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Characteristics associated with parent-teacher concordance on child behavior problem ratings in low-income preschoolers

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Abstract

Background—Assessment of pediatric behavior problems often requires rating scales from multiple reporters in different settings (e.g., home and school); however, concordance between reporters may be low. Pediatricians must reconcile differences to inform treatment.

Objective—To examine characteristics predicting parent-teacher concordance on ratings of preschoolers' behavior problems.

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Methods—Data from 562 preschoolers were used from the Growing Healthy study, an obesity prevention trial in Head Start programs (2011–2015). Parents and teachers completed the Eyberg Child Behavior Inventory (ECBI)/Student Behavior Inventory (SBI) and the Social Competence and Behavior-Evaluation (SCBE). Outcome variables were: parent-teacher concordance (teacher minus parent score on each subscale of EBCI/SBI and SCBE), teacher reports problem behavior, parent does not (children rated in the top quintile of challenging behavior by teacher but not parent) and parent reports problem behavior, teacher does not (children rated in the top quintile of challenging behavior by parent but not teacher). Multiple linear and logistic regression models were created for each subscale outcome, including covariates: child sex, child race/ethnicity, parent age, parent education, family structure, parent depressive symptoms, and parenting self-efficacy, and time of school year.

Results—Lower concordance was associated with: child female sex, child black or Hispanic race/ethnicity, older parent age, lower education, more depressive symptoms, greater self-efficacy, and the beginning of the school year.

Conclusions—Low parent-teacher concordance may reflect different perceptions of child behavior. Pediatricians could consider parent depressive symptoms, culture, and implicit bias when interpreting differences in behavior ratings by parents and teachers.

Keywords

Concordance; preschool; parent; teacher; behavior ratings

INTRODUCTION

Preschool children with behavior problems often continue to experience significant behavior challenges in later life.¹ Children growing up in poverty are at greater risk for these difficulties as early as the preschool years.² Early recognition of atypical behavior is important to optimizing development and pediatricians are often the first providers asked to evaluate these concerns.³ To evaluate behavior concerns, pediatricians often obtain behavior rating scales from reporters in two different settings (e.g., home and preschool),⁴ according to clinical practice guidelines for diagnosis of conditions such as ADHD.⁵ However, concordance between parents and teachers on these scales is often low⁶ to moderate.^{7,8} Therefore, pediatricians are often faced with conflicting parent and teacher reports about children's behavior and must reconcile these differences. Understanding characteristics related to parent and teacher concordance would inform assessment and treatment.

Prior literature has identified various child, parent, and teacher characteristics contributing to parent-teacher concordance on preschoolers' behaviors. The effect of child race/ethnicity is variable, with some studies showing no differences and others showing less parent-teacher concordance among non-Hispanic black or Hispanic parents.^{9,10} Parent depression and stress are associated with higher parent ratings for problematic behaviors compared with teachers.^{8,10–12} Higher socioeconomic status is associated with better parent-teacher concordance in most studies,^{8,13} but not all.¹² Complicating evaluation is a prior study reporting that teacher ratings change across the course of the school year, with, surprisingly, less parent-teacher concordance in the social domain at the end of the school year compared

to the beginning, suggesting that child behavior changes to differ more between school and home by the end of the school year.¹⁴

There are several gaps in the literature regarding parent-teacher concordance on reporting of preschoolers' behavior. The associations of parenting self-efficacy, parent education, and family structure with concordance have not been examined in low-income preschool populations. Though prior studies have examined concordance of preschooler behavior ratings,^{15,16} only one study has done so among low-income preschoolers.¹⁷ This is important to understand because there may be less parent-teacher concordance in this population given higher rates of depression and stress, which influence parent ratings on child behaviors.^{8,10–12} Additionally, 45% of children under 6 years of age in the U.S. are from low-income families, underscoring the importance of understanding parent-teacher concordance in this population.¹⁸ Interpretation of prior studies is also limited by small sample size,¹⁶ over-representation of children with problem behaviors,¹⁰ and parent-teacher comparisons using different scales,^{8,17} which may limit generalizability.

The primary aim was to test the hypothesis that characteristics associated with lower socioeconomic status – younger parent age, lower parent education, more parent depressive symptoms, and lower parenting self-efficacy -- are associated with lower parent-teacher concordance on preschooler behavior ratings. Based on clinical observations that teachers gain familiarity with students as the year progresses, we also hypothesized that ratings completed at the end of the school year, compared to the beginning have greater parent-teacher concordance, contrary to previous literature showing less parent-teacher concordance at the end of the school year.¹⁴

METHODS

Study Design

Participants were drawn from the Growing Healthy study,¹⁹ a cluster-randomized community-based obesity prevention intervention trial in urban and rural Michigan Head Start programs occurring during four academic years between fall 2011 and spring 2015, with six classrooms participating each academic year. Data were collected prior to the Growing Healthy study interventions, in the fall (September-October) and post-intervention in the spring (April-May). As shown in Figure 1, there were a total of 697 students enrolled in the Growing Healthy study, with 562 participants included in this analysis who had both parent and teacher behavior ratings in the fall before the intervention. The sample of 562 participants included in this analysis did not differ from the 135 participants not included with regard to child age, sex, or race/ethnicity. As the intervention occurred during the school year and may change parent and teacher report of child behavior ratings, data were only used from 203 control-arm participants in the spring to assess the association between time of school year and concordance. Exclusion criteria were significant medical problems or developmental disabilities, foster care, or non-fluency in English. Families received \$150 for participating in data collection. This study was approved by the Institutional Review Boards of the University of Michigan and Michigan State University. Families provided written informed consent.

Measures

Outcome Measure: Concordance between Parent and Teacher Behavior

Ratings—Parents completed the Eyberg Child Behavior Inventory (ECBI), a 36-item scale measuring disruptive behavior problems in children.²⁰ Teachers completed the corresponding 38-item Student Behavior Inventory (SBI).²⁰ Items are answered on a 7-point Likert scale (1= never, 7= always). The sum of these items generates the intensity score which reflects the total frequency of each behavior (alpha=0.93 for parent, 0.97 for teacher). Respondents also circle “yes” or “no” to report whether the behavior is a problem. The sum of items answered “yes” generates the problem score which reflects the total number of problematic behaviors (alpha = 0.91 for parent, 0.96 for teacher). T-scores for age and sex with a mean of 50 and a standard deviation (SD) of 10 are generated, with higher scores reflecting more problematic behavior.

The Social Competence and Behavior Evaluation is a measure of affective expression, social competence, and adjustment difficulties in preschool-aged children.²¹ The questionnaire is composed of eight scales including positive (competence) and negative (emotional or behavior problems) items. Parents and teachers completed a modified 60-item version and rated frequency of behavior on a 6-point Likert scale, (never = 0, always = 5; with reverse scoring as appropriate). Six subscales, the sum of 10 items each, were utilized: depressive-joyful (alpha = 0.67 for parent, 0.85 for teacher), anxious-secure (alpha = 0.58 for parent, 0.84 for teacher), angry-tolerant (alpha = 0.76 for parent, 0.89 for teacher), isolated-integrated (alpha = 0.77 for parent, 0.86 for teacher), aggressive-calm (alpha = 0.68 for parent, 0.85 for teacher), and egotistical-prosocial (alpha = 0.66 for parent, 0.82 for teacher). T-scores for age and sex with a mean of 50 and a SD of 10 are generated, with higher scores reflecting more adaptive behavior in the original scale. For this report, scoring was reversed such that higher scores reflect more problematic behavior.

We created an outcome variable to reflect parent-teacher concordance in behavior problem ratings by subtracting the parent rating from the teacher rating. A positive score therefore indicates that the teacher rated the child higher (i.e., more problems) than the parent. A negative score indicates that the parent rated the child higher than the teacher. We also created two dichotomous outcome variables. We did so by first dichotomizing each behavior scale as having a score in the top quintile (indicating that the behavior is perceived as a problem) versus the bottom four quintiles (indicating that the behavior is not perceived as a problem) for parent and teacher ratings. For each behavior scale we then created two dichotomous variables: “teacher reports a behavior problem, but the parent does not” versus not; and “parent reports behavior problem, but the teacher does not” versus not.

Predictors

At enrollment, parents reported child sex, child race/ethnicity, parent age, parent education, and family structure. Timing of school year for behavior ratings (beginning versus end) was noted. The Center for Epidemiologic Studies Depression Scale (CES-D Scale) was used to measure depressive symptoms.²² Parents responded to 20 items on a 4-point Likert scale (0 = rarely or none of the time/less than 1 day per week and 3 = most or all of the time/5–7 days per week). Responses are summed, with higher scores indicating more depressive

symptomatology ($\alpha = 0.90$). The Parenting Sense of Competence Scale (PSOC) is a 21-item questionnaire that measures parenting self-efficacy.²³ The 7-item general self-efficacy subscale was utilized (reflecting parent feelings of competence and familiarity with the parenting role) and parents responded on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Responses were averaged ($\alpha = 0.78$), with higher scores indicating greater parenting self-efficacy.²⁴

Statistical Analyses

Univariate statistics were used to describe the sample. We calculated the mean difference between parent and teacher ratings and the 95% confidence intervals and effect sizes. We created 8 multiple linear regression models, with one model for each of the 8 behavior outcome concordance scores (2 scales on the ECBI/SBI and 6 subscales on the SCBE). We repeated these models using logistic regression with the alternative outcomes “teacher reports a behavior problem but parent does not” and “parent reports a behavior problem but teacher does not”. All models included all covariates simultaneously—child sex, child race/ethnicity, parent age, education, family structure, parent depressive symptoms, and parenting self-efficacy. We used mixed models accounting for clustering by classroom using *proc mixed* in SAS and a random intercept. We ran an additional repeated measures model, limited to the subsample of participants in the control arm ($n = 203$), in which we also included as a predictor in the model “time of school year.” All analyses were conducted in SAS 9.4.

RESULTS

There were a total of 562 participants with both parent and teacher data on questionnaires at enrollment. As shown in Table 1, 49% were male. The sample was 48% non-Hispanic white, 30% non-Hispanic black, 13% Hispanic, and 9% other (Native Americans, Asian Americans, and biracial). Of parents, 58% were married and 52% had some education beyond high school. The mean parent age was 29.4 years ($SD\ 6.7$) and the mean child age was 4.10 years ($SD\ 0.52$).

As shown in Table 2, differences in parent and teacher scores in all subscales were statistically significant, with the exception of SCBE egotistic-prosocial subscale. The identity of the reporter (parent vs. teacher) conferred a moderate effect size for ECBI/SBI intensity and frequency of behavior problems, SCBE isolated and angry subscales; and a small effect size for SCBE depressive, anxious, aggressive, and egotistic subscales.

As shown in Table 3, child Hispanic race/ethnicity was associated with less parent-teacher concordance. Compared with referent group of non-Hispanic white children, parents of Hispanic children reported higher ECBI/SBI intensity of behavior problems ($\beta = -2.81$ ($SE\ 1.35$)), higher behavior problem scores ($\beta = -2.77$ ($SE\ 1.40$)), and more SCBE egotistical behavior than did teachers ($\beta = -3.08$ ($SE\ 1.45$)).

Greater parent age was associated with less concordance, with older parents reporting lower ECBI/SBI behavior problem scores ($\beta = 0.20$ ($SE\ 0.07$)) and less SCBE anxious behaviors ($\beta = 0.13$ ($SE\ 0.07$)) than teachers. Lower parent education was associated with less

concordance, with less educated parents reporting lower ECBI/SBI intensity of behavior problems ($\beta = 2.44$ (SE 0.85)) and lower behavior problem scores ($\beta = 1.86$ (SE 0.88)) than teachers.

Parent depressive symptoms (higher CES-D scores) were associated with less parent-teacher concordance. Parents with greater symptoms of depression reported higher ECBI/SBI intensity of behavior problems, ($\beta = -0.23$ (SE 0.04)), higher ECBI/SBI behavior problem scores ($\beta = -0.18$ (SE 0.04)), more SCBE depressive behaviors ($\beta = -0.17$ (SE 0.05)), anxious behaviors ($\beta = -0.12$ (SE 0.05)), and angry behaviors ($\beta = -0.15$ (SE 0.04)) than did teachers. Higher parenting self-efficacy was associated with less parent-teacher concordance. Parents with greater self-efficacy reported less SCBE isolating behaviors ($\beta = 2.17$ (SE 0.84)) and aggressive behaviors ($\beta = 1.96$ (SE 0.77)), than did teachers.

As shown in Table 4, child female sex was associated with lower odds of teacher reporting behavior problem but not parent. Compared with referent group of child non-Hispanic white race/ethnicity, child black race was associated with greater odds of the teacher reporting SCBE angry and aggressive behaviors but not the parent.

As shown in Table 5, child female sex was associated with greater odds of the parent reporting aggressive behaviors, but not the teacher. Child Hispanic ethnicity was associated with greater odds of the parent reporting depressive behaviors but not teacher. Child other race/ethnicity compared to non-Hispanic white race/ethnicity was associated with lower odds of the parent reporting high ECBI/SBI intensity of behavior problems. Greater parent age was associated with lower odds of the parent reporting high ECBI/SBI intensity of behavior problems, but not the teacher. Lower parental education was associated with greater odds of the parent reporting SCBE aggressive behaviors but not the teacher. Greater parent depressive symptoms were associated with greater odds of the parent reporting high ECBI/SBI intensity of behavior problems and problem behaviors, SCBE depressive, anxious, and angry behaviors but not the teacher. Greater parent self-efficacy was associated with lower odds of the parent reporting SCBE depressive, isolated, and aggressive behaviors, but not the teacher.

There was no significant difference in parent-teacher concordance in the beginning versus end of school year for any behavior measures with one exception. The ECBI problem subscale (beginning of school year average difference = -7.34 , end of school year = -5.52 , $p = .02$) showed better concordance at the end of the school year.

DISCUSSION

Overall, this study found that there was modest concordance between parent and teacher ratings of low-income preschoolers' behavior, consistent with at least one prior study.²⁵ Characteristics associated with less parent-teacher concordance for some behavior ratings included child female sex, black race, Hispanic race/ethnicity, other race, older parent age, lower education, more depressive symptoms, and greater self-efficacy. Child black race was associated with greater odds of teacher reporting behavior problem, but not parent for anger and aggression. Female sex was associated with lower odds of teacher reporting behavior

problem but not parent. Factors associated with greater odds of parent reporting behavior problem but not teacher for some behavior ratings, included: child female sex, Hispanic race, less parent education, and more depressive symptoms. Factors associated with lower odds of parent reporting behavior problem but not teacher for some behavior ratings included: child other race, greater parent age, and greater parenting self-efficacy. Parent-teacher concordance was stable across timing of school year except for ECBI/SBI problem score.

Because previous studies utilized different rating scales and methodology, direct comparison of the differing magnitudes of parent-teacher concordance across studies is challenging.⁷ Our results are similar to one study which found Pearson correlations with ECBI/SBI intensity = 0.16 and problem subscale = 0.23.²⁵

Prior studies have found that child female sex is associated with less concordance.⁷ We found that child female sex was associated with lower odds of the teacher reporting problematic behavior but not the parent, and greater odds of the parent reporting aggressive behaviors but not the teacher. Girls may be culturally conditioned against showing problematic or aggressive behaviors outside the home.²⁶ Learning strategies to express and regulate emotions that may contribute to aggressive behaviors is crucial for healthy social-emotional development;²⁷ therefore, we encourage pediatricians evaluating these behaviors to normalize emotions and provide ideas for replacement behaviors for aggression.

Consistent with prior literature, our study found that parents of Hispanic children had less parent-teacher concordance compared with non-Hispanic white children.¹⁰ On one subscale, the parent reported more depressive behaviors than teachers. On self-report, Hispanic parents have been shown to embrace a more authoritarian parenting style than non-Hispanic white parents,²⁸ which may account for findings. Children of other race were less likely to have parents reporting high intensity of behavior problems compared with teachers. Different cultural expectations of parents and teachers regarding normative behavior may contribute.

Child black race was associated with greater odds of teachers reporting problematic aggression and angry behaviors, but not parents. These results may support prior studies regarding implicit bias, which show that black children are twice as likely to be expelled from preschools compared with white and Hispanic children and that behavior difficulties do not solely account for disciplinary action. Teachers are more likely to interpret behaviors from black children as troublesome, respond with harsher punishments, and when primed to expect challenging behaviors, they gaze longer at black children.^{29,30} Teacher access mental health consultants who can navigate challenging behaviors has been previously shown to decrease expulsion rates, highlighting an intervention which may mitigate some effects of implicit bias.³⁰ Therefore, in evaluating behavior concerns in black children, pediatricians should be cognizant of their own biases and work closely with schools in trouble-shooting challenging behaviors.

Prior studies have found lower parent-teacher concordance with younger mothers, who note greater externalizing behaviors than teachers.³¹ In this sample, however, we found greater

parent-teacher concordance with younger parents and less parent-teacher concordance with older parents, who reported fewer internalizing and externalizing behaviors than teachers.

Unlike prior studies which documented no differences in concordance by maternal education,³¹ we found that parents who had not obtained education beyond high school reported more aggressive behaviors than teachers. Lower parent education is associated with different expectations of child behavior and achievement,³² which could explain why lower concordance was predicted by parent education.

This study was consistent with prior literature suggesting that parent depressive symptoms strongly predict low parent-teacher concordance, particularly with parents reporting a behavior problem when teachers did not.^{10–12} Several mechanisms have been proposed in the literature regarding parent-teacher concordance in parents with depressive symptoms. While children of depressed parents are at higher risk for behavior problems, depressed parents are more likely to report typical behaviors as being problematic, with greater reports of externalizing behaviors.³³ Depressed parents may develop negative perceptions about their own parenting and children's behaviors.³⁴ Genetic transmission may lead to greater incidence of depression in children.³⁴ Parents tend to report more internalizing behaviors than teachers,³⁴ which is associated with less parent-teacher concordance in prior studies, though not in this study.^{15,16}

Greater parenting self-efficacy was associated with less parent-teacher concordance; these parents endorsed better child behaviors than teachers. Parents with higher parenting self-efficacy may be more effective at regulating their children's behaviors at home, where children receive more individualized attention than at school, and thus may report fewer child behavior problems.³⁵

Parent and teacher reports of behavior were more closely correlated at the end of the school year among a subsample of children in the control group only for problem behaviors. The magnitude of improvement was small, suggesting little conferred benefit to waiting until the end of the school for evaluation of behavior problems.

This study had several limitations. The study population consisted of primarily low-income, healthy preschoolers, not in the foster care system, with parents who speak English. Results may therefore not generalize to individuals without these characteristics. Only parent and child characteristics were examined, however teacher characteristics such as teacher race/ethnicity and other child characteristics such as developmental delay may also contribute to concordance.²⁹ Therefore, examining teacher and other child characteristics in correlation with child behavior ratings should be a focus of future studies. Study strengths included a large sample in an understudied population. The measures we used identified both child behavior problems and social competence, which are used in clinical settings, with matched parent-teacher standardized measures.

CONCLUSION

In conclusion, this study found less parent-teacher concordance in preschool behavior ratings among parents of female children, black children, Hispanic children, children of

other race, older parents, parents with less education, more depressive symptoms, and greater self-efficacy. There was greater parent-teacher concordance at the end of the school year for problem behaviors, but the magnitude of improved concordance was small. Therefore, pediatricians should evaluate behavior concerns promptly from teachers regardless of timing. While these differences in parent-teacher concordance may be challenging for pediatricians to reconcile, they may provide rich clinical information. Therefore, in interpreting differences in parent and teacher ratings of preschool behavior, pediatricians may wish to screen for parental depression, discuss expectations of child behavior, communicate with teachers to problem-solve challenging behaviors, and consider how their own implicit biases may affect management of behavior problems.

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Abbreviations

ECBI	Eyberg Child Behavior Inventory
SBI	Student Behavior Inventory
SCBE	Social Competence and Behavior-Evaluation
CES-D	Center for Epidemiologic Studies Depression Scale
ADHD	Attention Deficit Hyperactivity Disorder

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WHAT'S NEW

This study examined parent-teacher concordance on child behavioral ratings in a large sample of low-income preschoolers, and found lower concordance was associated with: female children, black children, Hispanic children, children of other race, older parents, parents with less education, more depressive symptoms, and greater self-efficacy.

Figure 1.
STROBE chart on participants excluded from study.

Table 1

Baseline characteristics (n=562)

Characteristics	n (%) or Mean (SD)
Child sex	
Male	276 (49.1%)
Female	286 (50.9%)
Child race/ethnicity	
White, non-Hispanic	271 (48.2%)
Black, non-Hispanic	170 (30.3%)
Hispanic	71 (12.6%)
Other	50 (8.9%)
Maternal education	
Some college or more	290 (51.6%)
High school education or less	272 (48.4%)
Parent age (years)	29.4 (6.7)
Parent marital status	
Single	235 (41.8%)
Married	327 (58.2%)
Parent CES-D score	13.0 (10.1)
Parenting self-efficacy score	4.0 (0.6)

Table 2

ECBI/SBI and SCBE T-score parent and teacher means, mean difference, effect sizes, and Pearson correlation.

	Parent T-scores Mean (SD)	Teacher T-scores Mean (SD)	Mean difference ^a (95% CI)	Effect size (Cohen's d)	Pearson correlation
ECBI					
Intensity	53.5 (8.7)	46.5 (7.1)	-6.98(-7.82, -6.14)	-0.68	0.19***
Problem	51.5 (9.4)	45.0 (5.0)	-6.45 (-7.31, -5.60)	-0.63	0.11**
SCBE					
Depressive-joyful	53.4 (7.1)	50.4 (9.6)	-3.14 (-4.06, -2.23)	-0.28	0.09***
Anxious-secure	53.0 (7.4)	51.4 (9.3)	-1.68 (-2.58, -0.79)	-0.15	0.15***
Angry-tolerant	42.5 (6.8)	48.5 (8.8)	6.05 (5.22, 6.88)	0.59	0.15***
Isolated-integrated	54.3 (8.3)	48.9 (8.2)	-5.44 (-6.35, -4.53)	-0.51	0.16***
Aggressive-calm	48.7 (7.9)	47.3 (7.7)	-1.40 (-2.20, -0.60)	-0.14	0.20***
Egotistic-prosocial	48.7 (8.2)	48.1 (7.8)	-0.52 (-1.39, -0.34)	-0.05	0.15

^aMean difference calculated by subtracting parent score from teacher score at beginning of the school year. Paired t-tests comparing parent and teacher mean scores, with 95% confidence intervals shown. Significant results as indicated by:

* $p < .05$;

** $p < .01$;

*** $p < .001$.

Mixed models accounting for clustering within classroom predicting parent-teacher concordance of child behavior ratings^a

ECBI/SBI			SCBE ^b					
Intensity	Problem	Depressive-joyful	Anxious-secure	Angry-tolerant	Isolated-integrated	Aggressive-calm	Egotistical-prosocial	
β (SE)	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)	
<hr/>								
Child female vs. male	-0.75 (0.83)	-0.20 (0.86)	-0.08 (0.90)	-0.15 (0.87)	-1.36 (0.84)	-0.85 (0.91)	-0.70 (0.82)	-0.002 (0.88)
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Child race/ethnicity								
Black vs. Non-Hispanic white	-0.28 (1.14)	-0.87 (1.12)	0.04 (1.40)	0.79 (1.35)	1.30 (1.25)	1.90 (1.33)	1.16 (1.17)	0.42 (1.26)
Hispanic (any race) vs. Non-Hispanic white	-2.81 (1.35) *	-2.77 (1.40) *	-1.84 (1.50)	-0.38 (1.45)	-2.16 (1.38)	-1.25 (1.49)	-0.44 (1.34)	-3.08 (1.45) *
Other vs. Non-Hispanic white	0.71 (1.55)	-0.07 (1.56)	-0.90 (1.68)	2.15 (1.63)	0.69 (1.56)	-0.22 (1.78)	-1.16 (1.56)	1.23 (1.69)
Parent age (years)	0.09 (0.06)	0.20 (0.07) **	0.10 (0.07)	0.13 (0.07) *	0.02 (0.06)	0.12 (0.07)	0.01 (0.06)	-0.09 (0.07)
High school diploma or less (vs. more)	2.44 (0.85) **	1.86 (0.88) *	0.40 (0.92)	0.42 (0.89)	1.08 (0.86)	0.84 (0.94)	0.55 (0.85)	1.49 (0.91)
Single (vs. married)	1.23 (0.89)	1.65 (0.92)	0.45 (0.95)	0.59 (0.93)	0.60 (0.89)	1.14 (0.97)	0.75 (0.87)	1.16 (0.93)
CES-D	-0.23 (0.04) ***	-0.18 (0.04) ***	-0.17 (0.05) ***	-0.12 (0.05) **	-0.15 (0.04) ***	-0.07 (0.05)	-0.07 (0.04)	-0.08 (0.05)
Parent self-efficacy	1.03	1.53	1.34	0.93	-0.04	2.17	1.96	1.16

ECBI/SBI		SCBE ^b				
Intensity	Problem	Depressive-joyful	Anxious-secure	Angry-tolerant	Isolated-integrated	Aggressive-calm
β (SE)	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)
(0.78)	(0.81)	(0.83)	(0.81)	(0.77)	(0.84)**	(0.77)*
						(0.83)

^aParent-teacher concordance calculated as teacher rating – parent rating;

^bHigher ratings reflect more problematic behavior on the SCBE;

* $p < .05$;
 ** $p < .01$;
 *** $p < .001$

Table 4

Adjusted odds ratio for teacher reports behavior problem, parent does not vs. all other groups.

	ECBI/SBI			SCBE				
	Intensity	Problem	Depressive-joyful	Anxious-secure	Angry-tolerant	Isolated-integrated	Aggressive-calm	Egotistical-prosocial
	Adjusted Odds Ratio [95% CI]							
Child female vs. male	0.65 [0.39, 1.10]	0.60 [0.40, 0.90]	1.37 [0.91, 2.08]	1.28 [0.84, 1.95]	1.13 [0.65, 1.94]	1.52 [0.84, 2.77]	1.58 [0.89, 2.81]	1.37 [0.82, 2.29]
Child race/ethnicity								
Black vs. Non-Hispanic white	1.45 [0.76, 2.73]	1.76 [0.75, 4.14]	1.35 [0.72, 2.51]	1.23 [0.62, 2.41]	2.46 [1.20, 5.04]	1.26 [0.67, 2.36]	2.49 [1.34, 4.59]	1.23 [0.61, 2.47]
Hispanic (any race) vs. Non-Hispanic white	0.79 [0.37, 1.73]	0.39 [0.13, 1.20]	1.32 [0.63, 2.76]	1.52 [0.76, 3.05]	0.61 [0.23, 1.66]	1.01 [0.49, 2.06]	2.01 [0.91, 4.42]	1.11 [0.54, 2.29]
Other vs. Non-Hispanic white	1.09 [0.45, 2.56]	0.86 [0.35, 2.13]	1.23 [0.47, 3.21]	1.02 [0.49, 2.11]	0.72 [0.27, 1.96]	1.04 [0.41, 2.62]	1.30 [0.49, 3.42]	0.69 [0.23, 2.03]
Parent age (years)	0.99 [0.96, 1.03]	1.01 [0.98, 1.05]	1.03 [1.00, 1.06]	1.03 [1.00, 1.06]	0.99 [0.95, 1.03]	1.03 [0.99, 1.07]	0.99 [0.95, 1.03]	0.97 [0.93, 1.01]
High school diploma or less (vs. more)	1.67 [0.94, 2.92]	1.24 [0.81, 1.89]	1.03 [0.71, 1.49]	1.12 [0.68, 1.84]	1.57 [0.91, 2.73]	1.27 [0.85, 1.90]	1.22 [0.77, 1.94]	1.21 [0.68, 2.14]
Single (vs. married)	0.62 [0.32, 1.23]	0.76 [0.42, 1.38]	0.98 [0.62, 1.54]	0.88 [0.59, 1.30]	0.73 [0.42, 1.24]	0.87 [0.53, 1.44]	0.82 [0.46, 1.44]	0.72 [0.42, 1.25]
CES-D	0.99 [0.97, 1.03]	0.99 [0.97, 1.01]	1.00 [0.97, 1.02]	1.00 [0.97, 1.03]	0.98 [0.95, 1.00]	0.99 [0.97, 1.02]	0.99 [0.96, 1.01]	1.02 [0.99, 1.04]
Parent self-efficacy	0.71 [0.45, 1.13]	0.86 [0.53, 1.38]	0.91 [0.57, 1.46]	0.80 [0.52, 1.21]	0.73 [0.46, 1.14]	0.89 [0.58, 1.36]	0.81 [0.54, 1.19]	0.92 [0.58, 1.43]

Table 5

Adjusted odds ratio for parent reports behavior problem, teacher does not vs. all other combinations.

	ECBI/SBI			SCBE			
	Intensity	Problem	Depressive-joyful	Anxious-secure	Angry-tolerant	Isolated-integrated	Egotistical-prosocial
	Adjusted Odds Ratio [95% CI]						
Child female vs. male	0.88 [0.55, 1.42]	1.00 [0.62, 1.59]	0.64 [0.36, 1.14]	0.95 [0.62, 1.44]	1.67 [0.96, 2.91]	0.86 [0.55, 1.36]	1.19 [0.77, 1.83]
Child race/ethnicity							
Black vs. Non-Hispanic white	1.00 [0.54, 1.81]	1.21 [0.65, 2.27]	1.41 [0.75, 2.67]	1.11 [0.65, 1.89]	1.00 [0.57, 1.77]	1.31 [0.72, 2.35]	1.00 [0.55, 1.83]
Hispanic (any race) vs. Non-Hispanic white	1.14 [0.54, 2.40]	1.72 [0.86, 3.42]	2.67 [1.31, 5.43]	1.13 [0.52, 2.47]	1.76 [0.90, 3.44]	1.65 [0.84, 3.25]	1.60 [0.79, 3.24]
Other vs. Non-Hispanic white	0.13 [0.02, 0.93]	0.79 [0.27, 2.33]	1.83 [0.78, 4.31]	0.29 [0.08, 1.03]	0.90 [0.33, 2.44]	0.54 [0.17, 1.71]	1.46 [0.61, 3.46]
Parent age (years)	0.93 [0.88, 0.98]	0.97 [0.92, 1.02]	0.99 [0.96, 1.03]	0.97 [0.94, 1.01]	0.98 [0.94, 1.03]	0.99 [0.95, 1.03]	1.01 [0.97, 1.05]
High school diploma or less (vs. more)	0.90 [0.55, 1.46]	0.74 [0.39, 1.39]	1.58 [0.96, 2.59]	1.06 [0.66, 1.70]	0.81 [0.47, 1.39]	1.55 [0.92, 2.62]	1.02 [0.59, 1.75]
Single (vs. married)	1.07 [0.69, 1.66]	1.01 [0.66, 1.54]	1.22 [0.69, 2.16]	1.05 [0.62, 1.72]	1.14 [0.74, 1.76]	0.84 [0.51, 1.40]	1.08 [0.71, 1.64]
CES-D	1.04 [1.02, 1.06]	1.03 [1.01, 1.06]	1.04 [1.01, 1.06]	1.04 [1.01, 1.06]	1.04 [1.01, 1.06]	1.01 [0.99, 1.03]	1.02 [1.00, 1.05]
Parent self-efficacy	0.74 [0.46, 1.21]	0.76 [0.50, 1.17]	0.59 [0.38, 0.93]	0.81 [0.54, 1.28]	0.89 [0.56, 1.41]	0.55 [0.37, 0.80]	0.72 [0.43, 1.22]