings of general maternal support on the MFF and the mother's reports on the MSSQ. Specifically, higher scores on the MSSQ Emotional Support scale were related to child rankings of support from their mothers ($\rho = -.23$, $p < .05$). The opposite was true for the Blame/Doubt scale, meaning that mothers who reported high levels of blame and doubt had children who ranked their mothers higher (i.e., sought them less frequently for support) for general support ($\rho = .28$, $p < .01$) and emotional support ($\rho = .30$, $p < .01$). Additionally, children who reported high satisfaction with their mother's general ($\rho = .23$, $p < .05$) and emotional support ($\rho = .24$, $p < .05$) had mothers who reported giving higher levels of Emotional Support. Lastly, higher levels of Blame/Doubt were related to child reports of greater conflict with mother ($\rho = .25$, $p < .05$).

In order to explore the MSSQ's relations with clinically relevant outcomes, correlations between the MSSQ scales and the CBCL were examined. Modest but significant correlations were found between the MSSQ scales and each of the CBCL scales (see Table 3). As expected, higher levels of Emotional Support were related to lower levels of problem behaviors and emotions, whereas the Blame/Doubt scale was positively correlated with problem behaviors and emotions.

In addition, characteristics of the sexual abuse and child demographic variables were examined in relation to the MSSQ, including the relationship of the perpetrator (intra- vs. extra-familial), the severity of the abuse (penetration vs. no penetration), the frequency of the abuse (1 time vs. more than 1 time), child age, child gender, and child race (White vs. other). Due to the differing methods of data collection for the abuse characteristic variables, analyses were initially conducted for each study sample individually; however, no between-sample differences were found, so the following results are from the full sample. The Mann-Whitney Test was used to examine the relationship between the MSSQ and the dichotomous variables, which does not assume normality of data. Mothers were less likely to blame/doubt their child if they were abused by someone within the family ($U = -2.06$, $p < .05$) and if the child was white ($U = -3.15$, $p < .01$). To examine the relationship between child age and the MSSQ Spearman non-parametric correlations were used. Results suggest that higher levels of Emotional Support were related to younger child age ($\rho = -.21$, $p < .01$). There were no other significant relationships between the MSSQ and sexual abuse or demographic characteristics.

Table 3

Spearman correlations among MSSQ scales and CBCL scales.

	MSSQ Emotional Support	MSSQ Blame/Doubt
CBCL withdrawn behavior	-.15*	.15*
CBCL anxious/depressed	-.14*	.12
CBCL social problems	-.14*	.20**
CBCL thought problems	-.20**	.26**
CBCL attention problems	-.18**	.15*
CBCL delinquent behavior	-.29**	.25**
CBCL aggressive behavior	-.18**	.17**
CBCL internalizing problems	-.16*	.13
CBCL externalizing problems	-.24**	.20**
CBCL total problems	-.23**	.17**

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

Discussion

Results preliminarily suggest that 2 theoretically relevant dimensions of maternal support following child sexual abuse can be measured with a newly developed mother-report questionnaire. Data from 2 samples of mothers presenting at child advocacy centers and other agencies for child sexual abuse forensic examinations revealed that 2 interpretable factors could reliably be identified within a scale measuring various aspects of maternal support. Fourteen of the original 40 items were retained with 7 items loading on each of the 2 factors. This rate of retention is consistent with previous studies of scale development, as the initial item pool commonly consists of 3–4 times the number of items that are ultimately retained on the measure (Worthington & Whittaker, 2006).

Content analysis of these factors suggested that they reflected the degree to which mothers expressed emotional support to their children following abuse disclosure, and the degree to which they blamed their children for the occurrence of, or doubted their children's reports about, abuse. Both these factors, labeled "Emotional Support" and "Blame/Doubt," have been posited as important determinants of child adaptation following CSA (e.g., Everson et al., 1989; Spaccarelli, 1994). Items that had been included to represent "protective action" taken to keep the child safe from perpetrators generally did not remain on the scale following factor analysis. These items (which included actions like following recommendations from authorities, attending medical and therapeutic appointments, and keeping the child away from the alleged perpetrator) were problematic for many mothers who either had not had previous contact with medical or therapeutic services, had no opportunity to keep the child away from the perpetrator (e.g., perpetrator lived in another state), or who said they either had not received instructions from authorities or had not had significant contact with authorities prior to completing the initial assessment. Different items assessing more universal aspects of protective action could be explored in future research.

Mothers' self-rated levels of Emotional Support and Blame/Doubt were related to their ratings of child behavior problems in directions consistent with relevant theories (e.g., Spaccarelli, 1994). Consistent with the notion of a multi-dimensional maternal support construct, Emotional Support and Blame/Doubt were significantly but modestly negatively correlated. The magnitude of the correlation ($\rho = -.27$) suggests that, while the factors are related, they are examining unique aspects of maternal support that can simultaneously co-occur. This finding is similar to Bolen and Lamb's (2007) preliminary finding that parental support and ambivalence are relatively independent constructs, and suggests that parents can simultaneously be ambivalent and supportive.

Further supporting the construct validity of the MSSQ, child interview measures of social support were significantly related to mothers' reports of both Emotional Support and Blame/Doubt in a subset of the sample. Children who ranked their mothers as primary sources of support and who reported receiving greater satisfaction from maternal support had mothers who reported higher levels of providing Emotional Support on the MSSQ. Similarly, children who ranked their mothers higher (i.e., as less frequent sources of support) had mothers who reported higher levels of Blame/Doubt. Although the magnitude of these correlations was modest, there may be several reasons for this. First, concordance between maternal and child victim ratings of maternal support (Morisson & Clavenna-Valleroy, 1998) and other constructs, including resiliency and psychopathology (e.g., Cyr et al., 2003; Spaccarelli & Kim, 1995), is not particularly high. Second, the MSSQ asks mothers to rate their level of abuse-specific support, whereas the MFF is administered without reference to a particular stressor. To the extent that children in this study were including non-abuse-related support in their ratings, the correspondence between MFF and MSSQ scores might be expected to be attenuated. However, we view the correlations between the measures to provide cross-informant evidence that the MSSQ measures meaningful aspects of abuse-related support provided by mothers.

Interestingly, characteristics of the sexual abuse experience did not appear to be strongly related to mothers' ratings of their support. The only significant finding was counter to expectations; specifically, Blame/Doubt was rated lower when the perpetrator was a family member. It would commonly be assumed that intra-familial perpetrators would present greater conflicts for mothers with respect to loyalty, which could compromise emotional support and increase skepticism and doubt regarding allegations (Bolen & Lamb, 2004). The absence of these relations in this study suggests that any relationships that exist between abuse characteristics and maternal support may be complex and depend more on individual dynamics than

on gross categorizations. This suggests the need for refined measurement strategies in research aiming to relate outcomes to abuse characteristics.

Some previous research suggests that self-ratings of maternal support are likely to be heavily influenced by mothers' motivations to appear socially appropriate (Mannarino & Cohen, 1996). Our findings found only limited support for this proposition. Overall, responses on the Emotional Support subscale were highly negatively skewed, necessitating the use of non-parametric statistics in the data analysis. This may suggest that mothers recognized the appropriateness of endorsing supportive responses given the context of the forensic sexual abuse exam. Alternatively, this pattern of findings may reflect that mothers are genuinely supportive of their children who have been sexually abused or at least view themselves as supportive (e.g., Everson et al., 1989; Leifer et al., 2001). Consistent with the latter notion, responses on the Blame/Doubt subscale were less skewed and not related to the MCSQ, so any perceived demand for socially acceptable responses was less evident when it came to making negative attributions about the child's honesty or possible responsibility for the abuse. Emotional Support score was correlated with social desirability, but the magnitude of the relationship was relatively small. This suggests that mothers whose children are receiving forensic examinations recognize that their role requires providing some degree of reassurance and coping assistance to their children, but that this does not override their ability to endorse questions and concerns they might have about their child's disclosure. Also, as noted above, the correlations between child reports of maternal support and MSSQ scores indicate that social desirability is not the only determinant of maternal responses.

These data represent an improvement over previous findings with respect to maternal support. First, the sample size is relatively large compared to previous studies of maternal support as accessing participants for research in the area of CSA is often challenging. Second, participating mother-child pairs were recruited prior to any decisions regarding treatment seeking. It is reasonable to presume that mothers presenting for treatment have already demonstrated at least a moderate level of supportiveness, whereas the mothers included in this sample had attended only a forensic assessment that, in some cases, was mandated by service agencies. This probably resulted in greater variability in maternal support among mothers represented in our data (cf. Mannarino & Cohen, 1996). Finally, this study has resulted in the development of a brief, easily scored self-report measure of maternal support with reasonable preliminary psychometric properties that could easily be utilized in other studies of sexually abused children. Although additional psychometric analyses are clearly warranted, adoption of this (or a similar) measure in future research will reduce the lack of cross-study measurement comparability that has characterized the maternal support literature to date.

Although the data presented here are an improvement over previous studies, several factors limit the conclusions that can be drawn. First, most of the data analyzed in this study was provided by the mothers themselves. Obtained correlations, therefore, although in directions predicted by relevant theories, may reflect variance associated with characteristics of the informants rather than the phenomena under study. The inclusion of child interview maternal support data mitigates this criticism somewhat, but these data were only available on a subset of the sample. More complete data from other sources would increase confidence in the obtained findings. Toward that end, children in Study 1 completed a child-report measure of maternal support and several symptom checklists; analyses of these data are underway and should provide important additional information. Further, given that caseworkers in child protection agencies often rely heavily upon judgments of maternal support when making decisions about out-of-home placements (Adams-Tucker, 1982; Coohy, 2006; Everson et al., 1989), it is important to understand the accuracy and usefulness of third party reports of maternal support. Therefore, it will be important for future research to examine maternal support from the perspective of others involved in the forensic and child protective processes. Second, although our sample is large in comparison to previous studies of maternal support, participants were volunteers drawn from a clinical setting, and their representativeness of the larger population of CSA victims and their mothers cannot be determined. Further, it will be important for future research to provide confirmatory evidence for the factor structure and further assess the psychometric properties of the MSSQ. In addition, the magnitude of relations between child outcomes and maternal support dimensions in this study was modest. The clinical significance of these associations remains to be determined.

Similarly, because the data are correlational, the temporal stability of the observed relations among variables is also unknown. Fortunately, the development of a promising measure of maternal support increases the feasibility of such research, and may produce important information leading to clinical and theoretical innovation.

References

- Achenbach, T. M. (1991). *The Child Behavior Checklist manual*. Burlington, VT: The University of Vermont.
- Adams-Tucker, C. (1982). Proximate effects of sexual abuse in childhood: A report on 28 children. *American Journal of Psychiatry*, 139, 1252–1256.
- Bolen, R. M., & Lamb, J. L. (2002). Guardian support of sexually abused children: A study of its predictors. *Child Maltreatment*, 7, 265–276.
- Bolen, R. M., & Lamb, J. L. (2004). Ambivalence of nonoffending guardians after child sexual abuse disclosure. *Journal of Interpersonal Violence*, 19, 185–211.
- Bolen, R. M., & Lamb, J. L. (2007). Can nonoffending mothers of sexually abused children be both ambivalent and supportive? *Child Maltreatment*, 12, 191–197.
- Bolen, R. M., Lamb, J. L., & Gradante, J. (2002). The needs-based assessment of parental (guardian) support: A test of its validity and reliability. *Child Abuse and Neglect*, 26, 1081–1099.
- Brown, G. W., Andrews, B., Harris, T., Adler, Z., & Bridge, L. (1986). Social support, self-esteem and depression. *Psychological Medicine*, 16, 813–831.
- Cohen, J. A., & Mannarino, A. P. (2000). Predictors of treatment outcome in sexually abused children. *Child Abuse & Neglect*, 24, 983–994.
- Coohy, C. (2006). How child protective services investigators decide to substantiate mothers for failure-to-protect in sexual abuse cases. *Journal of Child Sexual Abuse*, 15, 61–81.
- Conte, J. R., & Schuerman, J. R. (1987). Factors associated with an increased impact of child sexual abuse. *Child Abuse & Neglect*, 11, 201–211.
- Cross, T. P., DeVos, E., & Whitcomb, D. (1994). Prosecution of CSA: Which cases are accepted? *Child Abuse & Neglect*, 18, 663–677.

- Crowne, D. P., & Marlowe, D. (1964). *The approval motive: Studies in evaluative dependence*. New York: Wiley.
- Cyr, M., Wright, J., Toupin, J., Oxman-Martinez, J., McDuff, P., & Theriault, C. (2003). Predictors of maternal support: The point of view of adolescent victims of sexual abuse and their mothers. *Journal of Child Sexual Abuse*, 12, 39–65.
- Deblinger, E., & Heflin, A. H. (1996). *Treating sexually abused children and their non-offending parents: A cognitive-behavioral approach*. Thousand Oaks, CA: Sage Publications.
- Esparza, D. (1993). Maternal support and stress response in sexually abused girls ages 6–12. *Issues in Mental Health Nursing*, 14, 85–107.
- Everson, M. D., Hunter, W. M., Runyon, D. K., Edelson, G. A., & Coulter, M. L. (1989). Maternal support following disclosure of incest. *American Journal of Orthopsychiatry*, 59, 197–207.
- Feiring, C., Taska, L. S., & Lewis, M. (1998). Social support and children's and adolescents' adaptation to sexual abuse. *Journal of Interpersonal Violence*, 13, 240–260.
- Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment*, 7, 286–299.
- Fokias, D., & Tyler, P. (1995). Social support and phobia. *Clinical Psychology Review*, 15, 347–366.
- Freeman, K. A., & Morris, T. L. (2001). A review of conceptual models explaining the effects of child sexual abuse. *Aggression and Violent Behavior*, 6, 357–373.
- Fromuth, M. E. (1986). The relationship of childhood sexual abuse with later psychological and sexual adjustment in a sample of college women. *Child Abuse & Neglect*, 10, 5–15.
- Gorsuch, R. L. (1983). Three methods for analyzing limited time-series (N of 1) data. *Behavioral Assessment*, 5, 141–154.
- Heriot, J. (1996). Maternal protectiveness following the disclosure of intrafamilial child sexual abuse. *Journal of Interpersonal Violence*, 11, 181–194.
- Hsu, E., & Smith, D. W. (2000). Relations among maternal support, maternal distress, and child functioning following disclosure of incest. Paper presented at the San Diego Conference on Responding to Child Maltreatment. San Diego, CA, January.
- Johnson, B., & Kenkel, M. (1991). Stress, coping, and adjustment in female adolescent incest victims. *Child Abuse & Neglect*, 15, 293–305.
- Jones, L. M., Cross, T. P., Walsh, W. A., & Simone, M. (2007). Do Children's Advocacy Centers improve families' experiences of child sexual abuse investigations? *Child Abuse & Neglect*, 31, 1069–1085.
- Leifer, M., Kilbane, T., & Grossman, G. (2001). A three-generational study comparing the families of supportive and unsupportive mothers of sexually abused children. *Child Maltreatment*, 6, 353–364.
- Lovett, B. B. (1995). Child sexual abuse: The female victim's relationship with her nonoffending mother. *Child Abuse & Neglect*, 19, 729–738.
- Mannarino, A. P., & Cohen, J. A. (1996). Family-related variables and psychological symptom formation in sexually abused girls. *Journal of Child Sexual Abuse*, 5, 105–120.
- Morisson, N. C., & Clavenna-Valleroy, J. (1998). Perceptions of maternal support as related to self-concept and self-report of depression in sexually abused female adolescents. *Journal of Child Sexual Abuse*, 7, 23–40.
- Pintello, D., & Zuravin, S. (2001). Intrafamilial child sexual abuse: Predictors of postdisclosure maternal belief and protective action. *Child Maltreatment*, 6, 344–352.
- Reid, M., Landesman, S., Treder, R., & Jaccard, J. (1989). "My Family and Friends": Six- to twelve-year-old children's perceptions of social support. *Child Development*, 60, 896–910.
- Roesler, T. A. (1994). Reactions to disclosure of childhood sexual abuse: The effect on adult symptoms. *Journal of Nervous and Mental Disease*, 182, 618–624.
- Sirles, E. A., & Franke, P. J. (1989). Factors influencing mothers' reactions to intrafamily sexual abuse. *Child Abuse & Neglect*, 13, 131–139.
- Spaccarelli, S. (1994). Stress, appraisal, and coping in child sexual abuse: A theoretical and empirical review. *Psychological Bulletin*, 116, 340–362.
- Spaccarelli, S., & Kim, S. (1995). Resilience criteria and factors associated with resilience in sexually abused girls. *Child Abuse & Neglect*, 19, 1171–1182.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). New York: Harper & Row.
- Tremblay, C., Hebert, M., & Piche, C. (1999). Coping strategies and social support as mediators of consequences in CSA victims. *Child Abuse & Neglect*, 23, 929–945.
- Worthington, R. L., & Whittaker, T. A. (2006). Scale development research: A content analysis and recommendations for best practices. *The Counseling Psychologist*, 34, 806–838.