

# Increasing Parent–Pediatrician Communication about Children’s Psychosocial Problems

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**Objective** To examine the differential effects of two scoring procedures for a parent-completed measure, the Pediatric Symptom Checklist (PSC), designed to assess children’s behavioral and emotional functioning, on parent–pediatrician communication concerning psychosocial issues. **Methods** Prior to their medical appointment, 174 parents of children aged 4–16 were assigned to one of three experimental conditions: (1) typical medical care control, (2) Staff-Scored PSC administration, or (3) Parent-Scored PSC administration. Following the appointment, parent perception of parent–pediatrician communication was assessed.

**Results** For children with more emotional and behavioral problems, participants in the Parent-Scored group and the Staff-Scored group had better parent–pediatrician communication scores than those in the control group. **Conclusions** Both the Staff-Scored and Parent-Scored administrations of the PSC improved parent–pediatrician communication on psychosocial issues. The Parent-Scored PSC removed the scoring burden on the medical personnel.

**Key words** emotional and behavioral functioning; parent–physician communication; pediatric psychosocial screening; psychosocial problem detection.

Pediatricians are a near-ideal group for detecting psychosocial problems in children and adolescents and for discussing these issues with families. Pediatricians follow children over time, developing rapport with the family as they make developmental and health recommendations. Despite guidelines developed by the American Academy of Pediatrics (AAP) for increasing pediatricians’ attention to psychosocial problems (American Academy of Pediatrics, Committee on Psychosocial Aspects of Child and Family Health, 2001), there continues to be a deficit in pediatricians’ communication with parents about children’s behavioral and emotional problems. Past studies have reported pediatrician detection rates of psychosocial problems (e.g., behavioral, developmental, and social problems) in children visiting pediatricians ranging from as low as 17–50% (Costello et al., 1988; Wildman, Kizilbash, & Smucker, 1999), indicating insufficient attention to these needs.

Multiple barriers exist that limit pediatricians’ communication about children’s psychosocial issues. For example, there is a perception that discussing their

patients’ psychosocial functioning will significantly prolong the length of the visit, despite mixed findings on how the discussion of the issues may impact appointment length (Cooper, Valleley, Polaha, Begeny, & Evans, 2006; Van Dulmen & Holl, 2000). Additional pediatrician barriers include knowledge deficits (e.g., inadequate training in assessment of psychosocial problems, inadequate awareness of available referral networks for mental health services), constraints on economic resources (e.g., cost of training pediatricians in detection, communication, and providing referrals), and attitudinal barriers (e.g., discomfort labeling children with psychosocial problems, the perception that this responsibility is outside the role of pediatricians) (Lynch, Wildman, & Smucker, 1997; Sharp, Pantell, Murphy, & Lewis, 1992; Wissow, Larson, Anderson, & Hadjiisky, 2005).

In addition to pediatrician barriers, parents may be reluctant to disclose their concerns to pediatricians (Briggs-Gowan, Horwitz, Schwab-Stone, Leventhal, & Leaf, 2000), even though pediatricians are appropriate resources for advice and referrals regarding behavioral

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and developmental problems. The adult literature indicates that patients' disclosures of mental health issues may take the form of less detectable and indirect "clues" or "hints," rather than overt expressions of concern (Levinson, Gorawara-Bhat, & Lamb, 2000). Furthermore, even when parents do raise psychosocial concerns, there is evidence that pediatricians either do not perceive their expressions of concern or do not respond appropriately (Sharp et al., 1992). These data suggest that physicians need clearer guidance for how to discuss parents' psychosocial concerns and that parents need guidance on how to clearly and directly broach those concerns.

To address these barriers, pediatricians and/or parents have participated in training programs designed to improve communication. However, these interventions tend to be time intensive and costly with benefits often failing to maintain (Hulsman, Ros, Winnubst, & Bensing, 1999; Post, Cegala, & Miser, 2002; Razavi & Delvaux, 1997). In contrast to lengthy communication training interventions, psychosocial screening measures have been used to increase parent-pediatrician communication. The Pediatric Symptom Checklist (PSC; Jellinek & Murphy, 1988) is a 35-item screening instrument validated for use with children aged 4–16. It is a brief (i.e., 5 min), parent-completed questionnaire designed to assess children's psychosocial functioning that is typically administered in the waiting room prior to a pediatric appointment. A summed total score of 28 or greater indicates a high likelihood that the child is experiencing significant psychosocial problems and should be evaluated more thoroughly. Research indicates that pediatricians' use of the PSC is associated with higher rates of detection of psychosocial issues (Jellinek et al., 1999; Murphy, Arnett, Bishop, Jellinek, & Reede, 1992; Murphy et al., 1996; Wildman, Kinsman, & Smucker, 2000) as well as higher referral rates (Murphy et al., 1996).

Despite their usefulness and feasibility, standardized screening tools such as the PSC are not being adopted by practitioners in medical settings (Gardner, Kelleher, Pajer, & Campo, 2003). It is possible that lack of adoption is due to the perceived burden on medical practice of distributing, collecting, and scoring these instruments. Reducing these burdens is one possible way to overcome barriers to use and encourage routine screening and communication about children's emotional and behavioral health.

The purpose of the current study was to extend the evaluation of the PSC to examine its effectiveness for increasing parent-pediatrician communication about children's psychosocial issues in pediatric healthcare settings, as compared to a typical medical care condition. Given the reticence of pediatricians to adopt use of the PSC because

of perceived administrative burden, an alternate scoring procedure was introduced in addition to the standard approach. In previous studies, standard administration of the PSC consisted of medical personnel distributing the inventory, collecting it from the parent, and placing it in the child's medical record to be scored, reviewed, and interpreted by the pediatrician. Collection and scoring of the PSC are time-consuming activities that do not require training or special qualifications. The Parent-Scored PSC developed for this study was designed to decrease the administrative burden on the medical facility and increase parent involvement in care. The Parent-Scored PSC involved the following changes: (1) parents were provided with clear, simple scoring instructions and scored their own PSC questionnaire; (2) parents were instructed to maintain possession of the questionnaire and to hand the scored questionnaire directly to the pediatrician during their meeting; and (3) following completion and scoring of the PSC, parents were given interpretation information indicating the range of scores considered to be clinically significant. Providing the interpretation information following completion and scoring of the PSC was intended to insure that parents did not over- or under-pathologize their children's behavior based on their knowledge of how to interpret the measure. Parents were also told they could initiate discussion about behaviors on the PSC regardless of the total score, thus taking a dimensional as opposed to a categorical approach to assessment of their children's psychosocial issues.

In this investigation, children were divided into those whose PSC scores were high, indicating more emotional and behavioral problems, and those whose scores reflected lower levels of child behavioral difficulties. For children who received high scores on the PSC, it was expected that parents in the two PSC intervention groups would engage in significantly more communication with the pediatricians about their children's psychosocial functioning when compared with those in the typical medical care control group. Similarly, for items endorsed as occurring "often" on the PSC, it was hypothesized that parents in the two PSC intervention groups would engage in more communication with their pediatrician about those items than the parents in the control group. No differences in parent-pediatrician communication were expected for parents of children with lower PSC scores since those children with few or minor psychosocial problems would require little if any parent-pediatrician communication about the topic. Pediatricians in the Staff-Scored PSC group and parents in the Parent-Scored PSC group were expected to be the ones who initiated more communication about psychosocial issues. Finally, it was expected

that parents of children who received high scores, indicating that more issues were in need of discussion, would feel that psychosocial issues were discussed “enough” in both PSC groups relative to parents in the standard medical care group.

## Methods

### Participants

Two hundred and eighty-nine parents of children aged 4–16 attending a medical appointment with a pediatrician in one of two medical clinics in the southeastern United States were approached for participation. Of those, 35 (12%) refused participation because they lacked the time and 25 (8.65%) were not interested. Data were collected in physicians’ waiting rooms before and after the child’s appointment. Fifty-seven enrollees (19.7%) completed the PSC prior to their appointment but left the office prior to completing the Communication Questionnaire following their appointment. These participants were excluded from the analyses due to incomplete data. The final sample included 172 parents of children attending medical appointments, of which 89 attended a primary care group practice and 83 attended a pediatric gastroenterological practice. Patients seen at the primary care group practice were seen for the following reasons: 56% follow-up/check-up, 12% ear, nose, and throat problems, 6% gastrointestinal problems, 4% dermatological problems, 2% injury, and 19% other/unknown. Patients seen at the pediatric gastrointestinal practice were seen for the following reasons: 27% stomach pain, 20% follow-up/check-up, 13% reflux, 12% constipation, 5% vomiting, and 23% other/unknown. These two settings were selected to increase external validity and speak to the generalizability of the findings. Furthermore, pediatric gastroenterology in particular was chosen due to its being one of the more highly utilized subspecialty services (Forrest et al., 1999). Therefore, pediatric gastroenterology subspecialty practices provide a practical site for reaching large numbers of children who may be experiencing psychosocial problems. See Table 1 for demographic information for participants within the experimental condition.

### Measures

*Background information.* Parents provided information about the child’s age and race, their gender, income, and marital status and reasons for the visit and length of time the child had been the treating physician’s patient.

*Child psychosocial adjustment.* Two scoring methods for the 35-item PSC (Jellinek & Murphy, 1988) were used.

The PSC may be accessed using the following link: [http://www2.massgeneral.org/allpsych/psc/psc\\_home.htm](http://www2.massgeneral.org/allpsych/psc/psc_home.htm). With both the Staff-Scored and Parent-Scored administrations, the parent rated each behavioral item as occurring “often,” “sometimes,” or “never,” with numeric values of 2, 1, and 0, respectively. Total sum scores range from 0 to 70. The authors of the PSC indicate that a score of 28 or higher for children aged 6–16 and a score of 24 or higher for children aged 4–5 suggest a need for additional assessment and may warrant a referral to a mental health provider. However, past authors have suggested that a modification of the cutting score may be necessary to accurately identify children at risk in differing samples (Simonian & Tarnowski, 2001). Studies using the PSC with outpatient populations have found mean scores of ~15.0 with ranges from 12.1 to 18.0 (Lloyd, Jellinek, Little, Murphy, & Pagano, 1995). The construct validity of the Standard PSC has been established in studies comparing it with other parent-report measures of child psychosocial functioning (Simonian & Tarnowski, 2001; Walker, LaGrone, & Atkinson, 1989) and clinician interview ratings (Navon, Nelson, Pagano, & Murphy, 2001) in a variety of settings. In past research, test–retest reliability has ranged from  $r = .80$  to  $r = .91$ , with a mean of  $r = .86$  (Jellinek et al., 1988; Jellinek, Little, Murphy, & Pagano, 1995; Jellinek, Murphy, & Burns, 1986; Murphy & Jellinek, 1988). Parents’ self-scoring was found to be 100% accurate.

*Communication.* The Communication Questionnaire (CQ), a checklist parents completed immediately after the medical visit, was developed for this study to assess parents’ perceptions of communication during the appointment. Items on the CQ paralleled those on the PSC; however, the instructions and response format differed. Rather than rating the degree to which a behavior is problematic, the parent reported: (1) whether the behavior was discussed during the visit (i.e., “yes” and “no”), (2) who initiated the discussion (i.e., “me,” “pediatrician,” and “child”), and (3) the degree to which the behavior was discussed with the pediatrician (i.e., “well enough” and “not well enough”).

Communication scores were derived by comparing responses on the CQ with those on the PSC. Items endorsed “often” on the PSC were assigned a score of 2 on the CQ if they were discussed during the visit or a score of –2 if they were not discussed. Items endorsed “sometimes” on the PSC were assigned a score of 1 on the CQ if they were discussed or a score of –1 if they were not discussed. Items endorsed “never” on the PSC were not considered when scoring the CQ.

**Table 1.** Demographic Information and Pre-experimental Baseline Communication Scores

	Overall ( <i>n</i> = 172)		Staff-Scored ( <i>n</i> = 56)		Parent-Scored ( <i>n</i> = 54)		Control ( <i>n</i> = 62)		<i>F</i> or $\chi^2$	<i>df</i>	<i>p</i>
	<i>n</i> <sub>total</sub>	Percentage total	<i>n</i> <sub>Staff-Scored</sub>	Percentage Staff-Scored	<i>n</i> <sub>Parent-Scored</sub>	Percentage Parent-Scored	<i>n</i> <sub>control</sub>	Percentage control			
Gender									.26	2	.88
Male	95	56	30	54	29	55	36	58			
Female	76	44	26	46	24	45	26	42			
Race									5.86	6	.44
White	128	75	38	69	42	79	48	77			
African American	34	20	15	27	8	15	11	18			
Hispanic	1	1	1	2	0	0	0	0			
Other	7	4	1	2	3	6	3	5			
Marital status									5.20	6	.52
Single	10	6	4	7	0	0	6	10			
Married	141	84	47	84	46	90	48	80			
Separated	3	2	1	2	1	2	1	2			
Divorced	13	8	4	7	4	8	5	8			
Income									5.83	10	.83
Less than \$9,000	3	2	1	2	1	2	1	2			
\$10,000–\$24,000	8	5	3	6	3	6	2	3			
\$25,000–\$49,000	22	14	5	10	6	13	11	19			
\$50,000–\$74,000	26	17	8	15	10	21	8	14			
\$75,000–\$99,000	22	14	6	12	5	11	11	19			
\$100,000 or more	76	48	29	56	22	47	25	43			
Age in years	M = 9.15	SD = 3.62	M = 9.20	SD = 3.78	M = 9.89	SD = 3.15	M = 8.48	SD = 3.78	2.18	2, 168	.12
Baseline comm. score	-.79	.43	-.80	.39	-.74	.53	-.82	.36	.43	2, 134	.65

Note. ANOVAs were used for continuous variables and chi-squared for categorical variables. No significant differences were found for demographic variables or pre-experimental baseline Communication Scores.

The communication scores for individual items were summed and divided by the PSC total score, yielding a ratio representing the CQ score for the participant. Scores ranged from  $-1$  to  $+1$ . Less negative/more positive scores indicate more communication about parent reported psychosocial concerns. Ratios were used in order to standardize CQ scores across the range of PSC scores. For example, an individual who scores a 40 on the PSC and has a net score of 20 on the CQ would have discussed approximately three-fourths of the PSC items (a ratio of  $+0.50$ ). This is different from an individual who scores 20 on the PSC and has a net score 20 on the CQ, having discussed each of the PSC items (a ratio of  $+1$ ). A net score of zero on the CQ means that approximately half of the items on the CQ were discussed. Negative scores represent a range of between none and half of the items endorsed on the PSC being discussed.

*Pediatrician referral.* To assess pediatrician referral for mental health services, parents were asked on the Communication Questionnaire “Did the pediatrician provide a referral for mental health services (psychology, psychiatry, counseling) today?” to which the parent responded by circling “yes” or “no.”

## Procedure

*Recruitment.* Parents of children attending appointments with one of the 12 participating pediatricians were approached in the waiting room prior to their visit. Parents were told that this study was investigating strategies for improving attention to psychosocial issues during regular medical visits. Informed consent for participation was obtained in the waiting room prior to data collection, in accordance with approved university IRB guidelines.

There were three experimental conditions in the study: (1) typical medical care control, (2) Staff-Scored administration of the PSC, and (3) Parent-Scored administration of the PSC. After obtaining informed consent, all parents were asked to complete the Background Questionnaire prior to the appointment. For parents who had an appointment with a physician in the control condition, only the Background Questionnaire was completed prior to the appointment. Parents who saw a physician in the Staff-Scored condition completed the PSC prior to the appointment and returned it to the research assistant who gave the PSC to a nurse or medical assistant to score and place in the medical record prior to the patient’s meeting

with the physician. Parents who saw a physician in the Parent-Scored condition also completed the PSC prior to the appointment; however, they maintained possession of the PSC, scored it independently, and handed the scored questionnaire directly to the pediatrician at the beginning of the appointment. They were informed that the pediatrician also had scoring and interpretation information. Physicians in the Staff-Scored and Parent-Scored conditions were individually provided with verbal and written instructions on how to interpret the PSC scores during an approx. 5-min in-service prior to the onset of experimental data collection. Following the appointment, parents in each condition completed the CQ. Parents in the control condition completed the PSC and then the CQ following the appointment to insure that the process of completing the PSC did not serve to increase their communication with the pediatrician.

### **Experimental Design**

In this study, participating pediatricians, rather than parents and patients, were assigned to experimental conditions. Patients then saw their regular pediatrician as they normally would. Across conditions, the pediatricians were told that the purpose of the current study was to evaluate the effectiveness of a brief, waiting-room intervention to increase parent–pediatrician communication about children’s emotional and behavioral problems.

Prior to the experimental phase of the study, a baseline assessment was conducted to evaluate the degree to which the 12 participating pediatricians discussed psychosocial problems during their medical visits. This assessment consisted of collecting background information and administering the PSC and the Communication Questionnaire to 10–15 consenting parents per physician following the medical visit ( $n = 169$ ). The six participating pediatricians at both sites were then stratified from the highest to the lowest baseline CQ scores. The pediatricians at each site were blocked into two groups of three per site (the highest three and the lowest three CQ scores/site) based on baseline CQ scores prior to being assigned to experimental conditions. Within block, pediatricians were then randomized to the three experimental conditions. This procedure was followed to help ensure that physicians inclined to ask about psychosocial issues were distributed across experimental conditions and to ensure that there were two specialists and two primary pediatricians in each experimental condition. The 169 participants taking part in the pre-experimental baseline assessment were 55% male with an average age of 9.35 years ( $SD = 3.45$ ). The sample was 79% Caucasian, 13% African American,

1% Hispanic, and 7% Other. There were four weeks between the completion of the pre-experimental baseline assessment and the beginning of the experimental study. No participants self-identified as having already completed the PSC when approached for participation in the experimental study.

In the experimental phase, we sought to examine the effects of the intervention for the entire group of participants and to examine the interaction effects for patients with high versus low PSC scores. It is generally accepted that the prevalence of children who have a significant emotional, behavioral, or developmental difficulty is approximately 20% [Kazdin & Weisz, 2003; Kelleher, McNerny, Gardner, Childs, & Wasserman, 2000; World Health Organization (WHO), 2001]. For the participants in this study, the highest scoring 20% of children had scores of 20 or greater. Therefore, for purposes of examining interactions the sample was divided, with approximately 80% in the “low” PSC group ( $PSC < 20$ ) and 20% in the “high” group ( $PSC > 20$ ). Chi-Square, ANOVA, and planned comparisons using *t*-tests were used for data analyses. Effect sizes were reported using Person’s correlation coefficient *r* and were interpreted according to Cohen’s guidelines (1988) that specify that .1 is indicative of a small effect, .3 a medium effect, and .5 a large effect.

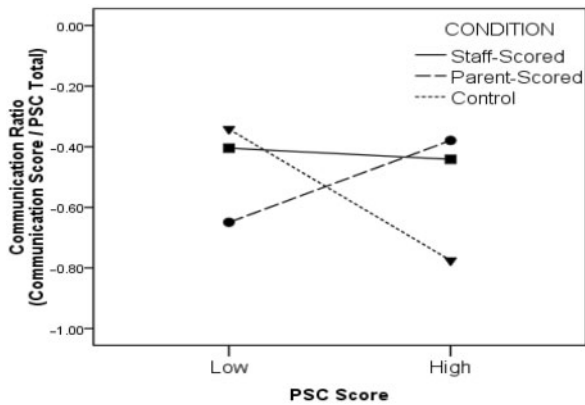
## **Results**

### **Preliminary Analyses and Results**

The three groups were compared on demographic variables including age, race, marital status, and SES. Between-groups comparisons of baseline CQ scores and PSC scores that were obtained during the study were also conducted to ensure that differences observed between the three experimental conditions were not attributable either to preexisting differences in the physicians’ behavior or their particular patients’ level of psychosocial difficulties. No significant differences were found for these variables. Additionally, within the experimental phase of the study there were no differences on CQ scores between the general pediatric clinic and the gastrointestinal specialty clinic. Further, there were no differences in mean PSC scores across the three groups during the experimental phase of the study ( $M_{\text{Staff-Scored}} = 13.41$ ,  $SD_{\text{Staff-Scored}} = 9.14$ ;  $M_{\text{Parent-Scored}} = 14.87$ ,  $SD_{\text{Parent-Scored}} = 8.90$ ; and  $M_{\text{Control}} = 13.87$ ,  $SD_{\text{Control}} = 10.07$ )  $F(2, 169) = .35$ ,  $p = .71$ .

### **Communication: Were the Items Discussed?**

The main effects of experimental condition on communication scores were not significant. However, the interaction



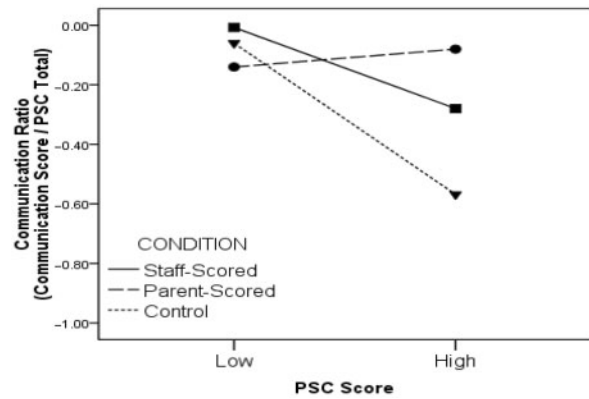
**Figure 1.** The effects of experimental condition and low versus high PSC score on the communication score for all items that were endorsed on the PSC. Scores closer to 0.00 indicate more communication.

of condition and PSC scores significantly impacted communication  $F(2, 166) = 4.10, p = .018$  (see Figure 1). As predicted, significant effects were present for the high PSC group but not the low PSC group. Planned pairwise comparisons conducted with the high PSC group ( $n = 40$ ) indicated that the participants in the Parent-Scored group ( $M = -.38, 95\% \text{ CI } -.69 \text{ to } -.07, SD = .56$ ) and the Staff-Scored group ( $M = -.44, 95\% \text{ CI } -.77 \text{ to } -.12, SD = .48$ ) had significantly higher CQ scores than participants in the Control group ( $M = -.78, 95\% \text{ CI } -1.07 \text{ to } -.49, SD = .23$ )  $t(15.42) = 2.38, p = .030, r = .42$ ; and  $t(14.98) = 2.22, p = .042, r = .41$ , respectively. The Parent-Scored and Staff-Scored groups did not differ significantly.

Because problematic behaviors endorsed as occurring *often* indicated the greatest need for further assessment by pediatricians, analyses were conducted on only the items marked as occurring “often” by parents on the PSC. No main effects for condition were found. However, the interaction of condition and PSC scores significantly impacted communication about items that the parents endorsed as occurring “often”  $F(2, 166) = 2.98, p = .05$  (see Figure 2). As predicted, the experimental groups differed only for those who had high PSC scores. Planned pairwise comparisons conducted with the high PSC group ( $n = 40$ ) indicated that the Parent-Scored group ( $M = -.08, 95\% \text{ CI } -.37 \text{ to } .23, SD = .58$ ) communicated more about PSC items endorsed as occurring “often” when compared to the Control group ( $M = -.57, 95\% \text{ CI } -.84 \text{ to } -.30, SD = .48$ )  $t(26) = 2.43, p = .02, r = .42$ . No other significant group differences were found.

### Communication: Who Initiated?

Parents were asked to indicate who initiated discussion of items endorsed as occurring “sometimes” or



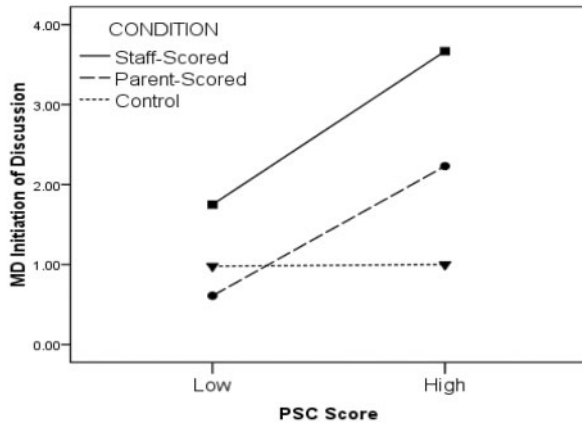
**Figure 2.** The effects of experimental condition and low versus high PSC score on communication about psychosocial issues that were endorsed as occurring “often” on the PSC. Scores closer to 0.00 indicate more communication.

“often”: parents, children, or pediatricians. The main effects for experimental condition were significant for the number of physician initiations ( $M_{\text{Parent-Scored}} = 1.00, 95\% \text{ CI } .58 \text{ to } 1.42, SD_{\text{Parent-Scored}} = 1.53$ ;  $M_{\text{Staff-Scored}} = 2.16, 95\% \text{ CI } 1.38 \text{ to } 2.94, SD_{\text{Staff-Scored}} = 2.91$ ; and  $M_{\text{Control}} = .98, 95\% \text{ CI } .59 \text{ to } 1.38, SD_{\text{Control}} = 1.54$ , respectively)  $F(2, 169) = 5.94, p = .003$ . Pairwise comparisons indicated that pediatricians in the Staff-Scored group initiated discussion significantly more than those in the Parent-Scored group and the Control group,  $p = .01, r = .24$ ; and  $p = .008, r = .25$ , respectively. The main effect for PSC scores was also significant for the number of pediatrician initiations for patients with low versus high PSC scores ( $M_{\text{low}} = 1.12, 95\% \text{ CI } .80 \text{ to } 1.45, SD_{\text{low}} = 1.88$ ; and  $M_{\text{high}} = 2.20, 95\% \text{ CI } 1.33 \text{ to } 3.07, SD_{\text{high}} = 2.71$ , respectively)  $F(1, 170) = 8.09, p = .005, r = .23$  (see Figure 3).

Though it was hypothesized that parents in the Parent-Scored condition would initiate significantly more communication, there were no significant differences or interactions for parent or child initiation.

### Communication: Was it Discussed “Enough?”

In addition to measuring whether or not a PSC item was discussed, the parents’ perceptions of whether items were discussed “enough” were assessed. No main effects for intervention were found. The interaction of condition and PSC scores significantly impacted whether parents felt that items on the PSC were discussed enough  $F(2, 109) = 3.71, p = .028$ . As expected, the high PSC group ( $n = 33$ ) showed differences among experimental conditions, and the low PSC group did not. Planned pairwise comparisons conducted with the high PSC group indicated that the parents in the Parent-Scored group ( $M = 4.54,$



**Figure 3.** The effects of experimental condition and low versus high PSC score on the mean number of pediatrician initiations of discussion about PSC items that were endorsed.

95% CI 2.40 to 6.67,  $SD = 5.52$ ) felt that more PSC items were discussed “enough” than was found for the parents in the Control condition ( $M = .42$ , 95% CI  $-1.81$  to  $2.64$ ,  $SD = 3.65$ )  $t(23) = 2.18$ ,  $p = .04$ ,  $r = .40$ . No other significant differences emerged among the three conditions.

### Mental Health Referrals

Altogether, only seven parents reported receiving a referral for mental health services. Receiving a referral was not significantly different for the three experimental conditions and was not related to the outcome variables of communication score or physician initiation.

### Discussion

A primary goal of this study was to evaluate the effects of the PSC on parent–pediatrician communication about children’s psychosocial health during medical visits. We found that the PSC encouraged parents and pediatricians to talk about the children’s emotional and behavioral concerns more than they ordinarily would. This study also extended the literature by introducing a Parent-Scored PSC, intended to reduce the administrative burden for health care personnel and increase parent involvement. The Parent-Scored PSC was understood by parents and appropriately completed, indicating that it is a feasible alternative to the Staff-Scored administration. The Parent-Scored PSC also successfully prompted physician–parent conversation about psychosocial issues during the medical visit at rates similar to the Staff-Scored administration. Thus, the current study suggests that the Parent-Scored PSC may be a viable and cost-effective instrument to

increase parent–pediatrician communication on psychosocial issues.

Parents in the Parent-Scored group also reported thinking that the items on the PSC were discussed “enough” significantly more than those in the control group. To our surprise, parents in the Staff-Scored condition did not show this effect. This is noteworthy given the higher rates of physician initiation of discussion for patients in the Staff-Scored group. Perhaps the Parent-Scored PSC invited parents to be collaborative partners in discussions about psychosocial issues, and reduced the likelihood that parents would feel “talked at” rather than “talked with.” Furthermore, with the Staff-Scored PSC, physicians may be initiating discussion on less important items or discussing some of the important items in less detail.

Previous researchers in this area identified several pediatrician barriers (i.e., knowledge, constraints on time, and physicians’ attitudes) that may decrease the likelihood that they will initiate discussions about children’s emotional and behavioral health (Lynch et al., 1997; Sharp et al., 1992; Wissow et al., 2005). Use of the PSC addresses these barriers in part, as it provides a cost-effective, non-invasive way to inform the pediatrician about psychosocial problems. In particular, the Parent-Scored PSC further reduces these barriers by removing the scoring burden from pediatricians and staff. The PSC also bypasses parents’ reluctance to disclose concerns about their children’s emotional or behavioral health (Briggs-Gowan et al., 2000; Wildman et al., 1999), as it integrates psychosocial assessment into routine practice. Finally, checklists such as the PSC provide a clear, shared language that likely reduces the miscommunication that has been found to exist between parents and pediatricians (Sharp et al., 1992).

This study had the advantage of using a sample of parents of children attending medical visits with experienced, practicing pediatricians rather than a more convenient strategy, such as a simulated medical visit or a medical school training experience. Actual clinical settings were chosen to enhance the external validity of the study. Also, the inclusion of both a general pediatric and a pediatric specialty clinic suggests that the procedures and results have a degree of generalizability across pediatric settings. While it is too early to argue that screening for psychosocial problems should be a routine part of subspecialty care, the results of this investigation provide preliminary support for the feasibility of this approach for promoting parent–pediatrician communication.

The small sample of pediatricians was a limitation of this study, with 12 pediatricians enrolled, and only four per condition. This allowed the possibility of confounding

due to physicians' preexisting attitudes, beliefs, and their typical communication about children's emotional or behavioral health without a prompt like the PSC. To address this limitation, we included a pre-experimental screening phase, stratification based on baseline levels of communication, and random assignment of physicians within blocks. Analysis of the screening communication scores indicated that these steps did help minimize the likelihood that the most psychosocially savvy pediatricians would be assigned to any one condition. Another limitation is that the sample was mostly Caucasian participants with high income. Generalization to other racial and economic groups will need to be evaluated. Finally, a large percentage of eligible participants did not participate in the study due to lack of time or interest or their data were excluded due to having not completed the CQ following the medical appointment.

There are a number of important issues to address in future research in this important area of pediatric health care. First, the current study introduced an intervention that required only 3–5 min of parents' time during the waiting room period, and fewer than 5 min of training for each pediatrician. Although this proved to be an economical, and effective in-service, future studies should examine the incremental gains made from enhancing the PSC intervention with additional features such as providing more intensive physician training in interviewing, as well as providing pediatricians with a directory of referral options to child mental health providers. Second, prior studies have indicated that some pediatricians provide their own non-medical in-office interventions such as supportive counseling or behavior modification recommendations (Williams, Klinepeter, Palmes, Pulley, & Foy, 2004). Future research should examine the impact of the PSC on the provision of these informal interventions. Third, anecdotal discussions with participating pediatricians and parents indicated that some were reluctant to discuss psychosocial issues due to social taboos or beliefs that mental health is a private matter. Some parents expressed believing that one's pediatrician is not an appropriate source of information for mental health concerns. Collecting information about physician and parent attitudes and beliefs about discussing mental health issues during a pediatric appointment could provide rich information about barriers to the assessment, referral, and treatment of pediatric mental health problems.

In summary, both the Staff-Scored and Parent-Scored PSC improved various dimensions of parent–pediatrician communication during medical visits for children

with more psychosocial problems. These outcomes are important, as the PSC is a relatively brief and low-cost intervention. The Parent-Scored administration proved to be as successful as when scored by staff, and in some areas, it was superior. In addition, the Parent-Scored PSC reduces the administrative burdens associated with scoring the scale and therefore appears more practical in busy clinic settings.

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