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Validity of a Brief Measure of Parental Affective Attitudes in High-Risk Preschoolers

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Abstract

The current study investigated psychometric properties of the Family Affective Attitude Rating Scale (FAARS) for assessing parents' thoughts and feelings about their child, coded from a 5-min speech sample. Parental affective attitudes derive from previous experiences of parenting and child behavior, representations of the parent–child relationship and broader parental characteristics. Data were collected from mother–child dyads at ages 2 and 3 ($N = 731$; 49 % female) from a multi-ethnic and high-risk community sample. Multi-informant observations of parenting and questionnaire measures were used to test construct and discriminant validity. FAARS showed good internal consistency and high inter-rater agreement. Affective attitudes were related to mothers' perceptions of their daily hassles, their reports of conflict with their child, and observed measures of positive and harsh parenting. Negative affective attitudes uniquely predicted later child problem behavior, over and above maternal reports of and observed measures of parenting. Overall, results support the validity of FAARS coding in mothers of preschoolers, a previously untested group. FAARS is a novel measure, directly assessing maternal perceptions of the parent–child relationship, and indirectly providing an index of maternal affect, stress, and depressive symptoms. Its brevity and cost-effectiveness further enhance the potential use of the FAARS measure for clinical and research settings.

Keywords

Parenting; Parent–child interaction; Affective attitudes; Conduct problems

Developmental research over many years has shown parenting to be a consistent predictor of child conduct problems (Dishion and Patterson 2006). In addition, there is strong evidence

to support the effectiveness of interventions for child behavior problems (Piquero et al. 2009) that target negative parenting (e.g., harsh or inconsistent discipline) or a lack of positive parenting (e.g., positive reinforcement). Measures of negative and positive parenting have traditionally been operationalized in terms of parents' behavior or skills when caring for or interacting with their child. Data are typically obtained through parent self-report, naturalistic observations conducted in the home, or structured observations during laboratory-based tasks. The current paper assesses the validity and reliability of a newly developed measure of parental affective attitudes, which simultaneously taps into different dimensions of parenting typically captured via self-report or observation, but may address some practical and theoretical limitations associated with these methods.

It has been argued that parenting needs to be contextualized within the complex interplay of responses, behaviors, and prior interactions shared by parent and child (Belsky 1984). Incorporating relational, cognitive, and affective dimensions of parenting, as well as behavioral components, could also help improve intervention outcomes (Hill 2002). There is therefore a need for measures that can assess both dimensions of parenting, and broader characteristics of the parent. Although commonly employed and relatively inexpensive, parent report is subject to the well-known threats to validity associated with self-report methods, such as biases owing to parent mood or expectations (Gardner 2000). While some limitations of the self-report method may be attenuated by using methods other than questionnaires (e.g., Q-sorts or vignettes about other children), direct observation is generally considered a stronger alternative, taking advantage of assessing naturally occurring parenting behavior and parental characteristics, using relatively unbiased observers. Observational methods, however, are also not immune from threats to validity, including observer reactivity by parents or inadequate sampling of behavior (Gardner 2000). In addition, observation of parents and children can be time-consuming and expensive, which may be especially problematic in the context of large longitudinal studies examining risk factors or in clinical trials when parent-child interactions are the target of intervention.

An alternative method to assess affective, cognitive, and relational dimensions of parenting originated with investigations of expressed emotion, which was found to be a risk factor for relapse of adult schizophrenia (e.g., Brown and Rutter 1966). Expressed emotion refers to a parent's emotional attitudes towards their child and was originally measured using the semi-structured Camberwell Family Interview (Vaughn and Leff 1976), which obtains information from a family member about a target individual and broader family relationships, and is coded on two dimensions of criticism and emotional over-involvement. Magana et al. (1986) extended the use of the expressed emotion construct to understanding the development of child psychopathology. They developed a coding system for parental five-minute speech samples (FMSS) using the original Camberwell Family Interview dimensions, but reduced the cost and time involved. During the five minutes, a parent is asked to talk about the relationship with their child. Expressed emotion is coded according to the content and tone of the statements. Studies employing the Magana et al. coding have found that critical parental expressed emotion predicts child externalizing problems (e.g., Baker et al. 2000; McCarty and Weisz 2002) and ADHD symptomatology (Peris and Baker 2000). Expressed emotion coding for a FMSS (EE-FMSS) was a significant step towards an improved understanding of the association between parental affect and ideas about the parent-child relationship with the development of youth psychopathology.

Two key limitations are associated with the use of the EE-FMSS with child populations however, which seem related to the original downward extension of the adult dimensions of expressed emotion. First, aspects of the emotional over-involvement dimension of expressed emotion, potentially dysfunctional when presenting in parents of adult or adolescent children, may be developmentally appropriate for parents of younger children, who are more

dependent on their parents for emotional support (Wamboldt et al. 2000). In support of this premise, parental emotional over-involvement items demonstrated a lack of cohesion and internal consistency in a young sample (Peris and Baker 2000) and failed to predict child externalizing and internalizing behavior in a consistent way (McCarty and Weisz 2002). Second, EE-FMSS coding lacks a dimension for positive expressed emotion or warmth. Indeed, some positive comments appear as emotional over-involvement items, meaning they represent dysfunctional expressed emotion. However, a higher number of positive remarks coded as emotional over-involvement were found to predict fewer child externalizing problems (McCarty and Weisz 2002). This finding is consistent with mediation analyses within randomized trials, where increases in positive parenting, including parental warmth, are associated with reductions in child conduct problems (e.g., Dishion et al. 2008; Gardner et al. 2010). There is therefore a need for coding systems for FMSS, which also assess warmth and positive emotional expressions of parents.

In this context, the Family Affective Attitude Rating Scale (FAARS; Bullock et al. 2005) was developed to code parental affective attitudes expressed during a FMSS, and address the limitations of the EE-FMSS. Other examples of modifications to the EE-FMSS represent similar attempts to overcome its conceptual ambiguities for use with younger children (e.g., Caspi et al. 2004). Parental affective attitudes, related to the construct of expressed emotions, are the internal representations a parent holds about their child and their relationship. Affective attitudes derive from previous experiences of and beliefs about parenting and child behavior, contributing to the development of over-learned patterns of behavior and networks of linked ideas (Bullock and Dishion 2007). These internal representations are expressed verbally by a parent during a FMSS.

FAARS coding for a parental FMSS therefore appears to hold clinical and research promise for a number of reasons. First, the FAARS scales directly assess parental perceptions of their child, their parenting experiences and the history of their parent–child interactions. Second, the FAARS scales may indirectly provide an indication of broader affective characteristics of the parent, including their level of stress and psychopathology. Third, unlike the EE-FMSS, FAARS includes dimensions for both the negative/critical and positive emotional attitudes of parents. Fourth, FAARS coding was developed to be briefer and more cost-effective than the EE-FMSS coding system (Bullock et al. 2005; Bullock and Dishion 2007). This means that FAARS may be particularly useful in the context of large trials and longitudinal studies, where there is a need for reliable and brief measures that provide an overview of parent–child interactions, parental dysfunction, and parent behavior.

FAARS coding has been validated in two previous studies to date. In the first study, its developers assessed youths aged 9–17 years ($N = 40$), grouped according to high or low parent-reported levels of antisocial behavior (Bullock and Dishion 2007). Coding for each FMSS using FAARS took 7–10 min, and the training, coding and material costs were less than half those of the EE-FMSS. Inter-rater reliabilities for scales were good (negative, $\alpha = 0.79$; positive, $\alpha = 0.73$) and bivariate correlations between items within scales were high. The scales demonstrated discriminant validity, differentiating between adolescents with high or low levels of antisocial behavior. In addition, negative affective attitudes uniquely predicted antisocial behavior two years later, controlling for previous rates of problem behavior and observed parent-adolescent coercion.

In the second study, Pasalich et al. (2011) examined FAARS in parents of children (aged 4–11) with behavior problems ($N = 150$). The FAARS scales had similarly high internal consistency, bivariate inter-item correlations, and inter-rater reliability to those found by Bullock and Dishion (2007). FAARS also differentiated between the parental affective attitudes of children with conduct problems versus clinic-control children (referred for other

problems, including mood, developmental, or learning disorders). Although there were no differences for key demographic characteristics, mothers of children with behavior problems had lower positive and higher negative FAARS scores. Regression analyses demonstrated associations between positive FAARS score and observed maternal warmth and engagement. In addition, higher negative and lower positive FAARS scores were related to measures of family dysfunction and parental psychopathology. Finally, there were unique associations between both FAARS scales with child problem behavior, over and above the observed parenting measures.

While there is psychometric support for its use therefore, the measurement properties of FAARS have not yet been examined in very young children. It has been argued that a key developmental phase exists in the early toddler years, when parent–child interactions become particularly important as a child’s language, mobility, independence, and potential non-compliance start to increase (Shaw and Bell 1993). At this time, children become more active in parent–child interactions, and with this, parents’ internal representations and affective attitudes about their child may begin to be shaped in new ways. Simultaneously, a child’s behavior may be influenced by developing parental affective attitudes and associated parenting behaviors. As such, there is a need for the validation of FAARS at very young ages.

The current study therefore extends previous validation efforts by assessing inter-rater agreement, inter-item consistencies, and scale reliabilities of the FAARS scales in parents of children aged 2 and 3 years old. It is the first study to assess the psychometric properties of FAARS both cross-sectionally and longitudinally, and in a large sample. First, the current study tested the relation between the FAARS scales at ages 2 and 3 with observed parenting and parent-reports of relationship conflict with their child. In line with the findings of the previous validation studies (e.g., Bullock and Dishion 2007), it was predicted that there would be convergence between FAARS scales and these alternative measures of parenting. Second, the convergence of parental affective attitudes with parental depressive symptomatology and parent-reported frequency of daily hassles was assessed. Previous studies have demonstrated moderate associations between high levels of critical expressed emotion and maternal stress (Baker et al. 2000), conflict among family members (Schnur et al. 1986), and maternal depression (Schwartz et al. 1990). In addition, Pasalich et al. (2011) found that parents’ FAARS scores were related to measures of family dysfunction and parental psychopathology. It was therefore predicted in the current study that as well as showing convergence with parenting behavior, the FAARS scales would also be related to the measures of parental dysfunction. Finally, the current study tested the relation between the FAARS scales with concurrent and later problem child behavior.

Methods

Participants

Participants were mothers and children recruited as part of the large, ongoing Early Steps Multisite trial of the Family Check-Up (FCU) parenting intervention (Dishion et al. 2008). During 2002/2003, families with a child aged between 2 years 0 months and 2 years 11 months were recruited from the Women, Infants, and Children Nutrition Program from the suburban Eugene, OR, urban Pittsburgh PA, and more rural Charlottesville, VA. Of the 1666 families who had appropriate-aged children across sites, 879 met the eligibility criteria and 731 consented to participate. Eligibility criteria were defined as scoring one or more *SD* above the normative average on at least two of three screening measures. The screening measures were child behavior (including conduct problems and high-conflict relationships), family problems (including maternal depression and substance abuse), and socioeconomic risk (including low education achievement or low income). Ethical approval was granted by

the IRB at each site (Dishion et al. 2008), and consent was obtained during each annual assessment from the primary caregiver. At the first assessment, children in the sample ($N=731$; 49 % female) had a mean age of 29.9 months ($SD=3.28$ months). Across sites, primary caregivers self-identified as European-American (50 %), African-American (28 %), biracial (13 %) and other groups (9 %). The majority of primary caregivers were biological mothers (96.0 % at age 2; 95.5 % at age 3). Children were living with either both biological parents (37 %), either a single/separated parent (42 %) or a cohabiting single parent (21 %). Sixty-six percent of the sample reported annual family income below \$20,000. Half the sample was randomly assigned to the intervention (for full details, see Dishion et al. 2008); intervention status was used as a covariate in analyses.

Measures

Home assessments were conducted annually from age 2 with mothers, and if present, an alternative caregiver, for example father or grandmother. The assessment lasted approximately 2.5 h and involved completion of various questionnaires and interactive tasks, including free play and a clean-up task. All tasks were recorded to produce videotapes of parent-child interactions. The home assessment also included recording of a FMSS for FAARS coding.

Demographics Questionnaire

Parents completed a demographics questionnaire when children were aged 2, which included questions about education and income, substance abuse, and areas of family stress.

Negative and Positive Affective Attitudes (Ages 2 and 3)

Negative and positive affective attitudes were assessed using the Family Affective Attitudes Rating Scale (FAARS; Bullock et al. 2005). FAARS is a macro-social coding system, which examines the attitudes expressed by a parent about their child during a FMSS. Two waves of FMSS were collected at the end of home assessments when children were aged 2 and 3. The parent and interviewer were alone in one room in the home when recording the FMSS, with distractions kept to a minimum. Interviewers gave the following instructions to parents: "I'd like to hear your thoughts and feelings about (child's name), in your own words and without my interrupting with any questions or comments. When I ask you to begin I'd like you to speak for 5 min, telling me what kind of a person (child's name) is and how the two of you get along together. After you begin to speak, I prefer not to answer any questions until after the 5 min. Do you have any questions?" During the five minutes that the speech sample was recorded, interviewers worked quietly on a task and avoided prompting or saying anything.

The FMSS were coded by bachelors and masters-degree-level students, who were trained using a written manual (Bullock et al. 2005). Coding teams met once or twice a week during training, and it took an average of four weeks to train a team fully. Coders were required to achieve 80 % agreement on seven consecutive training samples after which, coders continued to meet weekly to prevent coder drift. Coders provided ratings of the speech sample across several dimensions based on both their global impressions and the tone of the speech sample, as well as substantive information provided by parents about current attributions or behaviors. Twenty-five items were coded and grouped into three scales: negative affective attitudes, positive affective attitudes, and family cohesion.

For the purposes of this study, only the negative and positive scales were used (Table 1). Each of the five negative items (e.g., 'parent is critical of the child's behavior') and five positive items (e.g., 'parent reports a positive relationship with the child') were rated on a 9-point Likert scale. Coding is based on global impressions of the speech sample and a guideline for scoring is provided in the FAARS coding manual: 1 (no examples evidenced),

2–3 (some indication, but no concrete evidence), 3–4 (one or more weak examples), 5 (one concrete, unambiguous but unqualified example, or three or more weak examples of the same behavior/attribute), 6–8 (at least one concrete example and one or more weak examples of different behaviors/attributes), and 9 (two or more concrete, unambiguous examples) (see Bullock et al. 2005). Qualifying statements were coded as neutral (i.e., a negative or positive statement followed by a qualifier, such as, 'but'). The rating of an item between coders was considered an agreement if the scores were within 2 points (e.g., scores of 5 and 7 are an agreement, but scores of 5 and 8 are a disagreement). The total number of agreements over both scales were summed and divided by the total number of items to determine the percent agreement (82.8 % agreement at age 2; 80.7 % agreement at age 3).

Observed Harsh Parenting

Observed harsh parenting was defined and validated for the Early Steps study as a multi-dimensional factor, incorporating both general parenting qualities (e.g., overall harshness) and specific parental behaviors (e.g., negative verbal comments) (Moilanen et al. 2010). Observed harsh parenting was measured at ages 2 and 3 and incorporated items coded from the videotaped home interaction tasks. First, a team of undergraduate students coded the tasks using the RPC (Jabson et al. 2004), a third-generation code derived from the Family Process Code (Dishion et al. 1983), which has been used extensively in previous research. The three RPC-coded items were the duration proportions of parental negative verbal, directive, and physical behavior. Second, the videotaped interaction tasks were coded with six global items from the Coder Impressions Inventory, which assesses parental criticism, hostility, and rejection towards the child. The RPC and Coder Impressions items were standardized and summed to create a composite index of observed harsh parenting ($\alpha = 0.75$) (Moilanen et al. 2010).

Observed Positive Parenting

A composite for observed positive parenting at ages 2 and 3 was also created for the Early Steps study (Dishion et al. 2008; Lunkenheimer et al. 2008). This parenting construct assesses the parent's support for positive behavior in terms of prompt, proactive structuring, interactive involvement, and positive reactions to their child's behavior. Home visitors completed the Home Observation for Measurement of the Environment inventory (HOME; Bradley et al. 2001). The three items of the HOME Involvement subscale were used: 'parent keeps the child in visual range', 'parent talks to the child while doing household work' and 'parent structures the child's play periods'. Six Coder Impression items from the videotaped interactions assessed proactive parenting (the ability of the parent to anticipate a potential problem and provide structural changes to avoid upset or misbehavior). Finally, two subscales (positive reinforcement and engaged interaction) made up of RPC codes were used. Confirmatory factor analyses indicated that these four sub-scales formed a single latent factor and consequently, scores were standardized and summed to form a composite of observed positive parenting, which was labeled 'positive behavior support' ($\alpha = 0.61$; Lunkenheimer et al. 2008).

Parent-Reported Conflict Relationship Scale

Parent-child conflict was measured at ages 2 and 3 using the Adult-Child Relationship Scale (modified from the Student-Teacher Relationship Scale; Pianta 2001), which assesses parental perceptions of the relationship with their child and includes a positivity and conflict scale. The conflict scale assesses the parent's perception of the conflict in the relationship with their child. It consists of 10 items, which the parent rates on a 5-point Likert scale, including, 'the child and I always seem to be struggling with each other' and 'I don't feel good about how we get along.' Parents' scores for each of the 10 conflict items were

summed and there was good internal consistency at both ages (age 2, $\alpha = 0.75$; age 3, $\alpha = 0.84$).

Parental Depressive Symptoms

Parental depressive symptoms were measured at ages 2 and 3 using the Center for Epidemiological Studies on Depression Scale (CES-D; Radloff 1977), a well-established and widely used 20-item measure of depressive symptomatology. Parents reported the frequency of their experiencing various depressive symptoms in the past week on a scale from 0 (less than a day) to 3 (5–7 days), and their scores for each item were summed (age 2, $\alpha = 0.76$; age 3, $\alpha = 0.75$).

Parent-Reported Frequency of Daily Hassles

Parents completed the frequency subscale of the Parenting Daily Hassles (PDH) at ages 2 and 3. The PDH assesses typical stressors uniquely facing parents and is associated with child behavior outcomes to a greater degree than more global life stresses (Crnic and Greenberg 1990). For the current study, parents rated each of the 20 items on a 4-point Likert scale based on how frequently the hassles occurred (i.e., rarely to constantly), including the frequency of feeling that they were ‘always cleaning up messes of toys or food’ or ‘having to change plans because of unexpected child needs.’ Scores for each item were summed (age 2, $\alpha = 0.76$; age 3, $\alpha = 0.82$).

Child Problem Behavior

The Externalizing Factor of the Child Behavior Checklist (CBCL; Achenbach and Rescorla 2001) for ages 1.5–5 years old was given to parents to complete. The CBCL is a 99-item questionnaire to assess behavioral problems, and specifically aggression and rule-breaking behavior. The Externalizing Factor has previously been demonstrated to show high internal consistency in the current sample (age 2, $\alpha = 0.86$; age 3, $\alpha = 0.86$; Trentacosta et al. 2008).

Analysis

The analysis comprised three stages. First, the reliability of scales was examined. This was done by assessing item descriptive statistics, inter-item correlations, inter-scale correlations, the Cronbach’s alpha of scales and stability between scales at ages 2 and 3. Second, the construct validity of the positive and negative scales was assessed. The convergence of parental affective attitudes with general measures of parental dysfunction and alternative measures of parenting was tested through correlational and regression analyses. Finally, the predictive validity of the negative and positive FAARS scales was tested using regression analysis. Specifically, the ability of the negative and positive scales to predict later child conduct problems, over and above alternative measures of parenting was tested. For the regression models, parent education, parent income, child gender and child race were controlled for, to demonstrate that they were not related to FAARS scores. In the current sample, which is multi-ethnic and high risk, this was an important step to show that affective attitudes are not simply a proxy for demographic variables (Boger et al. 2008). Finally, it was necessary to control for intervention status as, after age 2, half the sample had been allocated to the FCU intervention.

Attrition

Of the 731 families who entered the study when children were aged 2, 659 (90 %) participated at age 3 and 619 (85 %) at age 4. Selective attrition analyses conducted from ages 2–4 years old revealed no significant differences in project site, race, ethnicity, gender or externalizing behavior (Dishion et al. 2008). Though the amount of missing data was small for each individual measure ($n = 622$ –731 for self-report measures; 585–731 for

observer ratings), listwise deletion results would have limited the power and biased estimation. Thus, to address missing data, values were imputed (via the EM algorithm in SPSS 18.0) (covariance coverage = 0.75–1.00). All analyses reported therefore have an effective sample size of 731.

Results

Reliability

Individual-item means, individual-item standard deviations and scale means, and standard deviations for the negative and positive scales at ages 2 and 3 were examined (Table 1). Cronbach's alphas indicated good internal reliability for all scales (age 2 negative, $\alpha = 0.80$; age 2 positive, $\alpha = 0.69$; age 3 negative, $\alpha = 0.81$; age 3 positive, $\alpha = 0.67$). These results are broadly similar to those found in the two previous FAARS validation studies (Bullock and Dishion; 2007; Pasalich et al. 2011), conducted with older age groups. For the negative scale, inter-item correlations were moderate-to-strong at ages 2 (range $r = 0.38$ – 0.60 , $p < 0.01$) and 3 (range $r = 0.43$ – 0.68 , $p < 0.01$). The positive scale included weaker associations with the "statements of love and caring" item (across ages 2 and 3, range $r = 0.04$ (*n.s.*)– 0.34 , $p < 0.01$), but otherwise the inter-item correlations were moderate at 2 (range $r = 0.30$ – 0.51 , $p < 0.01$) and 3 (range $r = 0.33$ – 0.44 , $p < 0.01$). The correlations between individual items and mean scores of scales were moderate-to-strong (Table 1). Finally, the correlations between the negative and positive scales at both ages were computed (Table 2). There were moderate correlations between the scales at ages 2 and 3 indicating stability in the measure (negative, $r = 0.40$, $p < 0.01$); positive, $r = 0.36$, $p < 0.01$). There were, however, weak correlations between the negative and positive scales cross-sectionally, suggesting that the two FAARS scales do represent separate constructs.

Construct Validity

First, the relationship between FAARS scales and measures of parental dysfunction was examined cross-sectionally and longitudinally. Correlations between parental depressive symptoms and frequency of daily hassles with concurrent (ages 2 and 3) and later (age 3) affective attitudes were computed (Table 2). Next, separate linear regression analyses were conducted to evaluate the prediction of negative and positive affective attitudes by measures of parental dysfunction (Table 3). For each model, intervention status, child race and gender, and parental education and income were entered in step 1 to ensure that any relationship between parental dysfunction and affective attitudes was over and above relevant covariates.

Cross-sectional models were tested first. The model predicting to age 2 negative affective attitudes was significant, $F(6, 721) = 3.21$, $p < 0.001$, and age 2 daily hassles accounted for unique variance in score. At age 3, the models for both negative, $F(6, 721) = 17.44$, $p < 0.001$, and positive, $F(6, 721) = 3.30$, $p < 0.01$, affective attitudes were significant. Predicting to age 3 negative affective attitudes, both age 3 depressive symptoms and daily hassles accounted for unique variance in score. Predicting to age 3 positive affective attitudes, only daily hassles explained unique variance. For longitudinal models, predicting from age 2 parental dysfunction measures to age 3 affective attitudes, only the model for negative affective attitudes at age 3 was significant, $F(6, 721) = 6.22$, $p < 0.001$; both depressive symptoms and daily hassles accounted for unique variance. The results are therefore broadly in line with the prediction of moderate convergence between FAARS scales and parental dysfunction.

As a second test of the construct validity, the association between alternative measures of parenting with the FAARS scales was examined. First, correlations were computed (Table 2). The FAARS scales showed weak but significant correlations with observed parenting measures both cross-sectionally and longitudinally at ages 2 and 3 (except age 2 negative

affective attitudes, which was only correlated with age 2 observed harsh parenting). There were also moderate correlations between affective attitudes and parent-reported relationship conflict cross-sectionally and longitudinally at ages 2 and 3. Second, separate cross-sectional and longitudinal regression models were run to test the prediction of negative and positive affective attitudes by alternative measures of parenting (Table 4). As before, intervention status, child race and gender, and parental education and income were entered in step 1.

Cross-sectional models were tested first. At age 2, in line with the study predictions, the overall models for the negative, $F(7,721) = 6.74, p < 0.001$, and positive, $F(7,721) = 5.29, p < 0.001$, scales were significant. For age 2 negative affective attitudes, age 2 parent-reported relationship conflict accounted for unique variance in score. With age 2 positive affective attitudes as the outcome, age 2 observed positive behavior support and observed harsh parenting accounted for unique variance in score. Both cross-sectional models at age 3 were also significant (negative, $F(7,721) = 27.01, p < 0.001$; positive, $F(7,721) = 10.85, p < 0.001$). For age 3 negative affective attitudes, age 3 parent-reported relationship conflict accounted for unique variance in score. Finally, for age 3 positive affective attitudes, both age 3 observed positive behavior support and parent-reported relationship conflict accounted for unique variance in score.

Longitudinal models were tested by assessing the prediction of age 3 affective attitudes by the alternative measures of parenting at age 2. As predicted, the model for age 3 negative parental affective attitudes was significant, $F(7,721) = 6.80, p < 0.001$, and both age 2 parent-reported relationship conflict and age 2 observed positive behavior support accounted for unique variance in score. The model for age 3 positive affective attitudes was also significant, $F(7,721) = 3.99, p < 0.001$, and both age 2 observed positive behavior support and age 2 parent-reported relationship conflict accounted for unique variance in score.

Predictive Validity

In a final test of its validity, the relation between FAARS and child problem behavior was assessed. First, bivariate correlations between the FAARS scales and both concurrent and later child problem behavior were computed (Table 2). Second, the ability of the FAARS scales to uniquely add to the prediction of child conduct problems, over and above alternative measures of parenting, was assessed. Three longitudinal regression models were tested (Table 5). For each model, intervention status, child race and gender, and parental education and income were entered in step 1. In step 2, parent-reported and observed measures of harsh and positive parenting were entered. Finally, in step 3, negative and positive affective attitude scores were entered. The model predicting to age 3 conduct problems from age 2 measures was significant, $F(10,721) = 21.01, p < 0.001$, and age 2 negative and positive affective attitudes explained unique variance in child outcome. The model was also significant predicting to age 4 conduct problems from age 3 measures, $F(10,721) = 38.48, p < 0.001$, but only negative affective attitudes accounted for unique variance in child outcome. However, when age 2 conduct problems were included in step 2 of the model to test for autoregressive effects, the contribution of the FAARS scales to all models was no longer significant. There were similar results for all models when negative and positive scales were tested separately, although for brevity, these are not reported.

Discussion

This study evaluated the reliability and validity of the FAARS measure of negative and positive parental affective attitudes in a large, high risk, community sample of very young children. The FAARS scales showed good internal consistency and were reliably coded. The FAARS scales demonstrated reasonable construct validity and the results fit into a conceptual and theoretical framework, which highlights the potential clinical and

experimental utility of the measure. Specifically, both the positive and negative scales, which index the affective attitudes and internal representations a parent holds about their child, showed convergence across various alternative measures of parenting and parental dysfunction. First, FAARS was moderately related to the frequency of daily hassles and depressive symptoms reported by parents, both cross-sectionally and longitudinally. This finding fits with other studies that have found an association between parental expressed emotion with maternal stress, family conflict and dysfunction, and parental psychopathology (e.g., Baker et al. 2000; Pasalich et al. 2011; Schwartz et al. 1990), which is important in terms of construct validity. Specifically, the representations a parent has of their child and their relationship appear inseparable from proximal stressors that define the context for the parent–child relationship, including fluctuating, environment-driven factors, such as day-to-day hassles, and more stable, trait-based characteristics, such as depressive symptoms.

Second, consistent with previous validation studies (Bullock and Dishion 2007; Pasalich et al. 2011), the FAARS scales showed convergence with alternative measures of parenting. Specifically, parent-reported relationship conflict was a consistent predictor of parental negative and positive affective attitude score. In other words, experience of conflict with their child as reported by parents was reflected in FAARS scores. It should be noted however, that method overlap could be responsible for inflating the magnitude of the reported associations, as both a FMSS and relationship-conflict score involve parent reports of past interactions with their child. Nevertheless, the FAARS scales also converged both cross-sectionally and longitudinally with observed measures of parenting, and most consistently with observed positive parenting. Observed displays of a parental support of, interactive involvement with, and positive reaction to child behavior predicted both negative and positive affective attitudes scores. The results suggest that positive parenting experiences are reflected in the feelings and attitudes expressed by a parent during a FMSS. The variance explained by observed positive parenting was modest however, and smaller than that explained by parent-reported relationship conflict.

Finally, the negative FAARS scale independently contributed a modest amount of variance to the prediction of subsequent child conduct problems, after accounting for the effects of alternative measures of parenting, and relevant covariates. While future studies are needed to replicate and investigate this relationship more precisely, it seems intuitive that parental affective attitudes relating to their child may be broadly reflected in subsequent parenting behavior. At the same time, high levels of child problem behavior are likely to undermine effective parenting, leading to conflict or coercive parent–child interactions. As such, knowing about negative parental affective attitudes appears useful because it not only provides an index of the parent–child history, reflecting parental perceptions of difficult child behavior and the negative interactions this may have precipitated, but also appears to predict future child problem behavior.

Strengths of the study include multi-modal measurement of parenting, the large sample size, the very young age of the children, and both cross-sectional and longitudinal assessment of FAARS. It is important, however, to highlight several limitations. First, the psychometric properties of FAARS were investigated in a young, high-risk sample. It is unclear how generalizable the results would be to clinical or general population samples, although in the context of the two earlier psychometric studies, there is support for the broader generalizability of FAARS. Second, the study only reported in the majority of cases on the affective attitudes of mothers, which may not be representative of alternative caregivers or climate of the family system. Third, the current study was not able to assess the test-retest reliability of parental affective attitudes. The stability of scales over a one-year period was moderate, but studies over shorter periods are needed. Given the associations found with

measures of parental dysfunction, it is unclear if affective attitudes scores could be episodic, or reactions to specific stressors.

Despite these limitations, the current study provides support for the reliability and validity of the FAARS scales in very young children. Theoretically, FAARS appears useful because the negative scale improved on the prediction of later child conduct problems over and above parent-reported and observed measures of parenting. The negative and positive affective attitudes scales also converged with parent reports of conflict with their child, depressive symptoms, daily hassles, and observed positive parenting practices. FAARS therefore shows promise as a brief, cost-effective, and therefore practical, method for assessing parenting, the parent–child relationship, and parental dysfunction in clinical and research settings. The current study is unique in investigating FAARS in very early childhood and thus, paves the way for future studies to investigate its growth, relationship to conduct problems and interactions with parenting behavior across development.

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Abbreviations

FAARS	Family Affective Attitude Rating Scale
FMSS	Five Minute Speech Sample
EE	Expressed Emotion
EE-	Expressed Emotion coding for a Five Minute
FMSS	Speech Sample
FCU	Family Check-Up
RPC	Relationship Process Code
PDH	Parenting Daily Hassles

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Table 1

Item and scale descriptive statistics for negative and positive FAARS scales, and item-scale correlations at ages 2 and 3 years old

	<u>Mean (SD)</u>		<u>Item-scale correlation, <i>r</i></u>	
	Age 2	Age 3	Age 2	Age 3
Negative FAARS scale (mean of items)	2.82 (1.31)	2.79 (1.27)		
Critical regarding behavior of the child	4.52 (2.14)	4.83 (2.09)	0.84 **	0.81 **
Critical of traits or personality of child	3.42 (1.97)	3.34 (2.10)	0.75 **	0.78 **
Negative relationship with the child	1.78 (1.26)	1.77 (1.34)	0.72 **	0.75 **
Assumes or attributes negative intentions of the child	2.42 (1.77)	2.11 (1.45)	0.74 **	0.73 **
Reports of conflict with/anger or hostility toward the child	1.98 (1.43)	1.91 (1.28)	0.73 **	0.77 **
Positive FAARS scale (mean of items)	4.09 (1.46)	4.51 (1.40)		
Generally positive regarding behavior of child	4.76 (2.03)	5.42 (1.99)	0.70 **	0.65 **
Generally positive regarding of traits or personality of child	5.26 (2.30)	6.16 (2.24)	0.76 **	0.69 **
Reports positive relationship with the child	4.52 (2.27)	5.09 (2.24)	0.73 **	0.73 **
Assumes or attributes positive intentions of the child	2.89 (1.99)	3.58 (2.05)	0.65 **	0.66 **
Statements of love/caring toward the child	3.01 (2.33)	2.32 (2.17)	0.51 **	0.54 **

** Correlation is significant at the 0.01 level (2-tailed)

Table 2

Bivariate correlations between negative and positive FAARS scales with observed and parent-reported parenting measures, and concurrent and later child problem behavior

	Age 2 negative	Age 2 positive	Age 3 negative	Age 3 positive
Age 2 positive FAARS	−0.12 **			
Age 3 negative FAARS	0.40 **	−0.14 **		
Age 3 positive FAARS	−0.15 **	0.36 **	−0.27 **	
Age 2 depressive symptoms	0.03	0.04	0.15 **	−0.06
Age 3 depressive symptoms	0.10 **	0.02	0.26 **	−0.08 *
Age 2 daily hassles frequency	0.13 **	0.01	0.19 **	−0.01
Age 3 daily hassles frequency	0.14 **	−0.05	0.31 **	−0.14 **
Age 2 parent-reported relationship conflict	0.23 **	−0.10 **	0.22 **	−0.14 **
Age 3 parent-reported relationship conflict	0.26 **	−0.13 **	0.45 **	−0.25 **
Age 2 observed positive behavior support	−0.05	0.12 **	−0.11 **	0.10 **
Age 3 observed positive behavior support	−0.07	0.15 **	−0.11 **	0.16 **
Age 2 observed harsh parenting	0.11 **	−0.14 **	0.10 *	−0.08 *
Age 3 observed harsh parenting	0.02	−0.13 **	0.11 **	−0.09 *
Age 2 child problem behavior	0.32 **	−0.18 **	0.27 **	−0.13 **
Age 3 child problem behavior	0.23 **	−0.15 **	0.45 **	−0.26 **
Age 4 child problem behavior	0.13 **	−0.10 **	0.34 **	−0.18 **

** .Correlation is significant at the 0.01 level (2-tailed)

* .Correlation is significant at the 0.05 level (2-tailed)

Table 3

Cross-sectional and longitudinal associations between measures of parental dysfunction and FAARS scales at ages 2 and 3

Outcome of regression models (FAARS scales)				
Predictors	Age 2 negative		Age 3 negative	
	B (SE)	β	B (SE)	β
Age 2 depressive symptoms	-0.001 (0.01)	-0.01	0.13 (0.01)	0.10**
Age 2 daily hassles	0.021 (0.01)	0.14***	0.02 (0.01)	0.16***
	$R^2 = 0.03$ ***		$R^2 = 0.05$ ***	
Age 3 depressive symptoms	–		0.02 (0.01)	0.18***
Age 3 daily hassles	–		0.04 (0.01)	0.25***
			$R^2 = 0.13$ ***	
Predictors	Age 2 positive		Age 3 positive	
	B (SE)	β	B (SE)	β
Age 2 depressive symptoms	0.01 (0.01)	0.04	-0.01 (0.01)	-0.04
Age 2 daily hassles	-0.001 (0.001)	-0.01	0.001 (0.01)	0.01
	$R^2 = 0.01, n.s.$		$R^2 = 0.01, n.s.$	
Age 3 depressive symptoms	–		-0.003 (0.01)	-0.03
Age 3 daily hassles	–		-0.02 (0.01)	-0.13***
			$R^2 = 0.03$ **	

*
 $p < 0.05$,

**
 $p < 0.01$,

 $p < 0.001$.

Note: Intervention group, parent education and income, and child race and gender were included, but did not contribute significantly to models (data not shown)

Cross-sectional and longitudinal associations between parent-reported and observed parenting measures with FAARS scales at ages 2 and 3

Table 4

		Outcome of regression models (FAARS scales)					
		Age 2			Age 3		
		Negative		Positive	Negative		Positive
		B (SE)	β	B (SE)	B (SE)	β	B (SE)
Age 2 predictors							
Parent-reported conflict		0.04 (0.01)	0.21 ***	-0.01 (0.01)	-0.07	0.04 (0.01)	0.20 ***
Observed positive behavior support		-0.04 (0.07)	-0.02	0.20 (0.07)	0.11 **	-0.17 (0.06)	-0.10 ***
Observed harsh parenting		0.02 (0.01)	0.06	-0.04 (0.01)	-0.12 **	0.01 (0.01)	0.05
		$R^2 = 0.06$ ***		$R^2 = 0.05$ ***		$R^2 = 0.06$ ***	$R^2 = 0.04$ ***
Age 3 predictors							
Parent-reported conflict		-		-	0.07 (0.01)	0.44 ***	-0.04 (0.01)
Observed positive behavior support		-		-	-0.12 (0.07)	-0.06	0.33 (0.08)
Observed harsh parenting		-		-	0.004 (0.01)	0.02	-0.001 (0.01)
					$R^2 = 0.21$ ***		$R^2 = 0.10$ ***

* $p < 0.05$,

** $p < 0.01$,

*** $p < 0.001$.

Note: Intervention group, parent education and income, and child race and gender were included, but did not contribute significantly to models (data not shown)

Table 5

Longitudinal prediction of child problem behavior by FAARS scales

Predictors	Outcome of regression model (child problem behavior)			
	Age 3		Age 4	
	<i>B</i> (SE)	β	<i>B</i> (SE)	β
Age 2 parent-reported relationship conflict	0.39 (0.04)	0.36 ***	0.32 (0.04)	0.29 ***
Age 2 observed positive behavior support	−0.43 (0.36)	−0.04	−1.10 (0.39)	−0.10 **
Age 2 observed harsh parenting	0.14 (0.06)	0.08 *	0.13 (0.06)	0.08 *
Age 2 negative FAARS	0.77 (0.21)	0.13 ***	0.31 (0.23)	0.05
Age 2 positive FAARS	−0.45 (0.18)	−0.08 *	−0.24 (0.20)	−0.04
	$R^2 = 0.20$ ***		$R^2 = 0.14$ ***	
Age 3 parent-reported relationship conflict	–		0.53 (0.04)	0.49 ***
Age 3 observed positive behavior support	–		−0.36 (0.39)	−0.03
Age 3 observed harsh parenting	–		0.20 (0.06)	0.11 ***
Age 3 negative FAARS	–		0.60 (0.22)	0.09 **
Age 3 positive FAARS	–		−0.11 (0.19)	−0.02
			$R^2 = 0.35$ ***	

*
 $p < 0.05$,**
 $p < 0.01$,***
 $p < 0.001$.

Note: Intervention group, parent education and income, child race and gender were included in models as covariates. As expected, gender and intervention status predicted outcome; other covariates were not predictive of outcome (data not shown)