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Shame and guilt in preschool depression: evidence for elevations in self-conscious emotions in depression as early as age 3

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Abstract

Background—Empirical findings from two divergent bodies of literature illustrate that depression can arise in the preschool period and that the complex self-conscious emotions of guilt and shame may develop normatively as early as age 3. Despite these related findings, few studies have examined whether the emotions of shame and guilt are salient in early childhood depression. This is important to further understand the emotional characteristics of preschool depression. Based on the hypothesis that preschool depression would be uniquely associated with higher levels of shame and maladaptive guilt, these emotions were investigated in a sample that included depressed, anxious, and disruptive disordered preschoolers as well as healthy peers using multiple methods.

Method—Structured psychiatric diagnoses were derived in a sample of $N = 305$ preschoolers ascertained from community sites. Pre-schoolers' tendency to experience shame and guilt were explored using a story stem completion task coded by raters blind to symptoms and diagnosis of the subjects. Guilt experience and reparation behaviors were also measured using parent report.

Results—Based on preschooler's emotion themes during the narrative tasks, gender, age, and depression severity predicted unique and significant portions of the variance in preschoolers' expressions of shame. Parent report measures revealed that increasing depression severity was associated with children's more frequent experiences of guilt feelings and less frequent attempts at guilt reparation (maladaptive guilt).

Conclusions—Findings demonstrated that high levels of shame and maladaptive guilt were related to preschool onset depression when using observational measures of children's internal representations of their self-conscious emotions as well as parent report. These findings demonstrate continuity of these core emotions of depression as early as age 3. These findings suggest that guilt and shame should be explored in clinical assessments of young children and may be an important focus for future studies of the developmental psychopathology of depression.

Keywords

Guilt; shame; depression; young children; preschoolers

Increasing empirical evidence now suggests that major depressive disorder (MDD) may arise as early as age 3. The validity of preschool depression is evidenced by a specific and stable symptom constellation, discriminant validity from other early onset psychiatric disorders, and familial aggregation of affective disorders (for review see Stalets & Luby,

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2006). Consistent with findings on the early emergence of clinically pertinent emotions, studies have shown that preschool children are also far more emotionally competent normatively than previously recognized (see Denham, 1998). Specifically, empirical data have indicated that the complex self-conscious emotions, such as guilt, embarrassment, and shame, may be experienced as early as 2 or 3 years of age (Barrett, Cole, & Zahn-Waxler, 1993). Despite these conceptually related but independent findings, few studies have investigated manifestations of guilt and shame in early childhood mood disorders. Investigations of self-conscious emotions in preschool mood disorders are of interest to further elucidate the clinical characteristics of these disorders in early childhood. Conversely, the relationship between alterations in emotion development and vulnerability to psychopathology is an area of increasing interest in developmental psychopathology research as better characterizations of this association may aid in the identification of risk factors and precursors of mood disorders (Cole, Luby, & Sullivan, 2008; Luby & Belden, 2006; Cole & Hall, 2008).

Although the emergence of self-conscious emotions during the toddler years has received growing acceptance among developmentalists, questions remain about whether guilt and shame can be distinguished at this very early developmental point (Kochanska, Gross, Lin, & Nichols, 2002). Nonetheless, even if these emotions are not yet normatively differentiated by the preschool period, it is worthwhile examining the occurrence of these emotions in samples of depressed preschoolers for whom self-conscious emotions may be especially critical and likely to develop more rapidly due to the altered emotional experience of these children. To date, there have been no investigations of whether shame and maladaptive or excessive guilt, core emotions of depression in adults and older children, are also salient features of preschool onset depression.

Psychopathology in young children

A growing database establishing the validity of numerous psychiatric disorders, including disruptive, mood, and anxiety disorders, arising during the preschool period has accumulated over the past decade (The Task Force on Research Diagnostic Criteria: Infancy and Preschool, 2003). More specifically, data are now available from three independent study samples validating preschool depression. Evidence for a specific and stable symptom constellation, impairment in functioning, as well as associations with family history of related disorders has been provided (Luby et al., 2002; Luby, Belden, Pautsch, Si, & Spitznagel, 2009). Further, biological correlates also known in adult depression have been detected (Luby et al., 2003). These features establish the validity of preschool depression using criteria originally described by Robins and Guze (1970) for the validation of psychiatric disorders. Objective observational evidence of preschoolers' negative mood and behaviors has also been provided (Luby et al., 2006). Preschoolers who met criteria for major depression were also detected in an independent epidemiological sample and a prevalence rate of approximately 2%, similar to that in older children, was found (Egger & Angold, 2006). Similar to samples of depressed pre-pubertal children, high rates of comorbidity with other disorders have also been reported in depressed preschoolers (Luby et al., 2003).

Development of guilt and shame in early childhood

There is a growing empirical database demonstrating that the experience and understanding of numerous discrete emotions arise earlier in life than previously recognized (Denham, 1998). Related to the ability to experience more complex emotions, such as guilt and shame, evidence has also indicated that children's self-concept develops earlier than previously proposed by Piaget and others (Damon & Hart, 1988). Self-conscious or 'complex'

emotions (e.g., pride, shame, guilt, and embarrassment) require one to have a stable self-concept (Lewis, 1995, 1998). Empirical data has suggested that self-concept emerges by 30 months (Bullock & Lutkenhaus, 1990). Furthermore, recent developmental studies have suggested that a stable self-concept may be established as early as age 4 (Harter, 1999; Thompson, Goodvin, & Meyer, 2006). Pertinent to young children's ability to experience shame and guilt is their understanding of social norms and standards which have been found to arise as early as 17 months (Kochanska, DeVet, Goldman, Murray, & Putnam, 1994). Several studies have now demonstrated that the capacity for guilt develops as early as the toddler period (Eisenberg, 2000; Kochanska et al., 1994, 2002). Kochanska et al. (1994) have provided empirical data demonstrating that 100% of children showed guilt reparation and 95% made confessions by age 3. These findings demonstrate that the emotion of guilt is on a rapid developmental trajectory during the toddler and preschool period.

Guilt and shame are both complex self-conscious emotions that require a self-appraisal of actions and behaviors (Lewis, 1998). However, theoretical distinctions between the two emotions suggest that shame focuses on the negative aspects of the *self* for a wrongdoing, while guilt focuses on the negative aspects of the *behavior* (Hoffman, 1998; Tangney, 1998; Tracy & Robins, 2006). Related to this distinction, the experience of shame has been linked to negative appraisals of the stable elements of self-concept while guilt appears to be linked to negative aspects of changeable elements (Tangney, 1998). Based on this definition, shame may not develop until somewhat later in childhood than guilt emerges and after self-concept becomes stable. Another important distinction between these two emotions is that guilt is seen as an adaptive emotion associated with reparation behaviors, while shame is a more distressing emotion associated with social withdrawal and negative self-attributions (Barrett et al., 1993).

Despite parallel advances in the understanding of early onset psychopathology, early emotion development, and more specifically the development of guilt and shame, these separate but conceptually related areas of investigation are rarely integrated and thus have not yet mutually informed each other. However, associations between shame and guilt and various forms of psychopathology have been explored in older children and adults. A converging body of evidence has suggested that shame is indeed a distressing and maladaptive emotion associated with numerous forms of psychopathology, including depression, as well as a range of other negative social and emotional outcomes, such as anger and aggression (for review see Tangney, Stuewig, & Mashek, 2007). Thompson and Berenbaum (2006) found that shame-prone subjects were more likely to have a history of depression and suggested that increased experiences of shame during early adolescence were associated with depressive symptoms in later adolescence. In addition, a relationship between shame proneness and anger arousal has also been reported (Tangney, Wagner, Fletcher, & Gramzow, 1992). Associations between guilt and psychopathology have been less clear, with some studies finding no association and others finding that it may play an ameliorative role in some disruptive forms of psychopathology (Tangney, Wagner, & Gramzow, 1992). For example, in conduct disorders guilt proneness was associated with decreases in delinquent behavior (Stuewig & McCloskey, 2005). Despite an emerging and very rich literature on the role of shame and guilt in psychopathology, studies examining the role of guilt and shame in very early childhood depression have not been published.

As described above, whether guilt and shame can be distinguished as early as the preschool period remains unclear. As a result, many studies of these emotions in young children have set aside this distinction and assume that responses to transgressions are blends of these emotions (Kochanska et al., 2002). Alternatively, others have made a distinction between adapative and maladaptive forms of guilt in early childhood. Informing this distinction, Zahn-Waxler and colleagues conducted one of the few investigations of guilt in young

children at risk for depression. Specifically, Zahn Waxler et al. studied guilt responses in the offspring (5–9 years old) of depressed versus non-depressed mothers. Guilt responses in children of non-depressed mothers were characterized by empathy and concern about interpersonal relationships (Zahn-Waxler, Kochanska, Krupnick, & McKnew, 1990). In contrast, guilt responses in children of depressed mothers were associated with more arousal, distress, and a sense of responsibility for interpersonal conflict. These findings suggest that maladaptive guilt responses develop in children at risk for depression.

Based on the association between shame and adult depression, questions about the distinction between guilt and shame in young children, as well as evidence of maladaptive guilt demonstrated in children at high risk for depression, we explored preschoolers' expressions of shame and guilt during a semi-structured observational task as well as caregivers' reports of their children's displays of guilt feelings and guilt reparations in a sample of depressed preschoolers compared to healthy and disruptive controls. Of interest was whether these emotions were observed more frequently in this diagnostic group. To address guilt, a well-validated age-appropriate parent report measure of guilt, the 'My Child', was used. This measure addresses guilt experiences in a manner that blends guilt and shame, thus, 'guilt' measured by the 'My Child' is thought to represent a maladaptive form of guilt (Kochanska et al., 2002). The 'My Child' also assesses guilt reparation behaviors and as such may more directly differentiate adaptive and mal-adaptive guilt responses. To investigate shame, a child informant narrative measure was used. Guilt and guilt reparation, as evidenced by making amends, apologizing, or displaying guilt feelings, was also measured using the child narratives. Utilizing the definition of the distinction between guilt and shame, statements pertaining to negative attributions about self (e.g. doll representing self) were coded as shame. Negative attributions about one's own behavior were coded as guilt. We hypothesized that maladaptive guilt (measured by the 'My Child') would occur more frequently in depressed compared to healthy and disruptive preschoolers. This was based on the finding that maladaptive guilt occurred frequently in children at risk for depression. Based on findings in the adult depression literature, we also hypothesized that shame would be detected in depressed preschoolers more frequently than comparison groups. Specifically, we hypothesized that depression would account for a significant portion of the variance in preschoolers' expressions of shame and maladaptive guilt (as measured by parent report of guilt and the failure to show guilt reparation), after age, gender, and other forms of psychopathology were considered in the model.

Method

Participants

Preschoolers (N = 305) between 3.0 and 5.11 years of age were recruited from sites throughout the metropolitan Saint Louis area for participation in a study examining the nosology of preschool depression. Recruitment was done through primary care practices and preschools/daycares. Recruitment sites were chosen at random using a geographically stratified method to increase the socioeconomic and ethnic diversity of the final sample.

The aim of this sampling technique was to recruit a large group of depressed preschoolers as well as smaller groups of disruptive and healthy preschoolers for comparison. To achieve this goal, a validated screening checklist, The Preschool Feelings Checklist (PFC; Luby, Heffelfinger, Mrakotsky, & Hildebrand, 1999), was completed by caregivers. Previous studies have indicated that a PFC score of ≥ 3 maintained high sensitivity and specificity for the diagnosis of depression (Luby, Heffelfinger, Koenig-McNaught, Brown, & Spitznagel, 2004). Preschoolers with scores of 0 and ≥ 3 were recruited and screened.

Approximately 6,000 checklists were distributed to primary care and preschool/daycare sites between May 2003 and March 2005. In daycares and preschools, from which approximately ¾ of sample was ascertained, checklists were handed out to all parents of children in the target age range. Checklists were made available in waiting areas of primary care settings next to a poster describing a study of emotion development. Using this method, $N = 1474$ checklists were returned and those with scores of 0 (presumed healthy) or ≥ 3 (above established cut-off) were sought for participation. Among those returned $N = 335$ were ineligible based on age and $N = 240$ had PFC scores out of range. The remaining $N = 899$ met all initial inclusion/exclusion criteria and were contacted by phone for further screening. Based on phone screening, subjects with chronic illness, marked speech and language delays, and/or neurologic or autistic spectrum disorders were excluded. Those without exclusions ($N = 416$) were invited for study participation and $N = 305$ agreed and presented for the assessment. Based on this screening technique in which children with symptoms of depression were oversampled, it is not possible to accurately estimate the prevalence rate of preschool depression with these data.

Procedure

Study procedures were pre-approved by the Washington University School of Medicine IRB. Informed consent and assent was obtained from caregivers and children respectively. Preschoolers and their care-givers participated in a 3–4-hour laboratory assessment. Primary caregivers (92% mothers) were interviewed using the Preschool Age Psychiatric Assessment (PAPA), an age-appropriate psychiatric interview (Egger, Ascher, & Angold, 2003). To examine children's representations of shame and guilt, preschoolers engaged in an emotionally evocative story stem completion task in which these themes elaborated by children were coded. This task was videotaped and coded by researchers blind to the child's diagnosis. In addition, an independent measure of children's guilt, the 'My Child' questionnaire, was completed by caregivers at home several days prior to the assessment (Kochanska, 1992). From the $N = 305$ caregiver–child dyads who participated in the study, $n = 4$ were excluded due to excessive missing data. Using computerized DSM-IV algorithms applied to the PAPA data, psychiatric diagnoses were obtained for all preschool participants. In the current sample $n = 75$ preschoolers met all symptom criteria for DSM-IV MDD, $n = 99$ had one or more DSM-IV Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), and/or Conduct Disorder (CD) diagnosis, and $n = 71$ preschool-ers had one or more DSM-IV Generalized Anxiety Disorder (GAD), Separation Anxiety Disorder (SAD), Posttraumatic Stress Disorder (PTSD) diagnoses. Of the depressed children, 61% also had a disruptive disorder and/or 43% had an anxiety disorder.

Measures

Diagnostic assessment—The PAPA is an interviewer-based diagnostic assessment with empirically established test–retest reliability designed for use in the parents of children aged 2.0–6.0 (Egger et al., 2006). Interviews were audio taped for later quality control and calibration. Inter-rater reliability was achieved by weekly coding meetings as recommended by the authors of the measure. The PAPA includes all relevant DSM-IV criteria and their age-appropriate manifestations.

Severity score calculations—In addition to categorical DSM-IV diagnoses computed by application of DSM-IV algorithms, total MDD, anxiety, and disruptive severity scores were also computed. Previous findings have suggested that dimensional symptom sum scores are sensitive measures of the severity of psychopathology (Luby, Mrakotsky, Heffelfinger, Brown, & Spitznagel, 2004). MDD sum scores are the composite of each core DSM-IV depression symptom endorsed at the clinical level ($M = 4.08$ symptoms, $SD = 3.69$; $Min = 0$ symptoms endorsed, $Max = 22$). The same method was used to derive anxiety

severity scores (*M* = 3.27 symptoms, *SD* = 2.59; *Min*. symptoms = 0, *Max* = 12) and disruptive severity scores (*M* = 7.22 symptoms, *SD* = 6.99; *Min* = 0 symptoms endorsed, *Max* = 34).

Children's representations of shame and guilt—The MacArthur Story Stem Battery (MSSB; Bretherton, Oppenheim, Buchsbaum, Emde, & The MacArthur Transition Network Narrative Group, 2001) includes emotionally evocative story stems that are acted out by the researcher (Emde, Wolf, & Oppenheim, 2003). The MSSB has been shown to be a useful and sensitive measure to detect differences between diagnostic groups and other elements of socio-emotional functioning in young children (Robinson, 2007; Belden, Sullivan, & Luby, 2007). For this measure, the examiner sets up a story stem using doll props, e.g. 'you are at the grocery store with your mom and you have lost your favorite teddy bear, show and tell me what happens next', and children are encouraged to complete the story by acting out an ending using the props. In the current study, children were presented with a family that included a child of the same sex as the participant. Four story stems were presented to the children that focused on themes of separation and/or loss and that also involved transgression due to their unique relevance for mood disordered children.

Videotaped narratives were coded using the MacArthur Narrative Coding Manual (Robinson, Mantz-Simmons, MacFie, Kelsay, & The MacArthur Narrative Working Group, 2002). Narrative coders were trained to reliability and calibrated with the master coder in Dr. Robinson's lab. For the present study, two separate dependent variables were examined: shame and guilt (inter-rater reliability was between 97.3% and 97.8%). Shame was a measure of children's negative self-evaluation and global self-worth (e.g., 'I am such a stupid kid.'). Shame also included themes in which children made global negative remarks about another character in the narrative (e.g., 'She is a bad person because she would not let the other girl play with her.'). Guilt was a measure of children's repairing, apologizing, or displaying guilt feelings following some wrongdoing or conflict.

Caregivers' reports of children's guilt—The My Child, Version 2 (Kochanska, 1992), is a 100-item parent-report measure of children's self-conscious emotions for which favorable psychometrics that demonstrated two main factors (guilt feelings and guilt reparations) have been established (Kochanska et al., 1994). For each statement presented, parents rate their child's behavior on a 1–7 Likert-type scale. Examples of items are: 'likely to spontaneously say ''sorry'' after having done something wrong' and 'likely to try a prohibited but attractive activity when alone.' Parents were asked to complete the My Child approximately 2 weeks prior to their scheduled assessment.

Data analytic plan

For the initial set of analyses chi-square tests were conducted to test for demographic differences between preschoolers' diagnostic groups. Pearson correlation coefficients were computed to illustrate several key associations between preschoolers' diagnostic severity scores, shame and guilt standardized scores based on the MSSB, as well as preschoolers' guilt reparation and feelings factor scores. Hierarchical multiple regression analyses were used to test three specific questions related to preschoolers' observed use of shame and guilt themes during the MSSB. At the first step of each equation preschoolers' age and gender were entered as main effects. The second step of each equation tested whether pre-schoolers' disruptive or anxiety severity scores were associated with shame and/or guilt scores beyond the variance already associated with preschoolers' gender or age. At the third step preschoolers' depression severity scores were entered into the model to test whether MDD severity scores were associated with shame and/or guilt scores after statistically controlling for children's age, gender, disruptive, and anxiety severity scores. A second set

of hierarchical regression analyses were conducted to test for the presence of interaction effects between preschoolers' age/gender and diagnostic severity in relation to MSSB shame and guilt scores. Last, a third set of hierarchical multiple regression analyses were conducted to examine preschool diagnostic correlates of caregivers' reports of their children's guilt feelings and reparation behaviors. As described above, at the first step of each equation preschoolers' age and gender were entered as main effects. The second step of each equation tested whether preschoolers' disruptive or anxiety DSM-IV diagnosis (Disruptive Yes/No; Anxiety Yes/ No) was associated with guilt reparation and/or guilt feeling factor scores beyond the variance already associated with preschoolers' gender or age. Categorical diagnosis rather than severity scores (as used for MSSB) were used in this set of analyses to investigate differences in these guilt profiles related to specific disorders. At the third step preschoolers' DSM-IV MDD diagnosis (MDD Yes/No) was entered into the model to test whether MDD diagnosis was associated with children's guilt reparation and/or feeling factor scores after statistically controlling for children's age, gender, disruptive and/or anxiety diagnoses.

Results

Based on a hierarchical grouping of subjects within diagnostic categories (see footnote table 1), results indicated a significant effect of age on preschoolers' diagnostic group status, χ^2 (6 *df*) = 14.37, $p < .01$ (see Table 1). Specifically, the MDD group had a significantly higher proportion of 5-year-old children compared to the healthy group, χ^2 (2 *df*) = 8.55, $p < .05$, and the disruptive group, χ^2 (2 *df*) = 8.77, $p < .05$, but was not different from the anxiety group. In addition, the disruptive group had a significantly ($p < .01$) higher proportion of 3-year-old children than the MDD group but was not different from the healthy or anxiety groups. There were no diagnostic group differences related to preschoolers' gender, ethnicity, maternal education, or household income.

Association between diagnostic severity, self-conscious emotions during the MSSB, and parent report of preschoolers' guilt feelings and reparations

Results of correlational analysis are presented in Table 2 and illustrate that several associations were statistically significant at the alpha <.05 level. Of particular interest, is that preschoolers' shame and guilt themes during the MSSB were only mildly correlated. Further, despite the high rates of comorbidity within the current study sample and the moderate to strong correlations among preschoolers' MDD, anxiety, and disruptive severity scores, the next analyses demonstrate that these forms of psychopathology are associated with preschoolers' observed use of shame and guilt in different and important ways.

Preschoolers' anxiety, disruptive, and MDD severity scores: associations with shame themes during the MSSB

Preschoolers' gender and age were entered as predictor variables (step 1) with preschoolers' mean shame scores entered as the criterion variable. Two percent of the variance was explained. Only the beta for preschoolers' age was significantly associated with preschoolers' observed use of shame themes, $\beta = .16$, $p < .01$. The direction of the standardized beta coefficient indicated that older age during the preschool years was associated with increased use of shame themes during the MSSB. As seen in Table 3, adding preschoolers' anxiety and disruptive severity scores (step 2) did not significantly ($p > .05$) increase the total percent of variance explained in preschoolers' use of shame. For step 3, preschoolers' MDD severity scores were entered into the model and accounted for a significant portion ($p < .05$) of the variance in children's shame scores beyond that already accounted for by children's age, gender, anxiety, and disruptive severity scores.

Based on the findings from Table 3 illustrating main effects of age and MDD severity on preschoolers' MSSB shame scores, we tested for an interaction effect of age and MDD severity on preschoolers' shame scores. Results indicated there was no significant interaction effect between MDD severity and preschoolers' age on their observed use of shame themes during the MSSB. Thus, findings indicate that older age and higher depression severity scores have an independent effect on the variation accounted for in children's MSSB shame scores.

Preschoolers' anxiety, disruptive, and MDD severity scores: associations with guilt themes during the MSSB

Identical analyses as above were repeated using preschoolers' guilt themes during the MSSB as the criterion variable. Results indicated that female preschoolers used significantly more guilt themes than male preschoolers during the MSSB. No other significant associations were found between preschoolers' gender/age, anxiety, disruptive, and MDD severity scores in relation to preschoolers' use of guilt themes during the MSSB.

Parent-rated measure of child's guilt expressions

Using procedures identical to those outlined by Kochanska et al. (1994), the dimensionality of the 10 subscales from the 'My Child' measure was analyzed using principle components analysis (PCA). Replicating Kochanska's previous findings, the current PCA resulted in a two-factor solution (rotated using varimax procedure) referred to as: guilt reparation and guilt feelings. Guilt reparation accounted for 35% of the item variance and the guilt feelings factor accounted for 21%. None of the subscale scores loaded on both factors.

The *guilt reparation factor* included the following subscales of the My Child (example items are provided in quotations and factor loadings are provided in parentheses): 1. *Amends* 'tries to make up for a wrongdoing' (.81), 2. *Internalized Conduct* 'self-corrects and/or exhibits compliance without surveillance' (.78), 3. *Confession* 'spontaneous admission of wrong doings' (.75), 4. *Empathy* 'tries to reassure others during times of distress' (.72), 5. *Concern* 'child seeks reassurance that their parent is no longer angry with him/her' (.64), and 6. *Apology* 'child spontaneously says sorry after a wrongdoing' (.60).

The *guilt feelings* factor included the following subscales of the My Child (factor loadings are also provided in parentheses): 7. *Symbolic Reproduction* 'after a wrong doing, child replays that situation with toys' (.75), 8. *Guilt* 'may have problems sleeping or a poor appetite after having done something wrong' (.71), 9. *Concerned by Others' Transgressions* 'gets upset when a guest breaks a household rule' (.66), and 10. *Sensitive to Themes of Wrongdoing* 'particularly interested in uses of responsibility and wrongdoing while watching TV or listening to a story' (.59).

To test for associations between preschoolers' specific diagnoses (i.e., MDD, anxiety, and/or disruptive disorders) and caregivers' reports of their children's guilt feelings and reparation, two separate hierarchical multiple regression analyses were conducted. Identical to the analyses conducted using the MSSB variables, at step 1 children's age and gender were entered, at step 2 children's anxiety (Yes/No) and disruptive (Yes/No) disorder diagnosis were entered, and at the 3rd step children's MDD diagnosis (Yes/No) was entered. Children's mean guilt reparation and guilt experience factor scores, derived from the PCA described above, were the dependent variables tested. As seen in Table 4, results indicated that preschoolers with MDD versus those without had significantly lower guilt reparation scores after accounting for the significant and relatively large effect of preschool disruptive disorders. The final model, which included gender and age in months as well as disruptive, anxiety, and MDD diagnoses, accounted for approximately 22% of the total variance

associated with caregivers reports of children's guilt reparation behaviors, $R^2_{adjusted}$ = .22, F (5,261) = 15.97, p < .001.

As seen in Table 4 (right side), results indicated that children diagnosed with preschool MDD versus those without had significantly higher guilt feelings factor scores after accounting for the significant effects of preschoolers' anxiety diagnosis and gender. That is, step 3 of the hierarchical multiple regression model indicated that preschoolers with a MDD diagnosis versus those without, children with pre-school anxiety disorders versus those without, or female preschoolers versus male had significantly higher guilt feelings factor scores. Together, children's gender and age in months as well as disruptive, anxiety, and MDD diagnoses accounted for 12% of variance in preschoolers' guilt experience factor scores, $R^2_{adjusted}$ = .12, F (5,261) = 7.23, p < .001. Figure 1 depicts preschoolers' mean factor scores for guilt reparation as well as guilt feelings in relation to each diagnosis included in the regression models. In an attempt to obtain a more 'real-world' representation of the current findings, children were not categorized into mutually exclusive diagnostic groups which by definition is confounded by comorbidity (i.e., if diagnostic groups are mutually exclusive, a child with two or more diagnoses is forced into one of the two possible groups or excluded from them altogether). Thus, it is important to note that children with comorbid disorders were counted more than once when creating mean factor scores used in Figure 1.

Variables that had a main effect on children's guilt feelings and/or reparation factor scores were then centered. After centering each of the significant independent variables, pairs of variables were multiplied together to create all possible 2-way interaction terms. Hierarchical regression analyses identical to those described above were repeated with the interaction terms included. No significant 2-way interaction effects on guilt reparation and/or feelings were found. That is, each significant main effect reported above appears to be associated with preschoolers' guilt reparation and/or feelings independent of each other.

Discussion

Study findings demonstrated that depression severity explained a unique and significant proportion of the total variance in preschoolers' use of shame themes during the MSSB task after controlling for age and gender, and the effects of disruptive and anxiety symptoms. Findings also indicate that use of shame themes during the MSSB increased with age. Furthermore, females used more shame themes than males during the MSSB. Interestingly no associations between diagnostic severity and preschoolers' MSSB guilt scores were detected. This is consistent with the notion that guilt is an adaptive emotion while shame is a maladaptive emotion related to a negative self-concept also known to be associated with various forms of psychopathology as reviewed above. The current results derived from the preschoolers' completion of emotionally evocative story stems, coded by raters blind to children's symptom status, provides objective evidence for the salience of the emotion of shame in early onset depression.

Findings demonstrating that older age is also associated with an increased tendency to experience and/or express shame are consistent with the steep developmental trajectory of this emotion known during the preschool period. The finding that girls had a greater tendency to include a shame theme during the MSSB is of interest and consistent with higher levels of internalizing emotions known to occur in females throughout development (Stipek, Recchia, & McClintic, 1992). The role of socialization on this gender disparity in shame may be an important factor. Gender differences in the socialization of a number of internalizing emotions have been described and supported by data showing that both parents

and teachers differentially support and encourage these emotions in girls (for review see Crick & Zahn-Waxler, 2003).

The independent parent report ('My Child') of the child's guilt feelings and reparation behaviors demonstrated that preschool depression was associated with increased guilt feelings and decreased guilt reparation. This finding was detected even after controlling for children's age, gender, and comorbid disruptive and/or anxiety diagnoses. Although previous studies have failed to show an association in older samples between guilt and depression, this measure may be assessing more maladaptive forms of guilt that are blended with shame. In addition, the sample of depressed preschoolers exhibiting high guilt feelings and low guilt reparation is at face value a maladaptive form of guilt experience, similar to that described as a key criterion for MDD in the DSM system. Further unique features of guilt feelings and reparation scores when viewed together demonstrate that depression and anxiety show similar features. In contrast, and also clinically self-evident, disruptive disorders had their own unique and interesting pattern of low guilt feelings and little guilt reparation. That is, caregivers of children with a disruptive disorder diagnosis reported guilt reparation behaviors 30% less frequently than caregivers of healthy, depressed, and/or anxious children. These findings suggest that attention to guilt experiences and reparation may be useful to distinguish several early forms of psychopathology from each other.

An unexpected finding was that disruptive severity was also associated with higher levels of shame in the MSSB. This finding suggests that early disruptive disorders are also associated with high levels of shame similar to early onset depression. This is consistent with previous studies that have linked shame to anger and aggression in older subjects (Tangney, Wagner, Fletcher, et al., 1992). The directionality of the shame and anger relationship, whether shame leads to anger or angry behavior leads to shame as a result of negative social responses, is of interest and remains unclear. This finding could also be explained by the fact that the correlation between disruptive severity and shame became non-significant after depression severity was accounted for in the model. That is, the depressive symptoms that co-occurred with disruptive severity may be the predictor of shame rather than disruptive severity itself. Further, although no age effect during the preschool period was found, whether this relationship persists or changes with the transition into school age and adolescence would be of interest and could have implications for early intervention in disruptive disorders. Lower rates of guilt reparation behaviors reported by parents were also found to be related to children's diagnosis of a disruptive disorder. This finding was not surprising and is highly consistent with other externalizing features of these disorders.

These findings of higher levels of shame (child informant) and guilt (parent report) and lower levels of guilt reparation detected by two independent measures, one an objective observational child-based measure and the other a parent report questionnaire that provides the parent's perception of the child's guilt feelings and reparation behaviors, provide further support for these findings. Notably, this parent report measure (i.e., the My Child) of guilt feelings was completed prior to the psychiatric interview and was not considered in the diagnostic classification of this sample. The salience of shame and frequent presence of guilt feelings with minimal demonstration of guilt reparation evidenced in pre-school depression suggests that assessment of 'self-conscious' emotions should become a part of clinical evaluations in young children. These findings also suggest that maladaptive guilt and shame, well-known features of depression in older children and adults, shows continuity across the lifespan. This combination of high shame and guilt experiences with low reparation behaviors would seem to be a uniquely maladaptive pattern of emotion development likely to be associated with high internal distress. The finding that shame- and guilt-ridden depressed preschoolers fail to take action to repair perceived wrongdoings indicates that

they are 'stewing' in these negative feelings. These findings also suggest that early intervention strategies should target the reduction of this emotional response.

Study findings are limited by the fact that they are cross-sectional and therefore questions about emotional developmental trajectories cannot be addressed, such as whether the patterns of detected guilt preceded or followed depression. However, the associations between depressive symptoms and these emotions suggest that future studies of these longitudinal relationships would be worthwhile.

Key points

- High levels of shame and pathological guilt are a known feature of adult depression.
- Developmental studies have more recently shown that shame and guilt develop earlier in life than previously recognized.
- Study findings suggest that preschoolers with higher depression severity experience higher levels of shame based on blind ratings of story stem completions.
- Parent report of the child's guilt feelings and guilt reparation behaviors showed that depressed preschoolers are characterized by high levels of guilt feelings and low levels of guilt reparation.
- Study findings demonstrate that maladaptive guilt and shame are features of depression as early as the preschool period and should be a focus of clinical attention.

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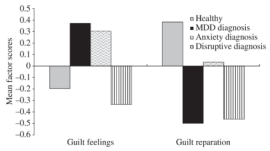

Figure 1.
Mean Factor Scores for Guilt Feelings and Reparation in Relation to Diagoses

Table 1

Demographic characteristics of the study sample and core study variables

	Healthy (*n* = 146)	Depressed (*n* = 75)	Anxiety (*n* = 39)	Disruptive (*n* = 40)
Child gender (*n*)				
Female	76	30	20	19
Male	70	45	19	21
Child age in years (*n*)				
3	47	17	11	18
4	66	27	19	15
5	33	31	9	7
Child ethnicity (*n*)				
White	87	38	19	20
Black	45	26	16	11
Other	13	11	4	9
Maternal education (*n*)				
Some college or less	22	17	3	10
College degree	81	46	28	22
Above college degree	40	12	8	7
Maternal marital status (*n*)				
Married	94	32	18	25
Separated	2	3	2	0
Divorced/ never married/ widowed	45	38	19	15
Gross family income (*n*)				
0–$20,000	29	20	12	8
$20,000–$40,000	17	15	7	6
$40,001–$60,000	23	13	4	7
$60,001+	65	20	14	12
MSSB emotion themes Standardized *M(SD)*			SD)	
Shame	.01(.06)	.04(.12)	.01(.06)	.02(.09)
Blame	.02(.08)	.04(.10)	.03(.10)	.01(.05)
Guilt	.01(.06)	.03(.09)	.01(.08)	.01(.05)
Parent Report on My Child Standardized *M(SD)*				
Guilt Feelings	−.19(.99)	.37(.87)	.30(1.11)	−.34(.87)
Guilt reparations	.38(.86)	−.50(.98)	.03(1.12)	−.46(.77)

Note. All preschoolers were assigned to 1 of 4 mutually exclusive group classifications. All preschoolers with a diagnosis of MDD were placed in the MDD group regardless of additional co-occurring disorders. To be in the anxiety group preschoolers must have had a diagnosis of SAD, GAD, and/or PTSD and could have had any co-occurring disorder except for MDD. To be in the disruptive group preschoolers must have had a diagnosis of ADHD, ODD, and/or CD but could not have a diagnosis of MDD or any anxiety disorder. Preschoolers in the healthy group had no diagnosis.

Table 2

Pearson correlation matrix examining preschoolers' diagnostic severity, MSSB self-conscious emotion scores (child measure), and guilt reparation/ feelings behaviors (parent report)

	1.Age	2.MDD Severity	3.Anxiety Severity	4.Disruptive Severity	5.MSSB Shame	6.MSSB Guilt	7. My Child Guilt Feelings	8. My Child Guilt Reparation
1.	–							
2.	.17**	–						
3.	.03	.62**	–					
4.	.04	.63**	.57**	–				
5.	.15**	.19**	.04	.11*	–			
6.	.02	.07	.06	.07	.22**	–		
7.	.08	.21**	.22**	.07	.08	.06	–	
8.	.01	−.40**	−.38**	−.58**	−.07	−.02	.005	–

Table 3

Hierarchical regressions of diagnostic severity scores on preschoolers' observed use of shame themes during the MSSB

	Shame		
	B	**t**	**b**
Step 1			
Gender	.01	1.025	.06
Age	.001	2.69	.16**
Step 2			
Gender	.013	1.31	.08
Age	.001	2.64	.15**
Anxiety severity	−.001	−.57	−.04
Disruptive severity	.002	1.98	.14*
Step 3			
Gender	.014	1.46	.08
Age	.001	2.07	.12*
Anxiety severity	−.004	−1.66	−.13
Disruptive severity	.001	.62	.05
Depression severity	.005	2.75	.23**

Note. $R^2_{adjusted}$ = .02 for step 1; ΔR^2 = .01 for step 2 ($p > .05$); ΔR^2 = .024 for step 3 ($p < .01$).

* $p < .05$;

** $p < .01$.

Table 4

Hierarchical regressions of diagnosis on parent report of preschoolers' guilt reparation and guilt feeling behaviors

	Guilt reparation			Guilt feelings		
	B	**t**	**b**	**B**	**t**	**b**
Step 1						
Gender	.20	1.64	.10	.42	3.50	.21**
Age in months .002		.35	.02	.01	1.53	.09
Step 2						
Gender	.15	1.32	.07	.44	3.72	.22***
Age in months	.002	.28	.02	.007	1.09	.07
Anxiety diagnosis	−.16	−1.19	−.07	.54	3.78	.23***
Disruptive diagnosis	−.92	−7.75	−.44***	−.02	−.15	−.01
Step 3						
Gender	.13	1.17	.06	.46	3.98	.23***
Age in months	.005	.80	.04	.003	.42	.03
Anxiety diagnosis	−.09	−.67	−.03	.45	3.12	.19**
Disruptive diagnosis	−.82	−6.63	−.39***	−.15	−1.14	−.07
Depression diagnosis	−.35	−2.56	−.16*	.47	3.17	.20**

Note. $R^2_{adjusted}$ = .003 for step 1; ΔR^2 = .21 for step 2 (p < .001); ΔR^2 = .02 for step 3 (p <.05).

* p < .05,

** p < .01,

*** p < .001.

Note. $R^2_{adjusted}$ = .04 for step 1; ΔR^2 = .05 for step 2 (p < .01); ΔR^2 = .03 for step 3 (p <.01).

* p < .05,

** p < .01,

*** p < .001.