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Peer Nominations of Emotional Expressivity among Urban Children: Social and Psychological Correlates

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Abstract

The current study examined associations between peer nominations of children's expression of negative emotions and psychological, social, and behavioral correlates in a sample of 523 first graders. Children (85% African American) completed a peer nomination measure for expressing negative emotions. In addition, three other domains of functioning were assessed using multiple raters: internalizing symptoms (self, parent), externalizing behavior (parent, teacher), and social competence (parent, teacher). Regression analyses indicated that peer nominations of negative emotions predicted higher levels of teacher-rated externalizing behavior and lower levels of teacher-rated social competence. Peer nominations of emotions were significantly associated with teacher ratings but unrelated to self- and parent-report measures. Adding to a small but growing literature, our findings underscore the importance of assessing peer perceptions of children's emotional expressivity and their associations to social and psychological functioning in an urban, predominantly African American sample.

Keywords

emotional expressivity; peer nominations; psychosocial functioning; African American

In many ways, emotions are the medium through which social interactions occur (Saarni, 1999). Enjoyable social interactions often reflect positive emotions and well-regulated negative emotions, whereas unpleasant interactions may involve higher levels of expressed negative emotions (Denham et al., 2003; Halberstadt, Denham, & Dunsmore, 2001). The way in which emotions are expressed and managed has a significant influence on the initiation, facilitation, and maintenance of social relationships (Campos, Mumme, Kermoian, & Campos, 1994; Thompson, 1994). Not surprisingly, there is considerable evidence documenting the importance of adaptive emotional functioning for the development of social competence (Eisenberg, 2001; Halberstadt et al., 2001; McDowell, O'Neil, & Parke, 2000; McDowell & Parke, 2000; Saarni, 1999).

Among the numerous elements that are theorized to comprise emotional competence, emotional communication represents one's ability to respond to social situations in a skilled manner (Saarni, 1999). Peer perceptions and interpretations of children's emotional displays may constitute a crucial source of information that influences social interactions. The social information processing model proposed Crick and Dodge (1994) was expanded by Lemerise and Arsenio (2000) to emphasize more explicitly this salience of emotion processes. Previous studies utilizing adult ratings of children's emotionality (e.g., observational coders, parents, teachers) have demonstrated associations among emotional expressivity, social competence, and psychological functioning. However, less is known about peer perceptions

of children's emotional expressivity. It is possible that children notice, perceive, or interpret emotionality in ways that converge with parents' or teachers' ratings, or that diverge from adult informants in interesting ways (Erdley, Nangle, Burns, Holleb, & Kaye, in press).

The current study examined the extent to which peer perceptions of children's emotional expressivity were associated with different aspects of psychosocial functioning (i.e., internalizing symptoms, externalizing behavior, and social competence). We investigated the associations between peer nominations of children's emotional expressivity and ratings of psychosocial functioning using self-, parent-, and teacher-reports. Having an enhanced understanding of the associations among peer ratings of emotional expressiveness and psychosocial functioning among urban children upon entry into elementary school may inform preventive interventions for children at risk for developing social-emotional problems. Because peer perceptions of frequent negative emotions may discourage enjoyable peer relations and increase risk for other negative outcomes such as peer rejection, prevention and intervention efforts could be enhanced by attending to the role of negative emotions in children's social and psychological functioning.

Emotional Expressivity and Social Functioning

Considerable evidence has indicated the importance of adaptive emotional functioning for social competence (Eisenberg, 2001; Halberstadt, Denham, & Dunsmore, 2001; McDowell, O'Neil, & Parke, 2000; McDowell & Parke, 2000; Saarni, 1999). Social competence is intimately intertwined with emotional competence (Halberstadt et al., 2001), with emotional expressivity comprising a core component of children's emotional competence (e.g., Denham et al., 2003). Associations between emotional expressivity and social functioning are well documented in the literature (Sallquist et al., 2009). For example, frequent expressions of negative emotions among preschool children are associated with maladjusted peer relationships (e.g., Halberstadt, Denham, & Dunsmore, 2001). Frequent or intense emotional experiences may tax young children's abilities to cope with or manage the expressions of their emotions in a socially appropriate fashion (Lemerise & Arsenio, 2000). Consequently, coping difficulties could be accompanied by poor peer relations or deficits in social functioning (Rubin, Coplan, Fox, & Calkins, 1995). This may explain why peer nominations of anger displays (i.e., gets angry most and argues most) were inversely associated with peer-rated popularity among boys in an early childhood sample (Murphy & Eisenberg, 1997).

As early as the preschool years, children's emotion management decisions reflect increasing attention to the importance of the social context (Saarni, 1999). By first grade, children are able to accurately differentiate among facial expressions of negative emotions, and as already discussed, children expect their expression of discrete emotions to result in distinctive social responses (Saarni, 1999). Interestingly, first-grade children more frequently report that they express negative emotions, such as sadness and anger, compared to older children (Fuchs & Thelen, 1988; Zeman & Garber, 1996). Emotion management decisions thus probably include expectations about whether peers will be accepting or understanding of emotional displays, but there are also likely to be age-related changes in children's reported likelihood of expressing emotions (Zeman & Garber, 1996; Zeman & Shipman, 1998). These studies highlight the need to investigate whether and at what age children perceive peer relationships as providing a unique social context in which emotions are experienced and expressed. As younger children may be more likely than older children to express their negative emotions without modification, the association between emotional expressivity and social functioning may vary with age.

Although gender differences in emotional expressivity and its links to social functioning have been found, these differences have typically been observed in the later elementary school years. For example, gender-differentiated links between emotional expressiveness and social acceptance were found in an observational study of 8- and 10-year-olds (Young & Zeman, 2003). Girls who were more adept at substituting negative displays with positive affective expressions (i.e., emotional substitution) were better accepted by other girls, whereas boys who were more skilled in masking or hiding their negative displays (i.e., neutralization) were better accepted overall. A study of fourth-grade children reported that observer-rated expressions of anger and sadness were inversely associated with boys', but not girls', social competence as rated by teachers (Jones et al., 2002). Thus, gender likely represents a salient guide for emotional expressivity whose influence may increase with age and development.

Ethnicity and socioeconomic status (SES) are also important to consider. In contrast to the emphasis on gender, few studies have investigated how emotional expressivity may interact with ethnicity and/or SES to influence children's social functioning. Among African American preschoolers from low-income families, emotional flexibility was a key component of social competence (Mendez, Fantuzzo, & Cicchetti, 2002). Across low- and middle-income African American families, preschoolers' emotional competence (i.e., emotion knowledge and regulation) was positively correlated with peer acceptance in (Smith, 2001). Consistent with studies of White and middle-income samples of school-aged children, these findings suggest that self-regulation of one's emotional expressivity is associated with social competence (McDowell & Parke, 2000). However, as studies of emotional development have not focused on ethnic minority children (Barbarin, 1993a, b), additional research is necessary to better understand the relationship between emotional expressivity and psychosocial functioning in African American children.

Children's peer groups constitute an important source of socialization in addition to the role of parents (Harris, 1995; Maccoby, 2002). As children mature, peer relationships become increasingly important (Berndt, 2004; Ladd, 2005). Basic social and emotional skills are learned through interactions between young children and older adults (e.g., parents, teachers); however, it is through peer relationships that these learned behaviors are practiced, validated, and reinforced (Hartup, 1996; Rose-Krasnor & Dunham, 2009). Although peer groups have long been theorized to establish norms and values that in turn shape appraisals (Ladd, 2005), much remains to be investigated about how children's emotion management is perceived by the larger peer group and whether it is associated with social competence and psychological functioning.

Methods Used to Assess Children's Emotional Experiences

Several methods have been used to assess children's emotional experiences, expressivity, and management (Zeman, Klimes-Dougan, Cassano, & Adrian, 2007). Understandably, typical sources include parents and teachers (Gioia, Isquith, Guy, & Kenworthy, 2000; Shields & Cicchetti, 1997) and children's self-reports (Blumberg & Izard, 1985; Walden, Harris, & Catron, 2003; Zeman, Shipman, & Penza-Clyve, 2001). Parents offer an important perspective, as they have opportunities to observe their child's emotional behaviors across many situations. Likewise, teachers are in a natural position to observe children's emotional expressivity during peer interactions in structured (e.g., classroom) and unstructured settings (e.g., playground). Self-report measures are useful because children hold privileged access to their inner experiences, thoughts, and feelings which would otherwise be difficult, if not impossible, to assess. However, when considering potential important outcomes and correlates of children's emotional expressivity, parents, teachers, and self perceptions may not adequately or comprehensively reflect how children's emotions are associated with their

psychosocial adjustment. According to life course/social field theory, peers comprise a group of "natural raters who define the [social] task demands and then judge the adequacy with which the demands are met within particular ecological contexts" (Kellam & Van Horn, 1997, p. 181). This theory suggests that peers' definitions and judgments of children's emotionality would influence their social adaptational competence. Therefore, peers may represent a significant and under-used source of necessary information about children's emotional expressivity.

Given the importance of natural raters, peer nominations represent a rich and valued source of information about children's social relations (Terry, 2000). Previous authors have advocated for the use of peer ratings for a few reasons. First, peer ratings have long been used as ecologically valid indicators of social adjustment. The unique nature of peer interactions and relationships may give peers a natural advantage for rating children's social behavior. Second, as sociometric methods include ratings by all participating children, they also have the advantage of using multiple raters to evaluate a behavior. Despite the theoretical importance of peer-based measures, the sociometric method has tended to focus on evaluations of aggressive behavior and social status (Terry, 2000).

Few studies have employed peer nominations in the assessment of children's emotional behavior. The *Peer Nomination Inventory of Depression* (PNID), which assesses children's perceptions of their peers' depressive symptoms, is probably the most extensively investigated nomination measure of emotion-related items (Blechman, McEnroe, Carella, & Audette, 1986; Layne & Berry, 1983; Lefkowitz & Tesiny, 1980, 1985; Saylor, Finch, Baskin, Furey, & Kelley, 1984). Peer nominations of depressive symptoms were associated with self-reported depressive symptoms and peer nominations of anger expressivity (Saylor et al., 1984), as well as academic achievement and peer-rated social competence (Blechman et al., 1986). More recently, peer nominations of discrete emotions (i.e., happiness, sadness, and anger expressions) were examined in first- and second-grade children (Schultz, Izard, & Bear, 2004; Trentacosta, Izard, Mostow, & Fine, 2006). Peer nominations of sadness and anger expressions were positively correlated (Schultz et al., 2004; Trentacosta et al., 2006). In addition, peer nominations were positively correlated with teacher nominations of happiness, sadness, and anger, providing evidence of convergent validity (Schultz et al., 2004). Both sadness and anger nominations predicted higher levels of aggressive behavior (Schultz et al., 2004) and were associated with lower levels of attentional competence (Trentacosta et al., 2006).

In summary, previous research suggests that peers represent a unique and important source in assessments of children's emotions. Moreover, this small body of studies has provided evidence of construct and convergent validity for peer nominations of emotional displays. Peer and teacher ratings of children's emotional expressivity demonstrate agreement, and peer nominations of emotion are associated with teacher-rated attention and aggression (Schultz et al., 2004; Trentacosta et al., 2006). In addition, peer-based measures have documented links between peer and self ratings of depressive symptoms (e.g., Saylor et al., 1984). However, much of the literature on emotional expressivity has used White samples, reflective of developmental research more generally (Barbarin, 1993a, b). Although these studies demonstrate that peer nominations are associated with a range of outcomes using multiple informants, several gaps remain that we address in the current study.

Overview of the Current Study

The present study aimed to address gaps in the extant literature by examining salient psychological, social, and behavioral correlates associated with peer nominations of expressivity of negative emotions. We expanded on prior studies by including parent- and

self-reports, in addition to teacher ratings, of psychosocial functioning. We also investigated three salient domains of psychosocial functioning: internalizing symptoms (self, parent), externalizing behavior (parent, teacher), and social competence (parent, teacher). Whereas the samples of previous studies included predominantly White youth from rural areas, we examined this issue among a sample composed largely of ethnic minority children from an urban inner-city community. Thus, we examined peer nominations of emotional expressivity in a relatively understudied population of urban, African American children.

Summary of hypotheses

The primary aim of this study was to explore whether associations between peer-rated emotional expressivity and psychosocial functioning varied by rater (i.e., self, parent, teacher) and child gender. Specifically, based on prior work (Schultz et al., 2004; Trentacosta et al., 2006), we hypothesized that peer nominations of emotional expressivity would be positively correlated with internalizing symptoms and externalizing behaviors, and inversely associated with social competence. We did not anticipate gender differences for internalizing symptoms or peer nominations of negative emotions in our sample of first-grade youth, as previous research demonstrates the emergence of gender differences in depressive symptoms later in development (Angold & Worthman, 1993). However, gender differences were expected for parent and teacher ratings of externalizing behaviors and social competence. Boys were hypothesized to be rated as displaying higher levels of externalizing behavior and lower levels of social competence than girls. After conducting analyses on an aggregate measure of emotional expressivity (described further in the Method section), we investigated the discrete nominations of emotional displays (i.e., sad, afraid, worries, cries) to further explore the utility of different ways of examining peer ratings of emotionality. These complementary analyses were intended to help clarify whether children's peers differentiate among negative emotions (i.e., discrete nominations) or respond to perceived negative emotionality in a similar way (i.e., aggregate measure). We hypothesized that discrete nominations of negative emotions would reveal and/or clarify differential associations with social and psychological outcomes across raters and gender, as compared to an aggregate measure. Specific hypotheses were not generated concerning ethnicity and an SES proxy measure, but potential effects were explored.

Method

Participants

Participants were 523 first graders attending nine urban public elementary schools located in a mid-eastern state. This is a subsample of the original 678 children available for recruitment as part of a larger longitudinal study conducted by the Prevention Intervention Research Center (PIRC; Ialongo, Werthamer, & Kellam, 1999). Given the focus of the present study on including multiple informants, students who did not have ratings from peers, parents, and teachers (n = 155) were excluded from the present study; most of those who were dropped were missing parent report or peer nominations. It is important to note, however, that the 155 excluded students did not significantly differ in gender, free or reduced lunch status, or ethnicity from those participants who did receive ratings from all informants (ps>.05). With regard to the outcomes, there were no significant differences between those that were included across all variables (e.g. across all informants on reports of internalizing, social competence, peer nominations of emotions), however, those that were excluded had slightly higher teacher-reports of externalizing behaviors (p = .04). Of the 523 children included in the study, approximately half were male (53%). The majority of participants were African American/Black (85.1%); the remaining students (14.9%) were White. About half of the participants (58%) qualified free or reduced-price lunches, which is a proxy for low SES.

Measures

Peer nominations of emotional expressivity—The Peer Nomination Inventory (PNI; Ialongo, Kellam, & Poduska, 1999) is a 14-item measure in which children nominate their classmates as displaying emotional and social behaviors. Due to variability in reading skills, pictures were taken for all children within a classroom who obtained parent permission. All pictures were transferred onto one scan sheet, where the child was asked to fill in the bubble under the picture of a classmate if that classmate fits the description included in the nomination item. Each item was read aloud in the classroom by trained research staff. Given our focus on emotions, four emotion-related items were selected from the PNI for the current study. Of the total sample (n = 678), 594 children completed the PNI resulting in a participation rate of 87.6%; this exceeds the recommended 40% participation rate criterion when using unlimited peer nominations (Terry, 2000). First, a proportional score was calculated for each participant for each item within classroom by dividing the number of nominations received by the total possible number of nominations (Crick & Grotpeter, 1995). Second, in order to create an aggregated composite across emotions, a confirmatory factor analysis using M*plus* 5.21 (Muthén & Muthén, 2009) was conducted with the emotion-related items. Both the confirmatory factor analysis and internal consistency values provided support for the decision to conceptualize these items as reflecting negative emotional expressivity. The four items that reflected frequent displays of negative emotions loaded together (i.e., are sad, worry a lot, afraid a lot, and cry a lot); this factor was labeled "Expression of Negative Emotions" and exhibited strong internal consistency (α = .81). The peer nomination of emotional expressivity showed modest 6-month test-retest reliability in the current study (r = .47, p <.001). An average score was computed, with higher scores indicating frequent expressions of negative emotions.

Internalizing symptoms—Both child- and parent-reports of internalizing symptoms were assessed. Children's self-reported anxiety and depressive symptoms were assessed utilizing the *Baltimore How I Feel—Young Child Version, Child Report* (BHIF-YC-C; Ialongo & Kellam, 2002). The 30 items on this measure were adapted from both the Revised Children's Manifest Anxiety Scale (Reynolds & Richmond, 1978) and the Children's Depression Inventory (Kovacs, 1992). Previous studies which used this measure show robust internal consistency and high test-retest reliability within the larger sample (Grover, Ginsburg, & Ialongo, 2007; Ialongo et al., 1998). The measure also had satisfactory consistency (α = .82) within the current sample. Children rated their frequency of depressive and anxious symptoms over the previous two weeks on a 3-point scale (0 = *never*, 1 = *sometimes*, 2 = *almost always*). An average of the 30 items was calculated, with higher scores reflecting more depressive and/or anxious symptoms. Parent ratings of their child's anxiety and depressive symptoms were assessed utilizing the parent version of the BHIF-YC-P, with the same 30 items as on the child report measure; however, items were worded for parents to rate their child's behaviors. Parents rated the frequency with which their child displays 30 internalizing symptoms (1 = *almost never*; 4 = *always*). An average score was computed, with high scores reflecting more internalizing symptoms. Previous studies utilizing this measure indicate adequate internal consistency (e.g., Grover et al., 2007), which was also found for the present study (α = .72).

Externalizing symptoms—Both teacher- and parent-reports of children's externalizing symptoms were examined. Teachers completed the *Teacher Observation of Classroom Adaptation-Revised* (TOCA-R; Werthamer-Larsson, Kellam, & Wheeler, 1991), and parents completed a modified version, *Parent Observation of Child Adaptation* (POCA; Werthamer-Larsson et al., 1991). The externalizing scales of the TOCA-R and POCA were used in the current study. Teachers rated the frequency of externalizing behavior problems (1 = *almost never* to 6 = *always*), such as overt aggressive behavior, difficulty with authority,

hyperactivity, and impulsive behaviors. This 5-item scale demonstrated satisfactory internal consistency (α = .83). Similarly, parents rated the frequency of their child's externalizing behaviors (1 = *almost never* to 4 = *always*); this four-item scale also demonstrated adequate internal consistency for the current study (α = .73). For both teachers' and parents' reports of externalizing, an average of the items was calculated, such that higher scores reflected more externalizing behaviors.

Social competence—In order to assess children's social competence, teachers and parents completed the social competence subscale of the TOCA-R and POCA, respectively. On the 8-item social competence scale, teachers indicated on a 6-point scale (1 = *almost never* to 6 = *always*), and parents on a 4-point scale (1 = *almost never* to 4 = *always*), the frequency with which a child displays competent social functioning, such as seeking out children to play with, having lots of friends, and not being rejected by peers. This subscale exhibited satisfactory internal consistency for both teacher (α = .88) and parent ratings (α = . 72). An average of the items was calculated, such that higher scores reflected more social competence.

Procedure

Written informed parental consent and youth assent were obtained for all participating children in accordance with the university's Institutional Review Board requirements. During the fall of first grade, measures were administered in the classroom for child, peer, and teacher ratings, and at the school or over the telephone for parent ratings.

Overview of Analyses

Using multivariate analyses of variance (MANOVA), we first explored potential differences by ethnicity, free/reduced lunch status, and gender on all measures separately by rater (peer-, self-, parent-, and teacher-ratings). Next, we examined correlations between peer-nominated expressions of negative emotions and the following measures: self- and parent-rated internalizing symptoms; and parent- and teacher-rated externalizing behaviors and social competence. Using hierarchical multiple regression performed separately with the associated measures for each rater, we explored whether specific nominations of negative affect (i.e., sad, worried, afraid, and cries) were differentially associated with concurrent social and psychological outcomes across raters and/or by covariates (i.e., ethnicity, lunch status, and gender). Analyses were conducted using SPSS version 17 (SPSS, 2009).

Results

Preliminary/Exploratory Analyses: Ethnicity, SES, and Gender Differences

Peer nominations of negative emotions—A MANOVA was conducted to determine if there were ethnicity, SES (i.e., free/reduced lunch status), and/or gender differences across the peer nomination negative emotion items. Results of the MANOVA showed a significant main effect of ethnicity, $F(4, 506) = 4.44$, $p < .008$, Wilks' $\Lambda = .97$, partial $\eta^2 = .03$, and SES (lunch status), $F(4, 506) = 3.58$, $p < .008$, Wilks' $\Lambda = .97$, partial $\eta^2 = .03$ (see Table 2). There were no gender differences for the peer nominations of expressing negative emotions.

Psychosocial measures—MANOVAs also were conducted to determine if there were ethnicity, SES (i.e., free/reduced lunch status), or gender differences across raters for the psychosocial measures. Results of the MANOVAs showed a significant main effect of ethnicity, $F(6, 503) = 4.96$, $p < .001$, Wilks' $\Lambda = .94$, partial $\eta^2 = .06$, and gender, $F(6, 503) = 3.10$, $p < .006$, Wilks' $\Lambda = .96$, partial $\eta^2 = .04$ (see Table 2). There were no significant effects for our proxy measure of SES.

Correlates of Emotion Nominations

Next, we explored the relationship between the aggregated measure of peer-nominated expressions of negative emotions and internalizing symptoms, externalizing behaviors, and social competence. As expected, peer-rated expressions of negative emotions were positively correlated with teacher-rated externalizing behaviors ($r = .30$, $p < .001$) and inversely associated with teacher-rated social competence ($r = -.22$, $p < .001$). Contrary to our hypotheses, peer nominations of negative emotions were not related to parent-rated internalizing or externalizing symptoms, or social competence. See Table 1 for additional correlational results.

Correlates of Discrete Emotion Nomination Items

To complement our analyses of the aggregate measure of negative emotional expressivity, we explored whether specific expressions of negative affect (i.e., sad, worried, afraid, and cries) were differentially associated with concurrent social and psychological outcomes across raters and gender. To investigate these potential links, a hierarchical multiple regression was performed separately with the associated measures for each rater. To control for potential covariates, ethnicity, lunch status, and gender were entered in the first step, followed by the four peer nominations of negative emotions in the second step. The results are presented below by measure and rater.

Internalizing symptoms—The overall model predicting self-reported internalizing symptoms from the covariates was significant, $F(3, 513) = 8.32$, $p < .001$. Specifically, ethnicity ($\beta = -.18$) and gender ($\beta = -.09$) were both inversely predictive, indicating that self-reported internalizing symptoms were more likely to be endorsed by African American children more than by White youth, and by girls more than by boys. The addition of peer-rated negative emotions resulted in a significant improvement in fit, $F(4, 509) = 5.00$, $p < .001$; $\Delta R^2 = .02$ (see Table 3). The model predicting parent-reported internalizing symptoms from the covariates was not significant and remained non-significant after the addition of the peer-rated negative emotions.

Externalizing symptoms—The model predicting parent-rated externalizing symptoms from the covariates was significant, $F(3, 513) = 11.33$, $p < .001$; lunch status ($\beta = .10$) and gender ($\beta = .21$) were significant. Students who qualified for free/reduced lunch and boys received higher ratings for externalizing symptoms. Although the model including the peer-rated negative emotions also significantly predicted parent-reported externalizing symptoms, $F(4, 509) = 5.53$, $p < .001$, it did not result in a significant improvement in fit ($\Delta R^2 = .01$; see Table 3). We then explored a model predicting teacher-rated externalizing symptoms. The covariates significantly predicted teacher-rated externalizing symptoms, $F(3, 513) = 11.02$, $p < .001$. Specifically, gender ($\beta = .22$) was significant, indicating that boys receive higher ratings than girls for externalizing symptoms (see Table 3). Additionally, peer-rated negative emotions significantly improved the prediction of teacher-reported externalizing symptoms, $F(4, 509) = 15.90$, $p < .001$ ($\Delta R^2 = .12$). Children who received more peer nominations for afraid ($\beta = .23$) and cries ($\beta = .17$) had higher levels of teacher-rated externalizing symptoms.

Social competence—The model predicting parent-rated social competence from the covariates was not significant and remained non-significant after the addition of the peer-rated negative emotions (see Table 3). However, the model predicting teacher-rated social competence from the covariates was significant, $F(3, 513) = 3.13$, $p < .05$, with girls receiving higher teacher ratings of social competence than boys ($\beta = -.07$). Moreover, peer-rated negative emotions significantly improved the prediction of teacher-rated social competence, $F(4, 509) = 9.01$, $p < .001$($\Delta R^2 = .09$; see Table 3). Children who received

more peer nominations for appearing sad (β = -.14) and afraid (β = -.24) had lower teacher-rated social competence.

Discussion

This study provides support for the importance of investigating peer nominations of children's emotional expressivity. Moreover, the pattern of findings indicates that both the composite measure and discrete negative emotion items were associated with concurrent indices of social and psychological functioning. Peers' and teachers' ratings were significantly associated, suggesting that peer nominations of emotional expressivity relate in general and specific ways to social functioning as rated by teachers. In contrast, peer perceptions of children's expression of negative emotions were not associated with children's self-report (internalizing symptoms) or parent-report (internalizing, externalizing, or social competence). Overall, our results highlight the significance of the social setting with regard to the ratings of the children's emotional expressivity.

Consistent with our hypotheses, we found gender differences for some measures but not for others. As expected, boys were rated by both parents and teachers as exhibiting more externalizing behaviors than girls. The absence of gender differences in peer-nominated emotional expressivity is consistent with previous studies that do not find gender differences in peer nominations of sadness and fear displays (Schultz et al., 2004). Contrary to our predictions, however, there were no gender differences in parent- and teacher-rated social competence.

Our hypothesis that peer nominations of emotional expressivity would be associated with teacher-reported psychosocial functioning was supported. Emotion nominations were correlated with increased teacher-rated externalizing behaviors, whereas emotion nominations were associated with decreased teacher-rated social competence. These associations were further clarified by examining the discrete emotion items. Within teacher ratings, externalizing behavior problems were associated with peer nominations of crying and appearing afraid, and social competence was inversely correlated with appearing sad and afraid. These findings suggest that children's perceptions of their peers' expressions of negative emotions may increase their risk of being evaluated as socially maladjusted by teachers. On the other hand, because children were reporting on their peers' emotional expressions in general, it is also possible that the nominations include peer observations of teacher-child interactions. Our results dovetail with previous studies that demonstrate the link between peer nominations of depressive symptoms and teacher-rated externalizing behavior (Shoemaker, Erickson, & Finch, 1986), and are somewhat consistent with previous studies showing that peer nominations of anger predict higher levels of teacher-rated aggression (Schultz et al., 2004). As other studies have demonstrated significant correlations between anger and sadness nominations (Schultz et al., 2004; Shoemaker et al., 1986; Trentacosta et al., 2006), these results provide encouraging support for our hypotheses. Given the paucity of research using discrete emotions, it is clear that further investigations of peer nominations are needed to substantiate our findings.

Contrary to our expectations, emotion nominations were not correlated with or significantly predictive of self- or parent-rated internalizing symptoms. However, a similar lack of association was found in a previous investigation of associations between peer-rated anger displays and depressive symptoms with self- and teacher-rated internalizing symptoms (Shoemaker et al., 1986). In addition, a meta-analysis of cross-informant agreement by Achenbach and colleagues (Achenbach, McConaughy, & Howell, 1987) suggested that concordance for internalizing symptoms is lower than externalizing behaviors, as was demonstrated by our results. The similar patterns observed in our study between peer

nominations of emotional expressivity with teacher (but not parent) ratings of externalizing behavior and social competence may reflect the effects of the school setting. This setting effect may explain why parent-reported psychosocial functioning was not associated with the peer perceptions of emotional expressions.

In contrast to teacher ratings, parent-reported psychosocial functioning was not associated with peer nominations of emotional expressivity. However, it is important to note that parent ratings were significantly associated with teacher ratings. Specifically, teacher- and parent-ratings of externalizing behavior exhibited concordance. In addition, teacher-rated social competence was inversely correlated with parent-rated internalizing symptoms and externalizing behavior. However, parents and teachers did not demonstrate agreement in their ratings of children's social competence. Previous studies have illustrated how informant concordance is influenced by setting (e.g., home vs. school) as well as type of behavior being evaluated (e.g., internalizing vs. externalizing). Externalizing behaviors often show higher rates of inter-informant agreement compared to other behaviors (Achenbach et al., 1987). Thus, it is plausible that the significant associations between peer nominations of emotional expressivity and teacher ratings of externalizing behavior and social competence were due, at least in part, to effects of the shared school setting. Classmates and teachers are in a better position than most parents to observe children's emotional, behavioral, and social functioning, particularly as reflected in peer interactions on a regular basis. Thus, when children are facing developmental challenges specific to the school setting, peers and teachers may provide the most accurate assessment of children's functioning. We interpret our findings as providing potential evidence of the importance of social contexts, but an alternate explanation for the observed lack of correspondence between peer ratings of emotional expressivity and parent- or self-reported clinical symptomatology is that these measures reflect different constructs (e.g., daily emotional experience versus psychological symptoms). Indeed, children's self-reported internalizing symptoms were not related to any parent or teacher ratings, despite exhibiting good internal consistency. The current study was not designed to investigate cross-informant agreement on children's expression of negative emotions, so we were limited in the range of testable hypotheses. Our findings do, however, suggest that peers are capable of reporting on children's emotional expressivity, and those reports converge with teachers' ratings of behavior. Since parents and siblings constitute the natural raters within the family (Kellam & Van Horn, 1997), future studies will need to generate designs that allow us to investigate peer ratings of children's emotional expressivity in the home setting to address the limitations of the current study.

A unique strength of the current study was the analysis of peer nominations of emotional expressivity in two ways. We examined an aggregate that comprised all four negative emotion items, and analyzed the items separately, in order to evaluate potential differences in their associations with psychosocial functioning. We chose to use these particular emotion items because they were the items available in this valuable dataset. While previous research has focused on anger, our study addressed a salient gap in the literature by examining other negative emotions, including sadness and fear. Moreover, a few studies have documented the importance of other negative emotional states, including sadness (e.g., Perry-Parrish & Zeman, in press). The current study documented the importance of these other negative emotional states. In sum, the results provided support for our decision to analyze both the individual emotion items and the composite measure.

In the case of teacher-reported externalizing symptoms, the regression analyses indicated that the emotion items of crying and appearing afraid were important predictors, whereas displaying sadness and worry were not. By comparison, nominations of fear and sadness displays were significant predictors of decreases in teacher-reported social competence. Despite the utility for predicting teacher-rated variables, the discrete emotion approach did

not alter the findings for parent-rated measures. Specifically, peer nominations of emotional expressivity were unrelated to parent-rated internalizing and externalizing symptoms, and social competence. As teachers and peers likely rated children based on their behavior in the school setting, these findings may reflect the importance of setting and/or social context in shaping children's emotional expressivity. Future studies could consider how to explore this idea in other social contexts involving peer interactions (e.g., after-school programs, extracurricular activities).

Given that little research has focused on African American children's emotional development (Barbarin, 1993), our study adds to the extant literature by examining peer nominations of emotional expressivity among a predominately African American sample. Moreover, because our sample also included White youth and demonstrated some diversity with respect to SES, we explored the effects of these variables but did not generate specific hypotheses. The results indicated that African American children received fewer peer nominations of displaying sadness and appearing afraid than White youth, and children who were eligible for free/reduced lunch received more nominations for displaying sadness than their classmates. However, the magnitude of these differences was small. Likewise, significant ethnicity and SES findings emerged for internalizing symptoms and externalizing behavior, but these effects were also small.

More central to our study, peer nominations of negative emotions significantly contributed to the prediction of teacher-rated social competence, beyond the effects of SES. In the case of teacher-reported social competence, neither ethnicity nor SES was significant, whereas peer-nominated emotional expressivity was an important predictor. It should be noted that this study was not designed to evaluate ethnicity differences, as reflected in our predominantly African American sample. However, our sample was more balanced with respect to SES (i.e., free/reduced lunch), and the few significant findings related to SES were relatively small. Although our study does not allow for strong conclusions to be drawn about ethnicity differences in emotional processes, the results do suggest that emotion variables are important predictors of psychosocial functioning among African American youth in the school setting. Specifically, peer nominations of expressing negative emotions were significantly associated with teacher ratings of externalizing behaviors and social competence. This pattern dovetails with other studies with predominantly White children (e.g., Schultz et al., 2004), and thus our findings suggest that frequent expressions of negative emotions represent a potential psychosocial liability in the school environment. Additional studies are clearly needed to identify whether ethnicity, SES, or other social factors may alter or influence the relationship between emotional expressivity patterns and psychosocial adjustment.

Limitations

Although our results support the usefulness of peer nominations of emotional expressivity, the measure did not assess a broad range of affect (e.g., anger, positive emotions). In addition, we included two items that reflect negative affective displays without specifying discrete emotional states (i.e., worry, crying). Because distinct emotions are associated with unique appraisals (Lazarus, Campos, Tennen, Lazarus, & Tennen, 2006), functions (e.g., Campos et al., 1994), and action tendencies (Frijda, 1986), it would be beneficial for future research employing peer nominations to include a range of discrete negative and positive emotions. Moreover, although it appears that there was limited variability and a low ceiling effect among the peer nominations, it is clear from the overall analyses that negative emotions were a significant predictor of psychosocial functioning in the school setting. Thus, our results support the notion that peer perceptions of emotional expressivity are a meaningful and valid source of information.

Another limitation of the current study is our focus on one age group of relatively young children at one time point. Had we investigated peer nominations of emotional expressivity in an older cohort or over time, it is possible that a different pattern of associations with psychosocial functioning would emerge. Although we focused on early childhood, many foundational skills are in place as early as first grade, including accurate identification of other's emotions (Saarni, 1999). Thus, it is likely that peer nominations reliably capture some useful aspects of children's emotional expressivity, despite the existence of age-related differences in emotional development. For example, younger children are more likely than older children to report expressing their emotions (e.g., Zeman & Garber, 1996).

While previous studies have found mixed results regarding gender differences in peer nominations of emotions, more work is needed to clarify the relationship between gender and emotional expressivity in this age group. Among first- and second-grade children, boys have received more anger nominations (Schultz et al., 2004; Trentacosta et al., 2006) and fewer happiness nominations than girls (Trentacosta et al., 2006). This pattern is consistent with research demonstrating that boys exhibit more externalizing difficulties than do girls, a gender difference that is evident by early childhood (Crick & Zahn-Waxler, 2003). In contrast, no gender differences were found in peer nominations of fear or sadness displays in this age group (Schultz et al., 2004; Trentacosta et al., 2006); this lack of gender differences may accurately reflect emotional similarities between boys and girls. Given that internalizing disorders begin to disproportionately favor girls during adolescence, the lack of gender differences may be influenced by developmental level as well. For example, girls received more peer nominations of overt sadness displays than boys in a study of early adolescents, but only adolescent boys' nominations of overt sadness expressions were associated with decreased social acceptance by peers (Perry-Parrish & Zeman, in press). Thus, more studies of peer perceptions of emotional expressivity in children and adolescents are needed. Other limitations include the exclusion of the relatively small subset of children who were missing the peer nomination data; imputations procedures could be used to determine the extent to which the pattern of findings observed in the current study are sensitive to the relatively small amount of missing data. Furthermore, the teacher and parent ratings of externalizing and social competence had slightly different response scales and number of items. Future research should explore the extent to which these findings generalize to other parent, teacher, and self-report ratings of social-emotional functioning.

Implications and Future Directions

This study makes several important contributions to the extant literature. Our application of a standard sociometric procedure yielded an interesting, valid method of assessing emotional expressivity in early childhood. This method also allowed us to examine discrete emotional states and expressions, rather than solely relying on an aggregate measure of negative emotionality. Ethnic minority children comprised the majority of the sample, which represents an improvement over research that typically includes predominantly White participants, especially among studies of emotional development (Barbarin, 1993a, b). Furthermore, multiple informants provided ratings across several salient domains of adjustment, which represents a crucial design strength given recent calls for multi-method designs in emotional development research (Zeman et al., 2007). Future research could further explore the correspondence between multiple raters of children's emotional expressivity in order to examine their relative and unique contributions (see Kraemer et al., 2003).

The present study highlights the importance of investigating discrete and aggregate forms of emotional expressivity. The absence of gender differences in peer nominations of negative emotional displays in our early childhood sample is interesting on multiple accounts. Although children exhibit some awareness of emotional display rules as young as the

preschool years, their expressive behavior does not reliably reflect these rules for modulating emotional expressions until later in middle childhood (Saarni, 1999). The developmental transitions across early to middle childhood into adolescence marks increasing sophistication in both the capacity and motivation to alter one's emotional expressions; this shift in emotion regulation illustrates children's consideration of salient features of the social context, including gender, relationship with the other person, and what specific emotion is expressed (Zeman, Cassano, Perry-Parrish, & Stegall, 2006). Thus, the lack of gender differences in our study may accurately reflect a developmental period that exists prior to the emergence of gender-typed emotionality later in childhood. Research on emotional displays in middle childhood provides increasing support for a gender socialization theory of emotions (Brody & Hall, 2000). This theory proposes that boys and girls receive gender-specific instruction and feedback regarding the appropriateness of their emotional expressions. For boys, emotion socialization is theorized to emphasize suppression of vulnerability (e.g., sadness, fear), whereas girls' socialization is thought to encourage consideration of others' feelings (e.g., by masking anger or displaying positive emotions). However, most of the research in support of this theory relies on predominantly White samples. Because socialization may be influenced by ethnicity as well as gender, our study of urban, predominately African American youth provides another step in understanding the potential social and developmental origins of gender differences in emotionality among older children and adolescents.

The present study also provides further evidence to support the inclusion of peer perceptions of children's emotions in studies of children's social development. Peer assessments represent a historically important source of information about children's psychosocial functioning and adjustment, but they have rarely been used to investigate the domain of emotional development. Our results add to a small but growing body of studies that illustrate the importance of investigating peer perceptions of emotions in early and middle childhood (Schultz et al., 2004; Shoemaker et al., 1986; Trentacosta et al., 2006) and adolescence (Perry-Parrish & Zeman, in press). In addition to other established methods of assessing children's emotional development, peer nominations could also be used in future investigations to explore emotional displays and regulation across childhood and adolescence. Finally, if research continues to document the importance of emotions in peer interactions, then prevention/intervention efforts would be well-advised to include an emotion component in classroom-based curricula. For example, Izard and colleagues (Izard et al., 2008) have begun an investigation of an emotion-focused prevention program to target preschool children in Head Start centers at risk for behavior problems and psychopathology. Likewise, the school-based *Promoting Alternative Thinking Strategies* (PATHS) social-emotional learning curriculum emphasizes increasing emotional competence, including teaching youth how to effectively discuss and manage their emotions (Greenberg, Kusche, Cook, & Quamma, 1995). To aid in the evaluation of such programs, future studies could include peer-based measures of emotional expressivity and regulation to capture whether the interventions are not only improving children's emotional self-regulation, but also changing peer perceptions of children's emotional behavior as well.

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Table 1

Peer Nomination, Self, Teacher, and Parent Reports of Child Psychosocial Domains: Correlations and Descriptive Statistics

Variables	1	2	3	4	5	6	7	8	9	10
1. Gender[a]	–									
2. Ethnicity[b]	.40	–								
3. Free Lunch Status[c]	.28	-.09	–							
4. Peer-Negative Emotions	-.02	.13**	-.04	–						
5. Self-Internalizing	-.01*	-.20***	.06	-.00						
6. Parent-Internalizing	-.01	-.01	.05	.05	-.01					
7. Parent-Externalizing	.21***	.08	.10*	.08	-.01	.44***				
8. Parent-Social Competence	.04	.09*	-.08	-.02	.04	-.26***	-.17***			
9. Teacher-Externalizing	.22***	-.06	.09*	.30***	-.05	.05	.32***	-.05		
10. Teacher-Social Competence	.08	.05	-.11*	-.22***	.07	-.11*	-.16***	.05	-.51***	
M	–	–	.68	.12	.81	1.26	1.73	1.47	2.17	2.35
SD	–	–	.47	.08	.34	.21	.34	.45	.92	.98
Possible Range	–	–	0–1	0–1	0-2	1-3	1-4	1-4	1-6	1-6
α	–	–	–	.81	.82	.72	.73	.72	.83	.88

Note. $N = 523$.

[a] Child gender: 0 = *female*, 1 = *male*;

[b] Child ethnicity: 0 = *Black*, 1 = *White*;

[c] Free Lunch Status: 0 = *Not Free/Reduced*, 1=*Free/Reduced*.

* $p < .05$,

** $p < .01$,

*** $p < .001$.

Table 2

Means and Standard Deviations (in Parentheses) of Ethnicity, SES, and Gender differences.

Variable	Ethnicity		SES		Gender	
	African-American	White	Free/reduced lunch	Paid	Girls	Boys
Sadness	0.11 (.10)	0.15 (.12)**	0.14 (.10)	0.12 (.10)*	0.12 (.11)	0.11 (.10)
Worry	0.12 (.09)	0.12 (.09)	0.12 (.08)	0.13 (.09)	0.12 (.09)	0.12 (.08)
Afraid	0.11 (.08)	0.15 (.10)**	0.12 (.08)	0.13 (.09)	0.12 (.09)	0.12 (.08)
Cry	0.11 (.14)	0.14 (.13)	0.11 (.08)	0.12 (.16)	0.12 (.14)	0.11 (.13)
Self-Internalizing	0.83 (.33)	0.65 (.36)***	0.82 (.34)	0.78 (.33)	0.84 (.32)	0.78 (.35)
Parent-Externalizing	1.72 (.36)	1.80 (.40)	1.76 (.38)	1.68 (.33)	1.65 (.36)	1.81 (.36)*
Teacher-Externalizing	2.19 (.89)	2.05 (1.02)	2.23 (.91)	2.05 (.93)	1.96 (.79)	2.36 (.98)**

Note. Results from MANOVAs. Standardized discriminant function coefficients for significant differences are as follows: *Ethnicity*: Sadness = -.47, Afraid = -.50, Self-Internalizing = .62; *SES*: Sadness = -.82; *Gender*: Parent-Externalizing = -.52, Teacher-Externalizing = -.69.

* $p < .05$,

** $p < .01$,

*** $p < .001$.

Table 3

Hierarchical Regressions: Predicting Peer-Rated Negative Emotions from Self, Teacher, and Parent Reports of Child Psychosocial Domains

	Self-Report		Parent-Report						Teacher-Report			
	Internalizing		Internalizing		Externalizing		Social Competence		Externalizing		Social Competence	
Predictor	**Δ R^2**	**β**	**Δ R^2**	**β**	**Δ R^2**	**β**	**Δ R^2**	**β**	**Δ R^2**	**β**	**Δ R^2**	**β**
Step1	.05***		.00		.06***		.01		.06***		.02*	
Ethnicity		-.18***		-.00		.08		.09		-.06		.04
Free Lunch		.04		.05		.10*		-.07		.08		-.10*
Gender		-.09*		-.00		.21***		.01		.22***		-.07
Step 2	.02*		.00		.01		.00		.12***		.09***	
Ethnicity		-.20***		-.01		.07		.10*		-.12**		.10*
Free Lunch		.05		.05		.10*		-.07		.09*		-.10*
Gender		-.09*		-.00		.21***		.01		.22***		-.07
Sad		-.01		.02		.02		-.05		.03		-.14*
Worry		-.13		-.04		.04		.03		-.03		.09
Afraid		.08**		.03		.06		-.02		.21***		-.24***
Cry		.08		.04		-.02		.01		.17**		-.02
Total R^2	.06***		.01		.07***		.02		.18***		.11***	

Note. Regressions were run separately by rater (i.e., self, parent, teacher) and by domain (i.e., internalizing, externalizing, social competence).

[a] Child gender: 0 = *female*, 1 = *male*;

[b] Child ethnicity: 0 = *Black*, 1 = *White;*

[c] Free Lunch Status: 0 = *Not Free/Reduced*, 1=*Free/Reduced*.

* $p < .05$,

** $p < .01$,

*** $p < .001$.