Assessing Fears of Preschool Children with Nighttime Fears by a Parent Version of the Fear Survey Schedule for Preschool Children

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ABSTRACT

Background: Although excessive fears are common in preschool children, validated assessment tools for this age are lacking. Our aim was to modify and provide preliminary evidence of the utility of a preschoolers’ fear-screening tool, a parent-reported Fear Survey Schedule for Preschool Children (FSS-PC).

Methods: 109 Israeli preschool children (aged 4-6 years) with chronic nighttime fears (NF) and 30 healthy children (controls) participated. The FSS-PC analysis included: 1) internal reliability, 2) correlations between FSS-PC scores and Child Behavior Checklist (CBCL) measures, 3) differences between NF and a comparison sample of FSS-PC scores, and 4) FSS-PC sensitivity in detecting change in NF following an intervention for NF.

Results: There were low-to-medium positive correlations between the FSS-PC scores and several internalizing scales of the CBCL measures. FSS-PC scores in the NF group were significantly higher than the control children’s score. FSS-PC scores had adequate internal reliability and were also sensitive for detecting significant changes in fear levels following behavioral interventions.

Limitations: Unique cultural and environmental circumstances and specific study group.

Conclusions: This new version of the FSS-PC may provide clinicians with a novel and useful screening tool for early assessment of fear- and anxiety-related phenomena of preschool children.

INTRODUCTION

Fears and anxiety are very prevalent among children (1, 2) and may have negative effects on their functioning. In one study that assessed fears in school-age children, more than 60% of them had reported that their fears interfered substantially with daily activities (3). Other studies indicated that fear and anxiety symptoms were accompanied by various emotional, social and behavioral problems (4-6). Although the terms “fear” and “anxiety” are frequently employed interchangeably, an examination of the literature indicates that both concepts are quite different in terms of their manifestation, function and biological underpinning, and the distinction between these concepts was demonstrated as empirically justifiable. However, it is not easy to separate between these phenomena because of significant overlap (7, 8). It has been demonstrated that childhood fears are not merely linked to symptoms of phobias, but that they also frequently reflect other anxiety disorders (9).

Previous research on normal childhood fears have relied mainly on surveys composed of lists of potentially fear-provoking stimuli and situations, such as the widely used revised versions of the Fear Survey Schedule for Children (FSSC-R) (10, 11). The majority of fear survey schedule studies were based on children’s self-reports, and most of these studies have involved school-age children (10-13). The reliability of preschool children’s self-reports on fears, however, is questionable (14, 15). In this context, while the Koala Fear Questionnaire (16) is a validated self-report scale that directly assesses fears and fearfulness in children aged between 4 and 12 years, the assistance of an adult is required for its administration in pre-schoolers. Indeed, the most practical alternative to self-reporting of preschool

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children's fears is using their parents as reporters (14), yet only a minority of studies have involved parents as sources of information. Moreover, the validity of using parental reports has been questioned because of the low level of agreement between children and parents on children's anxiety symptoms (17-21). Additionally, most studies that relied on parents as reporters of children's fears focused on groups of school age or on a broad age range of children (22-25). To the best of our knowledge, there is only one report on preschool children that specifically assessed parental reports of a wide spectrum of anxiety symptoms, but not of fears (26).

Clearly, there is a lack of tools for adequately assessing fears in preschool children. Such tools for enabling early detection of significantly severe fears among preschool children are of vast importance in light of evidence suggesting that untreated anxiety in children is persistent, that it has adverse effects on the child's development, and that it predicts adolescent and adult anxiety and psychopathology (4, 27-30). For example, previous studies have demonstrated that young children who had strong fears or avoidance behaviors exhibited signs of serious social anxiety manifestations in adolescence (31, 32).

The issue of fears among preschool children must be addressed in spite of the complexity of obtaining reliable self-reported data and the sparse research that has been conducted on fears among them. The aim of the current study was to modify and validate the Parent Report Fear Survey Schedule for Preschool Children (FSS-PC), a commonly used parent-report questionnaire for school-age children (14, 25) that we adapted for preschool population. Testing our version of the FSS-PC scale included: assessing construct validity, comparing clinical and non-clinical groups (discriminant validity), assessing internal reliability, and evaluating the adapted scale's sensitivity in detecting changes in fears following established intervention for nighttime fears (NF).

We hypothesized that children with NF will exhibit higher FSS-PC scores compared to control children, and that these scores will decrease following intervention. In addition, we expected positive correlations between FSS-PC scores and several internalizing scales of the Child Behavior Checklist (CBCL), demonstrating converging validity for the fear scale.

METHODS

SUBJECTS

The study included 139 children from clinical and comparison samples. The study group had severe NF and consisted of 109 preschool children (64 boys and 45 girls). Their ages ranged between 4 to 6 years (mean age = 58.91 months, SD =8.32 months). More information and a comprehensive description of the demographic data of this sample are available in an earlier publication (33). The comparison group included 30 healthy children from the same age group with no history of NF (16 boys and 14 girls, mean age = 58.93 months, SD =7.62 months). Comparisons of the demographic variables revealed no group differences for any of them (34). Taken together, these two groups yielded a sample of 139 children (80 boys and 59 girls, mean age =58.91 months, SD =8.15).

MEASURES

The Fear Survey Schedule for Preschool Children (FSS-PC) We designed the FSS-PC, which is a modified version of the Israeli FSSC-R, for the assessment of fears among children in this age group (35). The Israeli version of the FSSC-R consists of 70 items, including those that are uniquely relevant for the local population, such as fear of terror attacks, fear of war, etc. (35). Because the FSSC-R was designed for elementary school children, some of its items (e.g., being next to a mentally ill person, being near a cemetery at night, getting bad grades in school, preparing for an exam) are irrelevant for preschoolers. We identified 18 such items and excluded them, thus constructing a 52-item version of the FSS-PC. Parents were asked to rate their children's fear level on a 1-4 scale (1 = not scary at all, 4 = very scary) on items such as ghosts, snakes, getting lost from parents, etc. Adding the scores for all responses across the 52 items yields a global fear score.

The Child Behavior Checklist (CBCL) The CBCL (version for 1.5- to 6-year-olds) was used to assess behavior problems as perceived by parents (36). The CBCL is a widely used tool with well-established psychometric properties for assessing behavior problems in children. The “internalizing score” represents the combined score of items concerning problems of withdrawal, emotional reactiveness, somatic complaints, and depressed/anxious symptoms. The CBCL has been translated into Hebrew and validated in Israel (37).

Family Background Information Questionnaire This questionnaire includes 25 questions covering demographic and developmental subjects. The questionnaire has been established in previous studies on children (38-41).

PROCEDURES

The study was approved by the Departmental Ethical Committee and the Chief Scientist of the Israeli Ministry of
Children in the study group were recruited from the local kindergarten system by means of letters to parents offering treatment for children with NF. The control group was comprised of healthy children recruited from the same local kindergarten system by means of letters to parents offering an opportunity for their children to participate in a study on sleep. Parents of all participants signed informed consent and completed the questionnaires. They were interviewed by trained research psychologists who also reviewed the completed FSS-PC and CBCL questionnaires. The children were diagnosed as having clinically significant NF if they fulfilled all three of the following criteria: (a) NF that required parental intervention to comfort the child at least two nights per week, (b) NF duration for at least two months, and (c) NF causing clinically significant distress or impairment in functioning of the child and family. Children who did not fulfill those inclusion criteria were assigned to the control group. Exclusion criteria for both the study and control groups were the same as previously described elsewhere (34): they included having major health or neurological-developmental problems and/or concurrently receiving psychiatric treatment, psychotherapy or similar interventions. Children in the study group received an intervention for NF and their parents completed the FSS-PC questionnaire again six months after the initial assessment and interventions (for a comprehensive description see [33]).

STATISTICAL ANALYSIS
Data analysis consisted of four main components: 1) assessment of internal reliability scores of the FSS-PC, 2) evaluation of the correlations between FSS-PC scores and CBCL measures, 3) assessment of differences in FSS-PC scores between study (children with significant NF) and control samples, and 4) assessment of the FSS-PC assessment’s sensitivity in detecting change following interventions for NF. Gender and age were entered as covariates in order to control for any potential effects on FSS-PC or CBCL score.

RESULTS
ASSESSMENT OF INTERNAL RELIABILITY SCORES
The internal reliability of the FSS-PC was calculated for the study group, the control group, and both groups in combination. The internal reliability scores of the FSS-PC, based on Cronbach’s alpha, were 0.77, 0.86 and 0.79, respectively. Evaluation of the correlations between FSS-PC scores and CBCL measures Pearson correlations between FSS-PC scores and CBCL measures were calculated separately for the study and control groups and in combination (Table 1). Significant positive correlations were found between FSS-PC scores and anxious/depressed, emotionally reactive, internalizing and total score scales in the study group, while a significant positive correlation was found only between the FSS-PC score and the anxious/depressed scale in the control group. There were significant correlations between the FSS-PC scores and other problems (e.g., anxious/depressed, emotionally reactive, somatic complaints, sleep problems and internalizing) and total scores when the two groups were evaluated in combination.

Items on anxiety and depression are combined in the original anxious/depressed subscale of the CBCL. A new CBCL scale (anxiety scale) was compiled that included only the anxiety items in order to examine items pertaining solely to them. The depression items that were omitted were: "Seems sad without a reason" and "Miserable, sad or depressed." The Cronbach's alpha score of this new anxiety scale for the entire cohort was 0.73. Pearson correlations between FSS-PC score and the new CBCL anxiety scale were calculated separately for the combined, study and control groups: the correlations were, r=0.62 (p<0.0001), r = 0.59 (p<0.0001) and r= 0.30 (n.s), respectively.

Comparison of FSS-PC scores between the study and control samples
For assessing the discriminant validity of FSS-PC, total FSS-PC scores for the study and control samples were compared using analysis of variance. A significant difference
was found between the groups \( [F(1,125)=11.2, p<0.001] \), with the results showing that FSS-PC global scores were higher in the study group (\( M = 110.43, SD=37.79 \)) compared to the control group (\( M = 86.47, SD=14.82 \)).

**Assessment of the FSS-PC sensitivity in detecting change in fears following interventions for NF**

The analysis of variance indicated a significant reduction between the baseline and post-intervention FSS-PC scores \( [F(1,36)=13.33, p<0.01] \). The latter was administered six months following the intervention for the preschool child's NF, and the score was \( X=96.95, SD=17.61 \) compared to the baseline score of \( X=107.87, SD=15.33 \).

**FSS-PC total score, age and gender**

We found no correlation between the FSS-PC total score and age among children in the study group, the control group, and in both groups combined. There were also no gender differences in FSS-PC scores in any of these groups.

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**DISCUSSION**

The aim of the current study was to modify the FSSC in order to create a preschool version for parent reporting (FSS-PC) and to validate this version. The results of our study suggest that the FSS-PC is potentially reliable and valid for the assessment of general fears in preschool children. Reasonable internal reliability of the total fears score was found both in the clinical, comparison and the combined group of children. The construct validity of the FSS-PC was manifested in the low-to-medium positive correlations between the FSS-PC score and the internalizing scales of the CBCL, although to a different degree, between the study group, the control group and both in combination. Furthermore, after exclusion of depression items we found increased significant correlations between the composed CBCL anxiety scale and the FSS-PC scores in the clinical and combined sample.

The correlations found between the FSS-PC total score and internalizing scales of the CBCL are reasonable indications of validity in light of the established evidence that these two questionnaires measure different conceptual entities (specific fears vs. general anxiety symptoms, respectively) with hypothesized limited overlap. The specificity of the FSS-PC scale is manifested in the distinct correlations with the anxiety-related and internalizing CBCL subscales, and the lack of such correlations of FSS-PC total scores with any of the externalizing scales.

The discriminant validity of the scale was demonstrated by the significant group difference in the FSS-PC total score between the study and control groups: children in the study group who had NF had significantly higher scores than children in the control group. In addition, our results demonstrated that the FSS-PC survey was sensitive in detecting changes in NF in response to an established protocol for treating them (33). The improvement as determined by the replies to the questionnaire in children’s fears following a brief behavioral intervention was accompanied by improvement in other related behavioral domains, such as NF, sleep patterns and dependency on parents (33, 34).

It is important to emphasize that although the methodology of assessing children's fears via parental reports may be useful, it also has shortcomings such that discrepancies among informants (e.g., parental vs. children's self-report) are to be expected (42). Previous research has shown only a modest overall correlation between children's and other informants' reports (43), and agreement among informants regarding psychiatric diagnoses has been found to be relatively weak (44, 45). In this context, it is important to emphasize that parent–child agreement on reports of childhood anxiety is particularly low (18-21, 46). This may be partially explained by the unique obstacles inherent in the assessment of childhood anxiety. First, anxiety itself may have an effect on the content of the child's report. Anxious children worry about how they are being perceived, and they may resort to what they believe to be socially desirable responses rather than what they really feel (47). In addition, anxiety can interfere with children's cognitive processing (48) and influence their memory retrieval and subsequent accuracy. At the same time, parents' reports may also be affected by several factors. Because anxiety is partially an internal phenomenon, some symptoms may not be observable by parents. In addition, given the high prevalence of familial anxiety, parents of anxious children may be anxious themselves, have self-presentation concerns, and may have a different understanding of normal and abnormal anxiety (21, 49). Thus, in the assessment of child psychopathology, obtaining clinical information from multiple sources has been recommended (21, 50) and has become common practice in many settings (51).

Our results demonstrate that NF are associated with a wide variety of other fears and anxiety symptoms. Because NF usually begin during preschool ages (52), it is particularly important to develop valid screening tools for early identification of these problems. Early behavioral interventions have been found to be highly effective for NF, as well as fears and anxiety symptoms in preschoolers (33, 53). Our findings suggest that a relatively simple
parent questionnaire, the FSS-PC, can be used as a valid early screening tool to detect fears and anxiety symptoms in preschool children and thus enable early intervention. This finding also highlights the need for a wider and a more comprehensive assessment of fears and anxiety phenomena among children referred with a specific complaint.

Several limitations of this study should be addressed. First, since we assessed a group of Israeli children, generalization of our findings to children of other countries should be undertaken with caution. Second, our study group was comprised of children with NF: future studies should include children with a wider variety of anxiety and internalizing problems as well as a sample of children with a mental disorder who are diagnosed as being free of anxiety. Additional research encompassing a larger group of children is needed to investigate parental reporting of fears in comparison to other diagnostic methods, such as teachers’ reports, clinician direct interviews with children or objective manifestations of anxiety.

CONCLUSIONS
This new version of the Fear Survey Schedule for Preschool Children may provide clinicians and health care providers with a new and potentially reliable and validated screening tool for early assessment of fears and anxiety-related phenomena of preschool children. Such screening is important in light of evidence suggesting that untreated anxiety in children is persistent, has adverse effects on the child’s development, and predicts adolescent and adult anxiety and psychopathology (4, 27-30). We believe that this version can be easily back-translated into its original English as well as into other languages (see Appendix).

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References
אנו לא נכונה. ענה כפי שילדך מרגיש בכל מקרה ומקרה. קרא את כל הפריטים בעיון, אך אל תתעכב יותר מידי על פריט מסוים. אין בשאולון זה מגבלת של זמן, והשתדל לענות הדרגה המתארת יותר מכל את הרגשתו. ציין תמיד סיפורה אחת ליד כל פריט.

שאלון זה בא לבדוק באיזו מידה ילדך רגיש לנושאים שמעוררים פחדים אצל ילדים. הניסוחים בלשון זכר אבל מיועדים גם לבנות. יתכן בין המצבים המתוארים בשאולון יהיו 66 פריטים.

## Appendix: FSS-PC

***שאלון פחדים של ילדים בנעוריו***

שאולון זה למדידת פחדי ילדים בגיל הגן[at]KiT 7793034188. האוסף שניים של שני ספירות בלא פיתור של שניים בלא פיתור. הניסוחים בלשון זכר אבל מיועדים גם לבנות. יתכן בין המגבלות הדומים בין שניים בלא פיתור.

## References