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Development and Validation of the Parents' Beliefs about Children's Emotions Questionnaire

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Abstract

Parents' beliefs about children's emotions comprise an important aspect of parental emotion socialization and may relate to children's mental health and well-being. Thus, the goal of this study was to develop a multi-faceted questionnaire assessing parents' beliefs about children's emotions (PBACE). Central to our work was inclusion of multiple ethnic groups throughout the questionnaire development process, from initial item creation through assessment of measurement invariance and validity. Participants included 1080 African American, European American, and Lumbee American Indian parents of 4- to 10-year old children who completed the initial item pool for the PBACE. Exploratory factor analyses were conducted with 720 of these parents to identify factor structure and reduce items. Confirmatory factor analysis was then conducted with a holdout sample of 360 parents to evaluate model fit and assess measurement invariance across ethnicity and across parent gender. Finally, validity of the PBACE scales was assessed via correlations with measures of parental emotional expressivity and reactions to children's emotions. The PBACE is comprised of 33 items in seven scales. All scales generally demonstrated measurement invariance across ethnic groups and parent gender, thereby allowing interpretations of differences across these ethnic groups and between mothers and fathers as true differences rather than by-products of measurement variance. Initial evidence of discriminant and construct validity for the scale

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interpretations was also obtained. Results suggest that the PBACE will be useful for researchers interested in emotion-related socialization processes in diverse ethnic groups and their impact on children's socioemotional outcomes and well-being.

Keywords

parents; beliefs; emotion; children; questionnaire; culture; values

The role of parental emotion socialization in the development and maintenance of clinically relevant behaviors such as depression or oppositional behavior in children has become increasingly evident (e.g., Denham et al., 2000; Katz & Hunter, 2007; Shipman & Zeman, 2001; Yap, Allen, & Ladouceur, 2008). Further, parental emotion socialization has been targeted in recent interventions, with the goals of preventing development of children's problem behaviors and increasing treatment efficacy (e.g., Salmon, Dadds, Allen & Hawes, 2009; Wilson, Havighurst, & Harley, 2011). At the same time, developmental psychologists have become increasingly interested in the role that parents' beliefs about children's emotions play in emotion socialization processes (Dunsmore & Halberstadt, 1997; Eisenberg, Cumberland & Spinrad, 1998; Gottman, Katz, & Hooven, 1996). Parents' beliefs comprise a key aspect of emotion socialization because they may both motivate parental reactions (Dix, 1991, 1992) and organize seemingly disparate aspects of parent and child behavior and the parent-child relationship (McGillicuddy-DeLisi & Sigel, 1995). Thus, a multi-faceted measure of parents' beliefs that adequately represents the constructs and can be efficiently administered is needed for practitioners and researchers in clinical and developmental psychology.

Any new measure of parents' beliefs also needs to be applicable across ethnicity and gender, particularly in light of differences suggested by extant research for various emotion-related constructs. For example, parents' display rules regarding emotional expression, beliefs about emotional experience, and socialization goals and practices related to emotions are thought to vary substantially across culture (Cole & Tan, 2007; Dunsmore & Halberstadt, 2009; Eisenberg et al., 1998). When examining culture within nations, ethnic differences in these aspects of emotion socialization have been demonstrated (e.g., Flannagan & Perese, 1998; Garrett-Peters, Mills-Koonce, Zerwas, Cox, & Vernon-Feagans, 2011). Additionally, mothers' and fathers' emotion-related display rules, beliefs, and socialization patterns also differ (e.g., Baker, Fenning, & Crnic, 2011; Cassano & Zeman, 2010). However, few, if any, extant measures of parental socialization have been developed with diverse populations as an integral part of the process or have been shown to be invariant across ethnicity and/or gender.

A key feature of the present study is the inclusion of mothers and fathers from multiple ethnic groups as cultural informants in the questionnaire development process. This consultation provided opportunities to learn which aspects of the constructs are present and salient within and across groups, to more broadly understand and re-interpret the constructs to be measured, and to refine methods of measurement to be culturally relevant and culturally fair (Cole & Tan, 2007; Dunsmore & Halberstadt, 2009; García Coll et al., 1996).

In the present study, fathers and mothers in three ethnic groups (African American, European American, Lumbee American Indian) across a range of socio-economic backgrounds contributed to questionnaire development.

In sum, the purpose of the present study was to develop a comprehensive, multi-faceted measure of parents' beliefs about children's emotions that would be ethnically- and gender-invariant and supported by construct validity. Below we discuss strengths and limitations of extant measures of parents' emotion-related beliefs to demonstrate the need for such a measure.

Previous Measures of Parents' Emotion-Related Beliefs

Measures interweaving beliefs and behaviors

Perhaps the best-known empirical work relevant to parental beliefs about emotions is that on parental meta-emotion (Gottman, Katz, & Hooven, 1996, 1997). Meta-emotion is defined as an amalgamation of accepting or non-accepting beliefs about emotions, awareness of emotions experienced by oneself and one's children, and behavior that either encourages, discourages, or fails to deal with children's emotional expression. The original assessment device for meta-emotion is a semi-structured interview in which parents are asked to elaborate on their own and their child's sadness, fear, and anger, difficult and easy emotions, and their child's coping with emotions (Gottman et al., 1997). Typical interview length ranges from 45 – 90 minutes (Katz & Hunter, 2007; Lagacé-Séguin & Coplan, 2005). The interview responses are then coded along 12 dimensions regarding the awareness of emotions (e.g., being able to distinguish one emotion from others) and 11 dimensions regarding coaching emotions (e.g., teaching rules for appropriate expression of emotion). Together, these dimensions predict a wide assortment of important outcomes for children, including peer relations, academic achievement, and internalizing symptoms (e.g., Gottman et al., 1996; Katz & Hunter, 2007; Katz & Windecker-Nelson, 2004, 2006).

Despite the strength of the meta-emotion construct, the interview-based assessment is laborious. Hence, two questionnaire measures have been developed to assess parental meta-emotion styles. Lagacé-Séguin and Coplan (2005) tested an initial pool of 45 items with mothers of preschoolers, which ultimately yielded a 14-item Likert-type questionnaire with two subscales, one representing dismissal of emotions and one representing emotion coaching. Each subscale showed good internal consistency (α s = .92 and .90) and good test-retest reliability over six months (r s = .58 and .53). Subscale scores were correlated with relevant indices from the meta-emotion interview described above. Construct validity was suggested through associations with parents' reactions to children's emotions (Baker et al., 2011).

Hakim-Larson and colleagues (2006) used a pool of 81 items with primarily mothers of preschoolers. Internal consistency of four theoretically-derived subscales (coaching, dismissing, disapproval, and laissez-faire styles) was acceptable (α s = .72 – .91). Construct validity was suggested through associations with parents' expressiveness and their reactions to children's emotions.

Although these measures of meta-emotion demonstrate psychometric strengths, the construct itself combines assessment of beliefs and behaviors, as do the measures. This makes it difficult to distinguish the impact of parental beliefs from parental behaviors, or to identify which beliefs and/or behaviors influence children's outcomes (Cowan, 1996; Eisenberg, 1996).

Measures of specific emotion-related beliefs

Two measures focus specifically on parents' beliefs as distinct from their behaviors. The Parents' Beliefs about Children's Negative Emotions scale (PBANE; Halberstadt, Dunsmore, McElwain, Eaton & McCool, 2001) includes 80 items assessing a variety of parental beliefs. Internal consistency for two subscales was good (α s = .90 and .80, respectively): (a) children's negative emotions are valuable and (b) children's negative emotions are dangerous. With kindergartners through middle school age children, construct validity was suggested by associations with parents' emotion-related discussion, expressiveness, and reactions to children's emotions (Halberstadt, Thompson, Parker & Dunsmore, 2008; Wong, McElwain & Halberstadt, 2009).

More recently, Nelson, Leerkes, O'Brien, Calkins, & Markovitz (2012) investigated mothers' beliefs about the acceptability of children's expression of anger, fear, and sadness across contexts varying in privacy (e.g., all alone, with family, in public, etc.). Factor analysis supported a single factor solution for the 20-item measure, with strong internal consistency (α = .96). Construct validity was suggested through associations with parents' reported reactions to children's negative emotions. Nelson et al. (2012) also developed a 5-item scale regarding parents' beliefs about negative consequences of emotional expression. This scale also demonstrated a single factor solution and acceptable internal consistency (α = .73). Associations with parents' reported reactions to children's negative emotions again suggest construct validity.

Both measures demonstrate psychometric strengths. However, neither measure has been assessed for invariance across ethnicity or parent gender. In addition, each focuses exclusively on negative emotions. Positive psychology approaches highlight the importance of positive emotions (Fredrickson, 2001). Parents themselves indicate the importance of positive emotions in their belief systems and discussion of the emotion socialization process (Parker et al., 2012). Finally, the questionnaires were developed *a priori* without input from parents. To understand and assess a full range of parental beliefs, it is important to engage in dialogue with parents from the beginning of the questionnaire development process, and moreover with both mothers and fathers and with parents representing a range of ethnicities.

The Current Study

In the current study we worked with three ethnic groups within the United States to develop a multi-faceted questionnaire assessing parents' beliefs about children's emotions. We began with focus groups of mothers and fathers in all three ethnic groups to learn what beliefs about children's emotions were most salient to them (citation removed for blind review). These themes were then reflected in the item set we developed, which was completed by 1080 parents. We used exploratory factor analysis with 720 of these parents to reduce the

item set. We then used confirmatory factor analyses to test model fit and invariance of the final questionnaire structure across ethnic groups and parent gender with a holdout sample of 360 parents. Finally, subsets of parents completing the PBACE filled out measures of social desirability and emotion socialization, to begin assessing the construct validity of the PBACE scales that emerged.

Method

Participants

Participants were 1080 English-speaking parents of at least one 4- to 10-year-old child. Parents were African American (AA; $n = 385$; 58% female), European American (EA; $n = 398$; 54% female), and Lumbee American Indian (LA; $n = 297$; 56% female). Thirty-two were biological grandparents with full responsibility for their grandchildren. Two-thirds of the sample was chosen by random sampling stratified by racial group for the exploratory factor analyses. The remaining third was reserved as a “holdout” sample for confirmatory factor analyses. There were no demographic differences between the exploratory and holdout samples, as assessed by chi-square tests and t -tests for categorical and continuous variables respectively; please see Table 1.

We sought to include a wide variety of parents in our community sample. To reach parents who varied in educational and income levels and who might not normally seek out research opportunities, we recruited parents through direct contact, announcements, and flyers at many locations, including schools, after-school programs, child-related sports/arts activities, youth choirs, churches, housing developments, sororities, state/federal assistance agencies, and small community businesses (e.g., barber shops, hair salons, bookstores) and through local radio announcements. Participants were paid \$15 as compensation for their time.

Development of Initial Item Pool

Parents’ Beliefs about Negative Emotions Questionnaire (PBANE; Halberstadt et al., 2001)—We began with this 80-item questionnaire, as the only extant questionnaire that assessed parental beliefs of interest, including items about the value, guidance, and control of children’s emotions, the extent to which children use emotions to manipulate others, and the acceptability of parents’ expression of contempt. We then turned to focus groups to identify parent-generated themes of importance.

Focus groups—To help ensure as full a representation of the construct of parental beliefs as possible, we conducted 12 focus groups with parents of children 4- to 10-years of age. We began with three groups in each ethnicity and continued with additional groups until saturation of themes was achieved. Experienced, same-race moderators began with open-ended questions and funneled to more focused questions. Please see [citation removed for blind review] for details on the method and results of these focus groups. For the purposes of questionnaire development, focus groups in all three ethnicities supported the themes found in the PBANE. Two additional themes emerged: changeability versus stability of emotions, and the role of emotions in parent-child relationships. Additionally, infused throughout all the dimensions was parents’ emphasis on the importance of positive emotions.

Generating new items—A team of faculty and students from all three ethnicities worked together to generate new items to fully represent the themes that emerged from the focus groups. Items were reviewed by all team members in an iterative process until there was consensus on each item. This resulted in an initial pool of 245 items.

“Translation” from English to English—Because academic understanding of linguistic terms does not always match that of the lay public (Nabi, 2002), our final step in item development was to confirm that the meanings we intended were accurately conveyed to parents. Thus, we asked 14 parents from multiple ethnic groups (including our three target groups) to write down their “translations” of all of our items into their own words. Two team members independently examined each parent’s interpretation of the items. This was an iterative process, and when an interpretation was not equivalent to the original intent of the item, the item was revised and translated again, until the last four parents’ paraphrases were equivalent to the original meaning.

Procedure

A multi-ethnic team of approximately 25 AA, EA, and LA researchers (professors, graduate students, and undergraduate students) was involved in recruitment and administration of the questionnaires. All researchers received training involving a minimum of two hours of ethical considerations and two hours of packet administration. Packet order included the PBACE first, one randomly assigned validity questionnaire next (see below for validity measures), and demographics last. Thus, each validity questionnaire was completed by a subset of the sample to help reduce survey fatigue.

Materials

Initial item pool—The initial item pool included 245 questions regarding parental beliefs about children’s emotions. Parents indicated the extent of agreement or disagreement with statements on a 6-point Likert-type scale ranging from 1 (strongly disagree) to 6 (strongly agree). Together, the items indicated a 6th to 8th grade reading grade level, based on the Flesch-Kincaid and FORCAST methods of determining reading level (Burke & Greenberg, 2010).

Social Desirability Scale (Crowne & Marlowe, 1960)—This widely-used 33-item scale measures the extent to which participants respond to questions by answering what they think is the appropriate answer (e.g., “Before voting, I thoroughly investigate the qualifications of all the candidates”). Respondents answer “true” or “false”. In this sample, internal consistency was satisfactory, $\alpha = .77$.

Self-Expressiveness in the Family Questionnaire (SEFQ; Halberstadt, Cassidy, Stifter, Parke & Fox, 1995)—This scale consists of 40 statements describing emotional expressiveness within the family context (e.g., showing anger, showing forgiveness). Respondents indicate their frequency of expression on a Likert-type scale of 1 (*not at all frequently in my family*) to 9 (*very frequently in my family*). The SEFQ includes subscales for positive and negative expressiveness, and has demonstrated good construct

validity (Halberstadt et al., 1995). In this sample internal consistency was good, $\alpha = .90$ for positive and .88 for negative expressiveness.

Coping with Children's Negative Emotions Scale (CCNES; Fabes, Eisenberg, & Bernzweig, 1990)—This scale presents 12 vignettes describing everyday situations involving children's negative emotions (e.g., crying after losing a favorite possession). Parents rate their likelihood of responding to the child's negative emotions on a Likert-type scale from 1 (*very unlikely*) to 7 (*very likely*). The scale has demonstrated good construct validity, and includes six subscales which are often combined to form composite subscales of supportive reactions (expressive encouragement, emotion-oriented focus, and problem-oriented focus), and nonsupportive reactions (punishment, minimization, and personal distress; Fabes, Poulin, Eisenberg, & Madden-Derdich, 2002). In this sample internal consistency was good, $\alpha = .92$ for supportive and .88 for nonsupportive reactions.

Parental Reactions to Children's Positive Emotions Scale (PRCPS; Ladouceur, Reid & Jacques, 2002)—This scale presents 12 vignettes describing everyday situations in which children react with positive emotions (e.g., jumping around happily after winning a competition). Parents rate their likelihood of responding to the child's positive emotions on a Likert-type scale from 1 (*very unlikely*) to 7 (*very likely*). The scale yields one subscale of validating reactions (encouragement/acceptance) and a composite of three types of invalidating reactions (socialization to minimize child expression, reprimand, and personal discomfort; Yap, Allen, & Ladouceur, 2008). In this sample internal consistency was acceptable, $\alpha = .67$ for validating and .85 for invalidating reactions.

Demographics—Parents' gender, age, ethnicity, education, current employment and spouse's current employment, marital status, number of children, religion, and region of the country where they grew up. Occupational status of each parent was calculated using the Hollingshead Index ($Kappa = .88$ for 2 coders, based on 100% of the data; Hollingshead, 1975).

Results

Missing Data

The percentage of missing data was 0.38%. No relation was found between number of missing items and education level. Therefore, data were determined to be missing at random (Schafer & Graham, 2002) and were imputed via the Expectation Maximization technique (Little & Rubin, 1987).

Exploratory Factor Analysis

Factor structure—We first examined the response distributions of the items (Clark & Watson, 1995). One hundred and twenty items from the initial item pool were dropped because skewness or kurtosis statistics showed a non-normal distribution, yielding a pool of 125 items.

We ran exploratory factor analyses for the exploratory sample using the principal axis method of extraction with iterated communalities, using SPSS (version 20.0). Thirty-two scales revealed eigenvalues above 1.0, with 61.63% of the variance accounted for. Parallel analysis (Patil, McPherson, & Friesner, 2010; Zwick & Velicer, 1986) showed eight factors to have eigenvalues greater than chance. The scree test, incremental variance accounted for, and interpretability all suggested a good break at eight scales. We rotated these eight factors with direct quartimin, an oblique rotation method, because we expected at least some of the factors to be moderately correlated with each other.

Item selection—We retained only items with a factor loading $\geq .40$ and cross loadings $\leq .25$. These 59 items are listed in Table 2. For one scale, this would have resulted in one item, so items with factor loadings $\geq .35$ were also retained for that scale and are included in Table 2. Based on item content, we labeled the factors Negative Consequences, Value/Acceptance, Manipulation, Control, Parental Knowledge, Autonomy, Respect, and Stability.¹ With one exception (Respect), McDonald's omegas indicated reasonable reliability in these preliminary 3- to 13-item scales; see Table 2.

Confirmatory Factor Analysis

Model fit—Confirmatory factor analysis was then conducted with the holdout sample on each of the preliminary scales using the weighted least squares method in SAS (version 9.3)². Factor variance was set to 1, and factor mean was set to 0. When scales had 3 items, the models were just-identified so in addition the first factor loading was set to 1 in order to provide a degree of freedom and test fit.

The model chi square, comparative fit index (CFI), Tucker-Lewis Index (TLI), standardized root mean square residual (SRMR) and root mean square error of approximation (RMSEA) were used as model fit indices. Criteria for good model fit were non-significant model chi square, CFI $\geq .96$, TLI $\geq .95$, SRMR $\leq .08$ and RMSEA $\leq .06$ (Hu & Bentler, 1999). When models did not meet these criteria, they were considered acceptable when CFI $\geq .90$, TLI $\geq .90$, SRMR $\leq .10$, and RMSEA $\leq .08$ (Vandenberg & Lance, 2000).

When initial model fit did not meet criteria for good fit, items were removed iteratively to improve fit. Removed items are indicated by an asterisk in Table 2. Two scales were renamed to reflect their reduced item content: Negative Consequences became Cost of Positivity, and Value/Acceptance became Value of Anger As Table 3 shows, seven of the eight final scales fully met criteria for good model fit. The one exception (Respect) was below the TLI criterion for acceptable model fit and thus was not considered further.

Measurement invariance: Ethnicity—We first tested configural invariance, the determination as to whether the construct is understood similarly across groups, that is, whether the same items load on the same factors across groups (Horn & McArdle, 1992;

¹Please note that one item on the Parental Knowledge loaded in the opposite direction of the other two. No items were reverse-scored prior to the EFA so that scales would be empirically determined. Prior to calculating omegas and the confirmatory factor analyses, this one item was reverse-scored so that the scale was scored in the direction of parental knowledge of children's emotions being considered important.

²When analyzed using the diagonally weighted least squares (DWLS) method, results are essentially unchanged.

Cheung & Rensvold, 2002). To do so, we tested the model across ethnic groups within each scale by requiring the same factor structure across AA, EA, and LA groups, but allowing the magnitudes of all estimated parameters to vary.

We next tested for metric invariance, the determination that not only the same factors and same pattern of factor loadings exist, but also that the factor loadings are essentially the same across groups (Horn & McArdle, 1992; Cheung & Rensvold, 2002). To do so, we tested the model across ethnic groups by setting factor loadings to be equal across AA, EA, and LA groups but allowing other estimated parameters to vary. A chi-square difference test and change in CFI were computed to determine whether the model fit significantly less well than the configurally invariant model. A non-significant chi-square difference was required and change in CFI less than or equal to .01 was considered desirable (Cheung & Rensvold, 2002).

Finally, we tested for scalar or intercept invariance, the determination that, in addition to the above similarities, that the item intercepts are essentially the same across ethnic groups (Cheung & Rensvold, 2002). For scalar invariance, we set item intercepts as well as factor loadings to be equal across AA, EA, and LA groups while allowing other estimated parameters to vary. A chi-square difference test and change in CFI were computed to determine whether the model fit significantly less well than the metrically invariant model. Factor variance was set to 1 and factor mean was set to 0 in all models.

As Table 4 shows, two scales (Value of Anger and Autonomy) initially had significant chi square statistics. Items were removed iteratively to achieve configural invariance. Items removed to achieve configural invariance are indicated by an “i” superscript in Table 2. Following these revisions, all seven scales met criteria for configural invariance.

Table 4 also shows model fit statistics when testing metric and scalar invariance. For the Manipulation and Stability scales, model fit when testing both metric and scalar invariance was acceptable across all fit indices, and although change in CFI was sometimes higher than desirable, change in X^2 was non-significant. Therefore, these two scales were considered to show full metric and scalar invariance.

The Cost of Positivity, Value of Anger, and Control scales showed full metric and partial scalar invariance. When testing scalar invariance, these scales initially showed significant chi-square change. After examining Lagrange multiplier tests, one item intercept was freed to vary for Cost of Positivity (#10), one was freed to vary for Value of Anger (#23), and one was freed to vary for Control (#36). With these item intercepts free to vary across ethnic groups, scalar invariance was demonstrated. Although scoring for all three of these scales would be modestly affected by the variance in intercept of one item (with 75% – 80% of items showing invariance in intercepts across ethnic groups), results suggest that a conservative approach when using these scales to compare ethnic groups would be to adjust scoring to exclude the items whose intercepts were freed.

The Parental Knowledge scale showed partial metric invariance, with an initial significant chi-square change from the configurally invariant model. Following examination of Lagrange multiplier tests, the loading for item 42 for AA parents was allowed to vary from

that for EA and LA parents, for whom the item loading was set to be equivalent. With this item loading freed, model fit statistics demonstrated metric invariance. Because this scale has only three items, we retained item 42 when testing scalar invariance. Partial scalar invariance was demonstrated with the constraint that this item loading was freed. Results suggest that the 3-item Parental Knowledge scale may be used when comparing EA and LA parents or when examining individual differences within groups. However, we caution against interpreting comparisons of AA parents with EA or LA parents that involve the noninvariant item.

The Autonomy scale showed partial metric invariance, with an initial significant chi-square change from the configurally invariant model. Following examination of Lagrange multiplier tests, the loading for item 49 for EA parents was allowed to vary from that for AA and LA parents, for whom the item loading was set to be equivalent. With this item loading freed, model fit statistics demonstrated metric invariance. Again, because this scale has only three items, we retained item 49 when testing scalar invariance. Partial scalar invariance was demonstrated with the constraint that this item loading was freed. Results suggest that the 3-item Autonomy scale may be used when comparing AA and LA parents or when examining individual differences within groups. However, as above, we caution against interpreting comparisons of EA parents with AA or LA parents that involve the variant item. Scalar invariance was also demonstrated with the constraint that this item loading was freed.

In summary, all seven PBACE scales showed configural invariance, with equivalence across ethnic groups in factor structure. Of the seven, two showed full metric and scalar invariance across ethnic groups in factor loadings as well as item intercepts. Three showed full equivalence across ethnic groups in factor loadings and partial equivalence in item intercepts. Two showed partial metric invariance across ethnic groups in factor loadings and, with those loadings freed, full scalar invariance.

Measurement invariance: Gender—We next tested measurement invariance across parent gender following the same process as above, using the scale items found to be configurally invariant across ethnic groups. As Table 5 shows, six of the seven scales showed full configural invariance across parent gender. For the Control scale, one item (#39) was dropped to achieve configural invariance across parent gender. This is indicated by a “pg” superscript in Table 2.

For six of the scales (Cost of Positivity, Value of Anger, Manipulation, Parental Knowledge, Autonomy, and Stability), model fit when testing both metric and scalar invariance was acceptable across all fit indices. Change in CFI was sometimes higher than desirable for these six scales, but change in X^2 was non-significant. Therefore, these six scales were considered to show full metric and scalar invariance across parent gender.

The Control scale showed full metric and partial scalar invariance. When testing scalar invariance, this scale initially showed significant chi-square change. After examining Lagrange multiplier tests, one item intercept was freed to vary across parent gender (#37). With this item intercept free to vary across parent gender, scalar invariance was demonstrated. Combining item #37 with the three invariant items would mitigate problems

resulting from its variance across parent gender. However, a conservative approach when comparing mothers' and fathers' scores on the Control scale would be to adjust scoring to exclude item #37.

In summary, all seven scales showed both configural and metric invariance across parent gender. Six scales also showed full scalar invariance and one showed partial scalar invariance across parent gender.

Validity Evidence

Because each participant completed only one of the four validity scales, the exploratory and holdout samples were combined for validity analyses. Items for each questionnaire subscale were summed and averaged. Composites were then created for the supportive, nonsupportive, and invalidating emotion socialization scales by averaging across their respective subscales, following procedures developed by Fabes et al. (2002) and Yap et al. (2008).

To assess discriminant validity, Pearson product-moment correlations were calculated for the PBACE scales with the Social Desirability Scale. As Table 6 shows, one significant association emerged; parents' social desirability was associated with fewer perceived costs for positive emotions.

Construct validity was defined in terms of how parents' beliefs related to their emotion-related socialization behaviors. Predicted relations are in bold in Table 6. Of the 15 clear predictions, 13 were supported with significant correlations. As predicted, parents who perceive positivity to be costly were less positively expressive themselves, less validating of their children's positivity, and more invalidating of their children's positive expressions. Parents who valued children's anger were themselves more negatively expressive and more supportive of their children's expression of negative feelings. Their nonsupportive (distressed, minimizing, or punishing) responses to their children's expression of negative emotions, however, were unrelated to their valuing of children's anger. Parents who perceived children's emotion expression as manipulative were more invalidating of children's positive feelings, but their nonsupportive responses to children's negative feelings were unrelated to their belief about manipulation. Also as predicted, parents who believed that children can control their negative emotions were less supportive and more nonsupportive of their children's negative feelings. Additionally, parents who believe it is important for them to know what children are feeling were more supportive of their children's negative emotions. In contrast, and as predicted, parents who believe children should be able to manage their own feelings in an autonomous fashion were less supportive and more nonsupportive when children expressed their negative feelings. Finally, parents who believe that children's emotions are long-lasting were less sympathetic towards them, being both less supportive and more nonsupportive of their negative emotions. Other significant effects emerged that were not predicted; because these add to an understanding of the relations between parents' beliefs and behaviors they are discussed as future directions below.

Discussion

Working within a multi-ethnic framework with both fathers and mothers, we set out to create a questionnaire with multiple scales to measure an array of parental beliefs about children's emotions. The 33-item Parents' Beliefs about Children's Emotions Questionnaire assesses multiple beliefs about emotions and is largely invariant across ethnicity and gender. Initial evidence suggests that the PBACE is a valid assessment of seven different beliefs that parents have about children's emotions.

The Questionnaire Development Process

Inclusion of parents as research partners during the questionnaire development process had several advantages, resulting in particular in the scales that address the potential negative consequences of positive emotions, parents' knowledge of children's emotions, and the question of change versus stability in children's emotions, as well as the inclusion of positive emotions in multiple scales. Further, parents' assistance in vetting items in a translation process contributed to the development of a large initial item pool that allowed selection of items with the best distributions and later restriction to items that achieved invariance across ethnicity and across gender.

At the end of the development process, seven scales emerged to assess a variety of parents' beliefs. All demonstrated full configural invariance across ethnic groups and across parent gender. All also demonstrated either partial or full metric and scalar invariance. These were stringent tests for measurement invariance, requiring equivalence across three ethnic groups simultaneously and then across parent gender. Because measurement invariance is a necessary prerequisite for making meaningful comparisons across groups (Little, 1997), the development of the PBACE makes a strong contribution to the study of parenting and emotion socialization. In addition, the availability of seven independent belief scales allows for a more complex and nuanced understanding of how beliefs may direct different sets of parents' socialization behaviors, and may be reciprocally affected by the success (or lack thereof) of those strategies, and the behavior of children themselves.

To begin the process of establishing construct validity of the PBACE for use in assessing parents' beliefs about children's emotions, discriminant validity in relation to parents' tendency to respond in socially favorable ways was assessed. One of the seven scales (Costs of Positivity) was related to social desirability. This suggests that parents who were concerned about behaving in ways deemed socially desirable perceived fewer problems with children's positive emotions than parents less concerned about providing socially desirable responses. Although this scale does not seem unduly influenced by this ancillary variable, future research may want to consider parents' belief about the costs of positive emotional expressions in light of the cultural values promoted in parents' larger ecological contexts (Halberstadt & Lozada, 2011).

To obtain evidence of construct validity, relations between the PBACE scales and six different parental socialization behavioral strategies were examined. Many theoretical models of parental socialization highlight associations between parental beliefs and socialization behaviors (i.e., Cole & Tan, 2007; Dunsmore & Halberstadt, 1997; Eisenberg,

et al., 1998; Garcia-Coll et al., 1996). Validation results are consistent with these models, in that the seven scales showed predicted and differentiated patterns of relations with parents' modeling of emotional expression and/or parents' supportive and nonsupportive reactions to positive and negative emotions. These are discussed further below.

Discussion of the Scales

Evaluation of emotions—Fathers and mothers from all three cultural groups revealed coherent beliefs about the costs and benefits of children's emotions in two scales, Cost of Positivity and Value of Anger. We note that items addressing costs of negative emotions and valuable aspects of positive emotions and of sadness were included in the initial item pool; however, psychometric considerations early in the process and model fit in the confirmatory factor analyses precluded their inclusion in the final scales. That sad, nervous, and anger terms do not fit together in the minds of parents additionally suggests the importance of distinguishing between these emotions in future work investigating parents' beliefs and behaviors.

Findings of relations between beliefs and behaviors suggested good construct validity for our interpretations of these scales. Specifically, parents who believe children's positive emotions can be costly reported that they were themselves less positively expressive and both less supportive and more non-supportive of their children's positive emotions. Parents who value children's anger were themselves more negatively expressive and also more supportive of their children's negative emotions.

The Costs of Positivity scale may be useful in research examining parental emotion socialization in relation to emotion regulation and externalizing behavior, given connections between children's regulation of positive emotion and later externalizing behaviors (Rydell, Berlin, & Bohlin, 2003). The Value of Anger scale will also be useful in prevention-oriented research. Acceptance of children's anger and coaching of appropriate expression of anger are concurrently associated with anger regulation and longitudinally associated with externalizing behavior problems (Shortt, Stoolmiller, Smith-Shine, Eddy, & Sheeber, 2010). Acceptance of negative emotions including anger is also thought to be important in the development of self-compassion, which is considered a resilience factor (Neff, 2003).

Emotions in relationships—Two scales are relevant to the role of emotions in parent-child relationships: Manipulation and Parent Knowledge. Parents who believe that children use emotions to manipulate others reported less validating and more invalidating reactions to children's positive emotions. Parents who believe it is important to monitor their children's emotions reported more supportive reactions, perhaps as a way of communicating to their children that they need to know what the children are feeling.

Parents' appraisals of their children's emotions are thought to be important in their selection of socialization behaviors and harmonious regulation of the parent-child relationship (Dix, 1991). The Manipulation scale may provide a useful measure of parents' emotional appraisal tendencies in this regard, and may be especially pertinent in research with maltreating mothers, given their lack of empathy, difficulty in accurately recognizing children's emotions, and reticence in discussing emotions with children (e.g., Shipman & Zeman,

1999; 2001). Parental knowledge of children's emotions may connect to important constructs such as parental sensitivity from the attachment literature (e.g., McElwain & Booth-LaForce, 2006) or parental communication and involvement from the childrearing literature (e.g., Shumow & Lomax, 2002).

We note that an eighth scale, Respect, was suggested by the exploratory factor analysis but did not hold in the confirmatory factor analyses. A lack of respect through expression of contempt is known to be deleterious in marital relationships (e.g., Gottman, 1993; Johnson, 2002). It is possible that future research focusing specifically on the construct of respect/contempt might yield a useful scale for examining respect in parent-child relationships in association with child outcomes.

Children's capabilities—Two scales address parents' beliefs about children's emotional capabilities: Control and Autonomy. Parents who believe children can control their emotions are less supportive and more nonsupportive of their children's negative emotions. Parents who believe children can learn and manage their emotions without parental help are less supportive and more nonsupportive of their children's negative emotions. These scales will be useful for research examining influences on children's emotion-related self-control and competencies (e.g., Fox & Calkins, 2003).

Development—Finally, the Stability scale measures parents' belief about the extent to which children's emotional styles are stable across development. Consistent with the literature on implicit theories, which suggests that beliefs about the stability of personal characteristics are associated with less willingness to try to effect change (e.g., Dweck, 1999), parents who believe that children's emotional styles are stable reported more negative expressiveness, and were also less supportive and more non-supportive of their children's negative emotions. The Stability scale may be an important contribution to future research exploring how parents' belief about the stability of children's emotional styles moderates the usefulness of parenting interventions.

Limitations and Future Directions

The PBACE has been developed with mothers and fathers from three ethnic groups, and appears to have reasonable psychometric properties for these groups. Researchers will need, however, to continue exploration and extension of the scales when examining parents' beliefs in additional populations. Researchers may also wish to add items to the shortest scales to identify whether additional items further enhance the reliability of the scales, and are supported by construct validity (Clark & Watson, 1995). Comparison with other measures of parents' beliefs would also offer more information on construct validation for the PBACE. Finally, although we currently recommend use of the full questionnaire, researchers may wish to test specific scales for evidence of reliability and validity when used independently.

The PBACE questionnaire can now be used to facilitate testing of the mediational pathways involving parental beliefs and moderating roles of parental beliefs already proposed in the field of emotion socialization. Parents' beliefs about emotions are thought to be important influences on parents' emotion-related socialization behaviors, which in turn directly

influence children's emotion regulation (e.g., Eisenberg et al., 1998; Morris, Silk, Steinberg, Myers, & Robinson, 2007). Parent emotion socialization behaviors are also thought to have differing influences on child outcomes depending on their fit with parental beliefs (Cole & Tan, 1997; Dunsmore & Halberstadt, 1997). For example, parental negative expressiveness may be differently interpreted when the parent believes that negative emotions are valuable than when the parent believes that emotional control is paramount. Empirical research can now test which beliefs, and in conjunction with which behaviors, are most closely linked with optimal outcomes for children.

Our findings of additional significant relations between parents' beliefs and behaviors may also be generative of new research pathways. For example, the independent beliefs that children's positivity can be costly, that children can control their emotions, that children can manage their own emotions autonomously, and that emotions are stable and long-lasting were all associated with parents' own negative expressiveness, suggesting that these beliefs may emerge from parents' personal experience with negative emotions. They may also reflect a lack of developmentally appropriate expectations which may cause parents' expressiveness to become increasingly negative over time, as parents and children struggle unsuccessfully with parents' unmet expectations. Our development of a fine-grained, multifaceted measure of parental beliefs will facilitate investigation of such transactions between parents' beliefs and parents' and children's behaviors.

Additionally, because parental beliefs may be associated with multiple parental behaviors, disentangling parents' beliefs from behaviors may be beneficial in research on parenting programs. For example, it can now be tested whether parental hostile reactions to children's emotions, driven by the belief that children are manipulative or not likely to change over time, may be best altered by reconstructing those beliefs rather than altering specific behaviors; recent interventions that focus on interpreting children's emotions as opportunities rather than outcomes are suggestive of the value of such an approach (Salmon et al., 2009; Wilson et al., 2012).

Finally, an exciting direction for future research will be exploration of more proximal outcomes of parental beliefs that may help articulate the pathways to socialization behaviors. For example, parents who believe that it's important to know their child's emotional experience may have faster reaction times when identifying children's emotional expressions. Parents who believe that children use emotions to manipulate others may show a perceptual bias in over-identifying cues of insincerity; those who perceive certain emotions to be costly may also show selective attention to those emotions (e.g., Dennis & Halberstadt, 2012). Parents who believe that children's emotions are long-lasting may have better recall for trait rather than situational information about children's emotions. Utilizing cognitive and perceptual methodologies in conjunction with parents' beliefs may thus contribute to better understanding of the mechanisms through which parental beliefs may influence their socialization behaviors.

Conclusion

In sum, the 33-item Parents' Beliefs about Children's Emotions Questionnaire allows for measurement of seven different beliefs about the cost and value of children's emotions, the

role of emotions in the family, the emotional capabilities of children, and the stability of their emotional lives. The PBACE scales are largely invariant and demonstrate internal consistency across genders and three ethnicities. Good evidence of construct validity was demonstrated by correlations with three different types of parents' emotion socialization behaviors, supporting our interpretations of the scales. The PBACE will still need to be evaluated across more ethnicities and cultures, over time to assess test-retest reliability, and in relation to other kinds of parental behaviors and children's socioemotional outcomes. Nevertheless, the measurement invariance and validation evidence obtained in the current study suggest that use of these parental belief scales will be pertinent for a variety of clinical, developmental, and family systems research questions.

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Appendix. PARENTS' BELIEFS ABOUT CHILDREN'S EMOTIONS (PBACE, 2012)

Instructions

These statements express some beliefs about children's emotional development. Please read each statement and write in the number that shows how much you agree with the statement. Put your response in the column titled "Answer." Please pick a child age (somewhere between the ages of 4 and 10) that you are familiar with, and respond to these statements for children of that age.

1	2	3	4	5	6
Strongly disagree	Somewhat disagree	Slightly disagree	Slightly agree	Somewhat agree	Strongly agree

		Answer
1	Children use emotions to manipulate others.	
2	When children are sad, they need to find their own ways to move on.	
3	Children may not focus on their commitments if they feel too much happiness.	
4	It's usually best to let a child work through being sad on their own.	
5	When children feel something, it stays with them for a long time.	
6	It is useful for children to feel angry sometimes.	
7	When children are angry, it is best to just let them work it through on their own.	
8	Parents don't have to know about all their child's feelings.	
9	Children's emotions tend to be long-lasting.	
10	Children's anger can be a relief to them, like a storm that clears the air.	
11	Children can control what they show on their faces.	
12	It's usually best to let a child work through their negative feelings on their own.	
13	The experience of anger can be a useful motivation for action.	
14	Children tend to figure out their feelings even when parents are not available to guide them.	
15	Children can control how they express their feelings.	
16	Children's emotional styles tend to stay the same over time.	
17	Children often act sad or angry just to get their own way.	
18	It is good for children to let their anger out.	
19	Children often cry just to get attention.	
20	Parents should encourage their child to tell them everything they are feeling.	
21	When children are very happy, they can control what they show to others.	
22	When children become sad or upset, parents can let them manage their feelings on their own.	
23	Children can control their emotions.	
24	Expressing anger is a good way for a child to let his/her desires and opinions be known.	
25	It is important for children to tell their parents everything that they are feeling.	
26	When children are too happy, they can get out of control.	
27	Too much joy can make it hard for a child to understand others.	
28	When children are angry, they need to find their own ways to resolve the situation.	
29	When children are very angry, they can control what they show to others.	
30	Children's emotions last for long periods of time.	
31	Children who feel emotions strongly are likely to face a lot of trouble in life.	
32	Children sometimes act sad, just to get attention.	
33	Being angry can motivate children to change or fix something in their lives.	

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	PBACE (2012) Scoring						
	Scales						
	Cost of Positivity	Value of Anger	Manipulation	Control	Parental Knowledge	Autonomy	Stability
<i>Full scale</i>	3, 26, 27, 31	6, 10, 13, 18, 24, 33	1, 17, 19, 32	11, 15, 21, 23, 29	8 (R), 20, 25	2, 4, 7, 12, 14, 22, 28	5, 9, 16, 30
<i>Ethnically invariant</i>	3, 26, 27, 31	6, 13, 24, 33	1, 17, 19, 32	11, 15, 21, 23, 29	8 (R), 20, 25	4, 7, 12	5, 9, 16, 30
<i>Gender invariant</i>	3, 26, 27, 31	6, 13, 24, 33	1, 17, 19, 32	11, 15, 23, 29	8 (R), 20, 25	4, 7, 12	5, 9, 16, 30

Table 1

Demographic Information by Sample and Ethnicity

	Exploratory Sample			Holdout Sample		Test statistic for sample differences	
	African American (<i>n</i> =250)	European American (<i>n</i> =273)	Lumbee American (<i>n</i> =197)	African American (<i>n</i> =135)	European American (<i>n</i> =125)	Lumbee American (<i>n</i> =100)	χ^2 (2, <i>N</i> = 1080) = 1.84, <i>p</i> = .870)
Parent sex, <i>n</i> (%)							χ^2 (1, <i>N</i> = 1074) = .40, <i>p</i> = .526)
Fathers	98 (39.2%)	123 (45.1%)	97 (49.2%)	61 (45.2%)	57 (45.6%)	49 (49.0%)	
Mothers	149 (59.6%)	148 (54.2%)	100 (50.8%)	74 (54.8%)	67 (53.6%)	51 (51.0%)	
Mean age, yrs (<i>SD</i>)							
Parent	34.87 (9.01)	38.43 (7.09)	34.83 (7.80)	34.90 (8.14)	38.48 (6.73)	36.04 (8.47)	<i>t</i> (1049) = -.442, <i>p</i> = .659
Target child	7.01 (2.12)	7.34 (1.97)	6.94 (2.21)	7.01 (2.05)	7.08 (2.04)	6.94 (2.06)	<i>t</i> (1077) = .762, <i>p</i> = .446
Marital status, <i>n</i> (%)							χ^2 (3, <i>N</i> = 1062) = 1.10, <i>p</i> = .778)
Single	92 (37.7%)	12 (4.4%)	32 (16.5%)	50 (38.2%)	3 (2.5%)	11 (11.1%)	
Married or cohabiting	106 (43.4%)	240 (88.2%)	138 (71.1%)	65 (49.6%)	102 (83.6%)	70 (70.7%)	
Divorced or separated	41 (16.8%)	19 (7.0%)	22 (11.3%)	15 (11.5%)	16 (13.1%)	17 (17.2%)	
Widowed	5 (2.0%)	1 (0.4%)	2 (1.0%)	1 (0.7%)	1 (0.8%)	1 (1.0%)	
Occupational status mean (<i>SD</i>)	4.04 (2.73)	5.35 (3.24)	4.68 (2.45)	4.65 (2.67)	5.42 (2.98)	4.94 (2.05)	<i>t</i> (1003) = -1.497, <i>p</i> = .135
Education level mean (<i>SD</i>)	3.09 (1.29)	4.24 (1.30)	3.18 (1.31)	3.08 (1.27)	4.27 (1.24)	3.10 (1.37)	<i>t</i> (1055) = .611, <i>p</i> = .541

Note. Not all parents reported, their sex, age, marital status, etc. Due to missing values, sample sizes for tests of differences between the exploratory and holdout samples vary across demographic variables. For education level, 1 = high school begun, 2 = high school completed, 3 = college begun, 4 = college completed, 5 = graduate or professional school begun, 6 = graduate or professional school completed. For occupational status, scores range from 1 (lowest status) to 9 (highest status; Hollingshead, 1975).

Table 2

Item and Scale Information from the Exploratory Factor Analysis for the Parents' Beliefs about Children's Emotions Questionnaire

Item	1	2	3	4	5	6	7	8	M	SD	h ²
Negative Consequences											
1. Too much joy can make it hard for a child to understand others.	.48	.10	-.13	-.05	.02	.08	-.15	.20	2.68	1.56	.41
2. * Showing anger is not a good idea for children.	.58	-.21	-.07	-.23	.14	.18	.04	.21	2.54	1.48	.56
3. * When children get angry, they create more problems for themselves.	.58	-.13	-.19	-.13	.20	.11	.02	.16	3.25	1.44	.53
4. * Children's feelings can get hurt if they show too much of their emotions.	.45	.07	-.20	-.21	-.03	-.02	.07	.05	3.58	1.47	.43
5. * Being angry can be a waste of time for children.	.54	-.09	-.13	-.17	.11	.16	-.04	.23	2.62	1.46	.46
6. Children may not focus on their commitments if they feel too much happiness.	.56	.09	-.21	-.14	-.00	.15	-.16	.23	2.89	1.52	.49
7. * When children get angry, it can only lead to problems.	.59	-.19	-.13	-.12	.23	.22	-.01	.24	2.82	1.55	.57
8. When children are too happy, they can get out of control.	.54	.04	-.23	-.14	.00	.11	-.04	.23	2.85	1.59	.50
9. * It is important for children to avoid feeling sad whenever possible.	.57	-.12	-.10	-.16	.25	.15	.02	.23	3.02	1.59	.56
10. Children who feel emotions strongly are likely to face a lot of trouble in life.	.53	.01	-.13	-.19	.08	.10	-.16	.22	2.64	1.45	.44
Value/Acceptance											
11. * It is okay when children feel angry, and it is okay when they don't.	-.11	.51	-.04	.01	-.12	.09	.16	-.08	4.49	1.33	.47
12. * It is important for children to show others when they feel upset.	-.13	.42	-.03	.01	.03	-.06	.09	.09	4.37	1.30	.38
13. * It is okay when children feel sad, and it is okay when they don't.	-.14	.44	-.02	.04	-.03	.09	.18	-.12	4.52	1.37	.53
14. ⁱ Children's anger can be a relief to them, like a storm that clears the air.	-.00	.51	-.07	-.02	-.12	.07	-.00	.02	4.11	1.35	.43
15. It is useful for children to feel angry sometimes.	-.14	.55	-.09	.03	-.17	-.07	.09	-.05	4.50	1.24	.49
16. ⁱ It is good for children to let their anger out.	-.12	.44	-.02	.04	.06	.00	.09	.00	4.43	1.27	.41
17. * Being sad isn't "good" or "bad" – it is just a part of life.	-.05	.51	-.10	.05	-.01	.09	.18	-.16	4.66	1.39	.59
18. * Being angry isn't "good" or "bad" – it is just a part of life.	-.07	.52	-.05	.01	-.03	.06	.10	-.11	4.17	1.30	.51
19. * Feeling sad helps children know what is important to them.	.08	.42	-.07	-.03	-.03	.03	.12	.11	4.20	1.31	.39
20. The experience of anger can be a useful motivation for action.	.06	.48	-.05	-.09	-.20	.01	.04	-.02	4.01	1.40	.42
21. * It is okay when children feel happy, and it is okay when they don't.	-.10	.47	-.06	.04	-.02	.09	.24	-.18	4.52	1.39	.50
22. Being angry can motivate children to change or fix something in their lives.	.12	.48	-.13	-.01	-.12	.12	.17	.10	4.04	1.40	.48
23. Expressing anger is a good way for a child to let his/her desires and opinions be known.	.02	.54	-.05	-.09	.02	.12	.05	.06	3.89	1.50	.44

Item	1	2	3	4	5	6	7	8	M	SD	h ²
Factor loadings											
Manipulation											
24. * Children show emotions to get what they want.	.19	.04	-.49	-.08	.08	.08	.00	-.03	4.42	1.31	.42
25. * Children will exaggerate their emotions in order to get what they want.	.05	.16	-.54	-.06	-.05	.02	.13	-.08	4.74	1.13	.47
26. * Some children act overly excited just to get attention.	.17	.17	-.50	-.13	-.02	.07	-.00	.04	4.28	1.37	.45
27. * Children sometimes act angry, just to get attention.	.11	.09	-.60	-.11	.01	.05	-.00	.08	4.54	1.34	.49
28. * Children sometimes say "I love you" in order to get something they want.	.19	.11	-.66	-.07	.06	.01	-.02	.09	4.21	1.51	.56
29. Children use emotions to manipulate others.	.12	.12	-.71	-.03	-.06	.06	.00	.05	4.08	1.34	.60
30. * Children sometimes show emotion to try and control the situation.	.13	.16	-.57	-.13	-.06	.01	.12	-.03	4.45	1.21	.50
31. Children often cry just to get attention.	.21	.02	-.62	-.06	.05	.02	-.08	.11	3.99	1.47	.53
32. Children sometimes act sad, just to get attention.	.25	.10	-.68	-.08	.05	.08	.03	.07	4.31	1.30	.57
33. Children often act sad or angry just to get their own way.	.18	.10	-.74	-.11	.13	.05	-.10	.08	4.00	1.42	.66
Control											
34. Children can control their emotions.	.07	.10	-.12	-.67	-.07	.20	-.04	.18	3.17	1.46	.58
35. When children are very angry, they can control what they show to others.	.14	.04	.05	-.63	-.10	.19	-.06	.14	2.80	1.46	.53
36. Children can control how they express their feelings.	.09	.09	-.04	-.59	-.09	.23	.09	.08	3.40	1.45	.54
37. Children can control what they show on their faces.	.20	.10	-.13	-.63	-.05	.13	-.08	.14	3.07	1.47	.53
38. * When children feel upset or angry, they can change how they feel by thinking about something they like to do or enjoy.	.15	.09	-.10	-.43	.14	.02	.07	.08	3.65	1.39	.36
39. P% When children are very happy, they can control what they show to others.	.24	.08	-.21	-.60	-.05	.12	.06	.21	3.38	1.47	.56
40. * Children can control how they feel if they really want to.	.25	-.00	-.15	-.64	.07	.22	-.10	.15	2.92	1.50	.55
Parental Knowledge											
41. Parents don't have to know about all their child's feelings.	.06	.16	.06	-.04	-.47	.23	.09	.04	2.71	1.65	.44
42. It is important for children to tell their parents everything that they are feeling.	.18	.04	-.02	-.01	.75	-.05	.05	.07	4.37	1.47	.64
43. Parents should encourage their child to tell them everything they are feeling.	.05	.04	-.09	.06	.58	-.18	.16	-.05	4.74	1.33	.54
Autonomy											
44. i When children are sad, they need to find their own ways to move on.	.14	.04	-.06	-.18	-.16	.51	-.02	.19	2.68	1.44	.44
45. It's usually best to let a child work through being sad on their own.	.15	.05	-.03	-.12	-.17	.50	-.04	.19	2.47	1.39	.45
46. i When children become sad or upset, parents can let them manage their feelings on their own.	.13	.12	-.01	-.18	-.12	.59	-.08	.16	2.78	1.47	.50
47. i When children are angry, they need to find their own ways to resolve the situation.	.11	.06	-.03	-.15	-.22	.46	-.06	.06	2.90	1.54	.46

Item	Factor loadings										M	SD	h^2
	1	2	3	4	5	6	7	8					
48. ⁱ Children tend to figure out their feelings even when parents are not available to guide them.	.14	.12	-.13	-.09	.16	.49	.01	-.01			3.85	1.44	.43
49. It's usually best to let a child work through their negative feelings on their own.	.22	.04	-.01	-.21	-.17	.58	-.11	.17			2.32	1.34	.51
50. When children are angry, it is best to just let them work it through on their own.	.16	.07	.02	-.20	-.16	.52	-.10	.15			2.43	1.37	.44
<i>Respect</i>													
51. When children are angry, it's hard for them to hide their feelings.	.08	.08	-.03	.19	.04	.08	.35	.00			4.49	1.44	.38
52. Making fun of children's behavior is never a good idea.	-.04	.03	.02	.02	.23	-.08	.36	-.09			4.93	1.50	.35
53. Parents should not show contempt toward their children.	-.13	.09	.10	.09	-.14	-.06	.49	-.03			4.62	1.59	.45
<i>Stability</i>													
54. Children's emotions tend to be longlasting.	.24	-.00	-.06	-.19	.13	.14	-.03	.54			2.92	1.46	.47
55. * Children's emotions don't change quickly from moment to moment.	.22	.01	.04	-.13	.05	.14	-.12	.50			2.66	1.44	.37
56. When children feel something, it stays with them for a long time.	.18	.06	-.11	-.15	.01	.07	.12	.49			3.10	1.38	.43
57. * Children are born with an emotional style that stays the same throughout their lives.	.16	.03	.07	-.15	-.09	.18	-.01	.47			2.49	1.47	.40
58. Children's emotions last for long periods of time.	.22	.07	-.03	-.19	.09	.16	-.02	.55			2.90	1.36	.43
59. Children's emotional styles tend to stay the same over time.	.18	.03	.06	-.18	-.06	.22	-.04	.60			2.89	1.40	.51
Eigenvalue	13.73	7.09	6.64	4.51	3.98	2.95	2.83	2.56					
Percentage of variance	10.98	5.67	5.31	3.61	3.19	2.34	2.27	2.05					
McDonald's Omega	.76	.83	.82	.73	.57	.69	.45	.65					

Note.

* Dropped to improve model fit.

ⁱ Dropped to achieve invariance across ethnic groups.

P^g Dropped to achieve invariance across parent gender.

Factor loadings > |.35| in bold. h^2 = item communalities.

Table 3

Fit Statistics for Scales from the Confirmatory Factor Analyses

Scale	Number of items	χ^2	df	p	CFI	TLI	SRMR	RMSEA	RMSEA 90% confidence interval
Cost of Positivity	4	1.07	2	.5860	1.00	1.03	.01	.00	.00 – .09
Value of Anger	6	9.89	9	.3598	.99	.98	.04	.02	.00 – .06
Manipulation	4	0.46	2	.7955	1.00	1.04	.01	.00	.00 – .07
Control	5	8.09	5	.1513	.98	.96	.03	.04	.00 – .09
Parental knowledge	3	0.65	1	.4185	1.00	1.01	.02	.00	.00 – .13
Autonomy	7	17.45	14	.2332	.98	.97	.03	.03	.00 – .06
Respect	3	1.37	1	.2413	.94	.81	.02	.03	.00 – .15
Stability	4	2.86	2	.2392	.99	.96	.03	.03	.00 – .12

Table 4

Measurement Invariance for Scales Across Ethnic Groups

Scale	X ²	df	p	X ² (p)	CFI	CFI	TLI	SRMR	RMSEA	RMSEA 90% CI
Cost of Positivity										
Step 1: Configural invar.	6.12	6	.4098		1.00		1.00	.03	.01	.00 – .12
Step 2: Metric invariance	17.94	14	.2094	11.82 (.1594)	.96	.04	.95	.10	.05	.00 – .11
Step 3: Scalar invariance	35.79	20	.0163	17.85 (.0066)	.84	.12	.85	.11	.08	.03 – .12
Item 10 freed	25.63	18	.1085	7.69 (.1036)	.92	.04	.92	.10	.06	.00 – .11
Value of Anger										
Step 1: Configural invar.	41.62	27	.0358		.85		.74	.10	.07	.02 – .11
Revised: 4 items	3.94	6	.6843		1.00		1.12	.04	.00	.00 – .09
Step 2: Metric invariance	13.94	14	.4540	10.00 (.2650)	1.00	.00	1.00	.08	.00	.00 – .09
Step 3: Scalar invariance	33.34	20	.0310	20.00 (.0028)	.74	.26	.77	.09	.07	.02 – .11
Item 23 freed	15.97	18	.5950	2.03 (.7302)	1.00	.00	1.04	.07	.00	.00 – .07
Manipulation										
Step 1: Configural invar.	5.13	6	.5267		1.00		1.02	.03	.00	.00 – .11
Step 2: Metric invariance	17.59	14	.1458	12.46 (.1318)	.97	.03	.96	.10	.05	.00 – .11
Step 3: Scalar invariance	22.59	20	.3094	3.00 (.8088)	.98	-.01	.98	.10	.03	.00 – .09
Control										
Step 1: Configural invar.	22.47	15	.0959		.96		.91	.05	.06	.00 – .12
Step 2: Metric invariance	39.89	30	.1070	17.42 (.2944)	.94	.02	.94	.09	.05	.00 – .09
Step 3: Scalar invariance	52.31	33	.0176	12.42 (.0061)	.88	.06	.90	.08	.07	.03 – .10
Item 36 freed	38.79	31	.1586	-1.20 (1.00)	.96	-.02	.96	.07	.05	.00 – .09
Parental Knowledge										
Step 1: Configural invar.	1.66	3	.6468		1.00		1.05	.04	.00	.00 – .12
Step 2: Metric invariance	23.46	7	.0014	21.80 (.0002)	.79	.21	.83	.14	.14	.08 – .21
Item 42 freed	5.72	6	.4551	4.06 (.2551)	1.00	.00	1.01	.07	.00	.00 – .12
Step 3: Scalar invariance	12.48	10	.2540	6.76 (.1491)	.97	.03	.97	.09	.05	.00 – .12
Autonomy										

Scale	χ^2	df	p	$\chi^2(p)$	CFI	CFI	TLI	SRMR	RMSEA	RMSEA 90% CI
Step 1: Configural invar.	59.73	42	.0372		.94		.91	.08	.06	.02 – .09
Revised: 3 items	2.16	3	.5392		1.00		1.02	.04	.00	.00 – .14
Step 2: Metric invariance	13.63	7	.0581	11.47 (.0218)	.95		.94	.09	.09	.00 – .16
Item 49 freed	8.42	6	.2087	6.26 (.0996)	.98		.97	.09	.06	.00 – .14
Step 3: Scalar invariance	17.46	10	.0647	9.04 (.0601)	.94		.95	.10	.08	.00 – .14
Stability										
Step 1: Configural invar.	6.30	6	.3902		1.00		.99	.04	.02	.00 – .12
Step 2: Metric invariance	17.22	14	.2446	10.92 (.2063)	.96		.95	.07	.04	.00 – .10
Step 3: Scalar invariance	27.41	20	.1240	10.19 (.1169)	.92		.93	.08	.06	.00 – .10

Table 5

Measurement Invariance for Scales Across Parent Gender

Scale	X ²	df	p	X ² (p)	CFI	CFI	TLI	SRMR	RMSEA	RMSEA 90% CI
Cost of Positivity										
Step 1: Configural invar.	2.49	4	.6472		1.00		1.05	.02	.00	.00 – .09
Step 2: Metric invariance	8.15	8	.4189	5.66 (.2260)	1.00		1.00	.07	.01	.00 – .09
Step 3: Scalar invariance	12.40	11	.3345	4.25 (.2357)	.98		.98	.06	.03	.00 – .09
Value of Anger										
Step 1: Configural invar.	2.18	4	.7021		1.00		1.12	.02	.00	.00 – .08
Step 2: Metric invariance	3.95	8	.8618	1.67 (.7962)	1.00		1.14	.05	.00	.00 – .05
Step 3: Scalar invariance	10.66	11	.4720	6.71 (.0817)	1.00		1.01	.05	.00	.00 – .08
Manipulation										
Step 1: Configural invar.	2.71	4	.6081		1.00		1.04	.02	.00	.00 – .09
Step 2: Metric invariance	7.19	8	.5158	4.48 (.3449)	1.00		1.01	.04	.00	.00 – .08
Step 3: Scalar invariance	13.59	11	.2563	6.40 (.0937)	.98		.97	.05	.04	.00 – .09
Control										
Step 1: Configural invar.	20.91	10	.0217		.94		.88	.06	.08	.03 – .13
Item 39 dropped	3.94	4	.4138		1.00		1.00	.02	.00	.00 – .11
Step 2: Metric invariance	8.42	8	.3939	4.48 (.3449)	1.00		1.00	.04	.02	.00 – .09
Step 3: Scalar invariance	16.53	11	.1227	8.11 (.0438)	.96		.95	.05	.05	.00 – .10
Item 37 freed	8.44	10	.5859	0.02 (.9900)	1.00		1.01	.03	.00	.00 – .07
Parental Knowledge										
Step 1: Configural invar.	0.65	2	.7215		1.00		1.05	.02	.00	.00 – .11
Step 2: Metric invariance	4.49	4	.3443	3.84 (.1446)	.99		.99	.06	.03	.00 – .12
Step 3: Scalar invariance	6.32	6	.3882	1.83 (.4005)	1.00		1.00	.05	.02	.00 – .10
Autonomy										
Step 1: Configural invar.	4.66	2	.0973		.98		.93	.06	.09	.00 – .19
Step 2: Metric invariance	9.45	4	.0508	4.79 (.0912)	.95		.93	.10	.09	.00 – .16
Step 3: Scalar invariance	12.03	6	.0613	2.58 (.2753)	.95		.95	.09	.08	.00 – .14

Scale		X ²	df	p	X ² (p)	CFI	CFI	TLI	SRMR	RMSEA	RMSEA 90% CI
Stability											
Step 1: Configural invar.											
		3.57	4	.4679		1.00		1.02	.03	.00	.00 – .11
Step 2: Metric invariance											
		10.46	8	.2341	6.89 (.1418)	.96	.04	.94	.07	.04	.00 – .10
Step 3: Scalar invariance											
		12.86	11	.3024	2.40 (.4936)	.97	–.01	.97	.06	.03	.00 – .09

Table 6

Pearson Correlations between PBACE Scales and Validity Measures

PBACE scale	Marlowe-Crowne Social Desirability (<i>n</i> = 99)	SEFQ (<i>n</i> = 187)		CCNES (<i>n</i> = 293)		PRCPS (<i>n</i> = 185)	
		Positive	Negative	Supportive	Non-Supportive	Validating	Invalidating
Cost of Positivity	-.23*	-.17*	.28***	-.31***	.38***	-.20**	.36***
Value of Anger	-.09	.11	.22***	.17***	.04	.22**	.08
Manipulation	-.04	-.03	.07	.02	.09	-.23**	.32***
Control	.07	-.04	.23**	-.18**	.35***	.12	.01
Parent Knowledge	.04	.13	-.08	.13*	-.05	.06	-.01
Autonomy	.10	-.29***	.16*	-.20**	.31***	-.04	.10
Stability	-.04	-.06	.23**	-.20**	.27***	-.05	.09

Note.

* $p < .05$,

** $p < .01$,

*** $p < .001$.

SEFQ=Self-Expressiveness in the Family Questionnaire. CCNES=Children's Coping with Negative Emotions Scale. PRCPS=Parents' Responses to Children's Positive Emotions Scale. Correlations in bold face indicate the 15 predicted relations. All significant relations were in the predicted direction.