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## Helping the One You Hurt: Toddlers' Rudimentary Guilt, Shame, and Prosocial Behavior After Harming Another

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### Abstract

The current study explored the role of guilt and shame in early prosocial behavior by extending previous findings that guilt- and shame-like responses can be distinguished in toddlers and, for the first time, examining their associations with helping. Toddlers ( $n=32$ ; mean age = 28.9 months) were led to believe they broke an adult's toy, after which they exhibited either a guilt-like response that included frequently confessing their behavior and trying to repair the toy; or a shame-like response that included frequently avoiding the adult and seldom confessing or attempting to repair the toy. In subsequent prosocial tasks, children showing a guilt-like response helped an adult in emotional distress significantly faster and more frequently than did children showing a shame-like response.

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Children begin to respond prosocially to others in the second year, forming the foundation for later compassion, altruism, and social competence (Eisenberg, Spinrad & Knafo-Noam, 2015). Behaviors such as helping, sharing, and comforting are embedded and develop within affectively-charged interactions with others. Seminal research on prosocial behavior in toddlers has highlighted the strong emotional reactions that young children exhibit before, during, or after initiating prosocial action (Dunn, 1988; Rheingold, 1982; Zahn-Waxler, Radke-Yarrow & King, 1979), and prominent theories in moral psychology have suggested that emotion and/or emotion processes are primary mechanisms in the development of prosocial behavior (Eisenberg, Eggum, & Guinta, 2010; Hoffman, 2000; Kagan & Lamb, 1987).

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Moral (Haidt, 2003) and sociomoral (Mascolo & Fischer, 2007) emotions have enjoyed an especially long and rich conceptual and empirical tradition in the study of prosocial behavior (see Batson, 2010, and Eisenberg et al., 2010 for reviews), and two such emotions relevant for prosocial motivation are guilt and shame. Shame is considered an inhibitor of prosocial behavior, while guilt is considered a motivator (Haidt, 2003; Hoffman, 2000; H. Lewis, 1971; Tangney & Dearing, 2002;). Guilt may even play a mechanistic role in the development of prosocial behavior in becoming a key aspect of children's conscience (Dahl, Campos & Witherington, 2011; Hoffman, 2000; Kochanska & Aksan, 2006; Mascolo & Fischer, 2007; Prinz, 2006). Despite their relevance to prosocial behavior and considerable empirical attention in adulthood and childhood, guilt and shame have not been studied in relation to prosocial behavior in toddlerhood, the period during which prosocial behavior emerges. The primary goal of the current study is to examine whether and how guilt and shame are associated with prosocial behavior in toddlers.

## Guilt and Shame

The fundamental difference between guilt and shame, as proposed by H. Lewis (1971) and further articulated by Tangney & Dearing (2002), is that when one experiences guilt, one evaluates one's *actions* as bad; when one experiences shame, one evaluates one's *core self* as bad. Furthermore, when one's actions are experienced as bad, one alleviates affective discomfort most readily by attempting to repair the negative consequences of those actions. Conversely, when one experiences oneself as bad, one alleviates affective discomfort by avoiding others, as personal faults cannot be easily or immediately repaired (also see Haidt, 2003; Mascolo & Fischer, 2007). Extensive empirical work has established that adults' experiences of shame and guilt are in line with this conceptual distinction (Tangney, Miller, Flicker & Barlow, 1996). The differences between them persist when controlling for intensity, demonstrating that they are qualitatively distinct rather than more or less intense versions of the same underlying emotion.

Research with children and adolescents reveals similarly distinct patterns (Ferguson & Stegge, 1995; Tangney & Dearing, 2002; Tangney et al., 1996). For example, 10-year-olds' self-reported feelings of shame corresponded to feeling worried about what others would think of them, and under such circumstances they wanted to avoid others; in contrast, they reported feeling guilt when their behavior didn't cohere with moral norms and were more likely to approach those involved in guilt-eliciting situations (Ferguson, Stegge & Damhuis, 1991). A majority of 8-year-olds associated guilt feelings with "[doing] something naughty" and "[wanting] to make it up to the other," whereas they associated feelings of shame with "[wanting most] to run away from others" and "[thinking they] do everything wrong" (Ferguson, Stegge & Damhuis, 1991). These patterns suggest that children, like adults, experience guilt and shame as different emotions and tend to focus on themselves when feeling shame but focus on their actions or the victim of their actions when feeling guilt.

## Guilt and Shame in Relation to Prosocial Behavior

Not only are guilt and shame distinct emotions accompanied by distinct action tendencies, but they also relate in unique ways to other aspects of behavior, including prosocial

behavior. For example, guilt has been positively associated with, and considered a motivator of, honesty, altruism, charity, and global other-oriented concern (for a review see Tangney & Dearing, 2002). These associations have been demonstrated across a wide range of ages and situations. When responding to hypothetical situations of interpersonal conflict, adults, college students, adolescents (grades 7–11), and children (grades 4–6) who experienced guilt after committing a transgression were more likely to report having constructive and reparative intentions, such as wanting to fix the troublesome situation, and less likely to resort to physical, verbal or symbolic aggression, than were their shame-prone counterparts (Tangney, Wagner, Hill-Barlow, Marschall, & Gramzow, 1996). Shame-proneness, on the other hand, was positively associated with anger arousal, malevolent intentions and aggression at each age. Chapman et al. (1987) found that school-age children's attributions of guilt to story characters who had caused distress, a proxy for guilt-proneness, were correlated with the children's helping scores on prosocial tasks from kindergarten through grade 6. Positive associations of prosocial behavior with guilt-proneness, and corresponding negative associations with shame-proneness, have also been found in samples of European adolescents aged 11 to 15 (Caprara et al., 2001) and young prisoners aged 14 to 24 (Hosser, Windizio & Greve, 2008), demonstrating that these associations exist across different populations and ages.

## Guilt and Shame in Toddlers

Research on guilt and shame in toddlerhood is sparse, and consequently the characteristics of early guilt- and shame-like responses are unknown. Nevertheless, a few studies suggest that the emotional distinction between guilt and shame may appear early in life. The broken-toy or “mishap” paradigm was introduced by Cole, Barrett & Zahn-Waxler (1992) to identify and distinguish guilt and shame in toddlers and preschool-aged children (Barrett, Zahn-Waxler & Cole, 1993). In this paradigm, the child is led to believe he or she broke an adult's favorite toy, and the child's emotional and behavioral reactions to the transgression are then observed and measured. Shame-prone toddlers averted their gaze from the adult and/or positioned their body to avoid the adult more frequently than guilt-prone toddlers; shame-prone toddlers were also slow to tell the experimenter about the mishap and slow to try to fix the toy. Guilt-prone toddlers tended to engage the experimenter, were quick to tell her about the mishap, and were quick to try to fix the toy (Barrett et al., 1993). Kochanska and colleagues (1995) explored mishap-related responding in 26–41-month-olds using a similar paradigm and found patterns that mirrored those found by Barrett and colleagues; that is, accepting responsibility was related to reparative attempts, and distress was related to avoidance.

Some authors have speculated that guilt and shame may not be distinct emotions in young toddlers (Kochanska et al., 2002), and have operationalized guilt to include both guilt- and shame-relevant behaviors in this age group (e.g., Baker et al., 2012; Kochanska et al., 2002). However, by 30 months of age, the age of the children in the original studies (Barrett et al., 1993; Cole et al., 1992), children possess the social-cognitive prerequisites for experiencing guilt and shame. These include self-awareness (Barrett, 1995; M. Lewis, 1995; Stipek, Gralinski, & Kopp, 1990), understanding rules and standards (Barrett, 1995; Hoffman, 2000; Kagan, 1981; M. Lewis, 1995; Stipek et al., 1990), and understanding of responsibility for

one's actions (Ferguson & Stegge, 1995; Hoffman, 2000; M. Lewis, 1995; Stipek et al., 1990). Self-awareness, self-evaluative comments, and other self-conscious emotions such as pride all emerge by 24 months of age and are well-established by 30 months (Lewis et al., 1989; Stipek, 1995; Stipek et al., 1990). The ability to evaluate one's actions against a standard (Barrett, 2005; Bullock & Lütkenhaus, 1988) and to understand them as right or wrong (Kagan, 1981) emerge beginning at 18 months. A sense of responsibility for the consequences of one's actions also develops over the second year of life. For example, children between 18 and 36 months respond differently (Dunn & Munn, 1986; Zahn-Waxler et al., 1992) and with more prosocial behavior (Demetriou & Hay, 2004) when they are responsible for a peer's or sibling's distress than when they only witness the distress. Thus, by the end of the second year, toddlers possess an array of social-cognitive abilities necessary to experience guilt and shame. However, only one study to our knowledge (Barrett et al., 1993) has explicitly distinguished guilt-relevant from shame-relevant behavior in toddlers. It therefore remains an open question whether guilt- and shame-like emotions can be identified in early development.

### **Guilt and Shame in Relation to Prosocial Behavior in Toddlers**

Given the limited research on the guilt-shame distinction in toddlers, it is no surprise that research is lacking on potential associations between these emotions and prosocial behavior in this age group. The mishap-related reparative and apologetic behaviors reported by Barrett et al. (1993) could perhaps be considered prosocial, although they are not clearly meant to benefit the other, a common criterion in operationalizing prosocial behavior. Other investigators have demonstrated relations between toddlers' emotional responses to a transgression and indirect measures of prosocial behavior. For example, exhibiting a concerned expression during a mishap was negatively associated with externalizing behaviors in 18–38 month-olds (Garner, 2003). Affective discomfort displayed during a mishap at 22 months was positively associated with children's moral self-representations at 56 months and negatively associated with the frequency of observed rule violations (Kochanska et al., 2002). Finally, a recent study found that 3-year-olds exhibited more reparative and confessional behavior after they themselves had accidentally knocked down an adult's block tower than when another adult had done so, suggesting that children may have been motivated by guilt, more so than sympathy, to address another's distress (Vaish et al., in press). This latter result echoes previous findings that toddlers tend to be more prosocial toward someone when they, as opposed to someone else, have caused harm (Demetriou & Hay, 2004). While these findings are suggestive, no research has yet directly examined whether early manifestations of guilt- and shame-like emotions relate to nascent prosociality like they do in older children and adults.

### **The Current Study**

Given the uniqueness and importance of guilt and shame as sociomoral emotions and the limited research on their developmental origins, the first aim of the current study was to confirm that guilt- and shame-relevant behavior are distinguishable in toddlers, and to further examine their characteristics. Specifically, little is known about their behavioral distinctiveness, their consistency over time, or their relations to more stable characteristics of

temperament such as fearfulness. We used the mishap paradigm of Cole et al (1992) and Barrett et al. (1993) with 30-month old children and, following their criteria, measured how often and how quickly children confessed, repaired or tried to repair the toy, and avoided the adult (the victim) following the mishap. Extending the prior research with this age group, we also distinguished between toddlers' behavior when the adult was present vs. absent. This distinction is important as guilt and shame are conceptualized as "sociomoral" emotions, and not just self-conscious or social emotions, expressly because they require a sense of responsibility for harming the victim that is specifically directed toward the victim. We further extended prior research by examining whether shame- and guilt-relevant responses were fleeting or whether they were consistent over the course of the session thereby representing a relatively robust characteristic of children's response tendencies. Finally, previous work suggests that fearfulness, impulsivity, and effortful control dimensions of temperament predict certain mishap-related behaviors (Eisenberg et al., 2007; Kochanska & Aksan, 2006; Kochanska et al., 2002), but temperament has not been examined in relation to guilt- and shame-relevant behavior in toddlers. Accordingly, these dimensions of temperament were included to determine whether guilt- and shame-relevant responses in toddlers can be distinguished over and above temperament.

The second aim of the current study was to determine whether guilt and shame exhibit distinct relations with early prosocial behavior like they do among older children and adults. If so, this would both validate their empirical distinction in this age group, and contribute to our understanding of the emotional correlates of early-emerging prosociality.

We examined prosocial behavior in three types of helping tasks: instrumental, empathic, and altruistic (after Svetlova, Nichols & Brownell, 2010). Each type relies on a different constellation of understanding, competencies, and motivations, and may thus relate differently to guilt and shame. Recent work demonstrating that different prosocial behaviors in toddlers have distinct correlates (Dunfield et al., 2011) and neurocognitive mechanisms (Paulus et al., 2013) emphasizes the importance of such a multi-dimensional approach. Instrumental helping, such as picking up items for someone who has dropped them, relies on perception of goals and goal-directed behaviors, competencies that 30-month-old children have well in hand (Hobbs & Spelke, 2015; Woodward, 1998). Additionally, these kinds of helping interactions are fairly common (Dahl, 2015), parents routinely point and reach for things in their child's presence, and very young children are quite adept at responding to an adult's point or reach (Carpendale & Carpendale, 2010; Liebal, Behne, Carpenter, & Tomasello, 2009). A child's behavior in instrumental helping situations, then, may in part reflect well-practiced behavior and routines. Because of these characteristics, we do not expect instrumental helping to differ between toddlers who show more guilt-versus shame-like behavior.

In contrast, empathic helping, such as bringing a sad friend his favorite toy to cheer him up, is a response to a salient emotion exhibited by the other person and requires greater understanding of the other's mental state and how it can be altered. In these tasks the child must attend to, recognize, and understand the other person's distress, stay focused on the other instead of becoming personally distressed, and be motivated to help the other by addressing the cause of his mental distress (Svetlova et al., 2010). As guilt-prone individuals

are more inclined to focus on and empathize with the other while shame-prone individuals are more inclined to become self-focused, we expect toddlers who exhibit more guilt-relevant behaviors to help more in empathic helping situations than their counterparts who exhibit more shame-like responses. In altruistic helping, children must give up something of their own to alleviate another's distress. This therefore relies on the same competencies as empathic helping, but requires additional emotional and behavioral control and prosocial motivation (Svetlova et al., 2010). Thus, as for empathic helping, we expect toddlers who exhibit more guilt-relevant responses to perform more altruistically than those who exhibit more shame-relevant behavior. It is also possible, however, that the additional demands of altruistic helping at this age may dampen possible differences.

In sum, the first aim of the current study was to distinguish the characteristics of toddlers' guilt- and shame-relevant responses to a transgression that involved harming another. The second aim was to investigate toddlers' shame- and guilt-relevant responding in relation to three types of helping: instrumental, empathic, and altruistic. By measuring guilt- and shame-relevant behavior and prosocial behavior in a laboratory setting over the period when prosocial behavior is first emerging, we expect to provide the first direct examination of relations between rudimentary sociomoral emotions and early-developing prosocial behavior.

## Method

### Participants

Children were healthy and typically developing, from working- and middle-class families recruited from a medium-sized city in the Mid-Atlantic region with a predominantly Caucasian population and its surrounding suburbs. Thirty-two 30-month-old children participated (range = 28–32 months;  $M = 28.94$  months; 14 boys and 18 girls). Seventy-eight percent were Caucasian, 9% African American, 6% Hispanic, 3% Asian, and 3% biracial. Data were collected between June 2012 and December 2013. The sample size is consistent with those of other recent studies exploring similar constructs (e.g., Barrett, 2005; Barrett et al. 1993; Brownell, Svetlova & Nichols, 2009; Over & Carpenter, 2009; Warneken & Tomasello, 2006).

### General Procedure

Procedures took place in a large playroom (3m x 4m) and were video recorded from behind a one-way mirror. The sessions began with a short warm-up in a separate room to familiarize the child with the lab setting and the experimenter (henceforth called "E"). The child, parent, and E then moved to the playroom where E conducted the "mishap" procedure to assess guilt- and shame-relevant behaviors. Six tasks designed to assess prosocial behavior were then administered. Other tasks were also administered as part of a larger study, but are not discussed here.

Parents remained in the room with the child and were given questionnaires to complete while the child engaged in the tasks. These included: standard demographic questions; subscales from the Early Childhood Behavior Questionnaire to assess temperament (Putnam,



Gartstein & Rothbart, 2006; Putnam & Rothbart, 2006; Rothbart, 1981); and the MacArthur Communicative Development Inventory (CDI), a well-validated, widely used measure of early vocabulary development (Fenson et al., 2000).

### Mishap

The mishap procedure introduced by Cole et al. (1992) was adapted for the current study. E presented a novel toy (a stuffed monkey named Mr. Beans) to the child, emphasized verbally and gesturally that it was “special,” labeled it his favorite toy, and showed enthusiastically how it could climb up a wall. E then attached the monkey to the wall by a small Velcro patch on its hand, told the child that she could play with the toy but to be careful, and left the room. The toy was rigged so that its arm and leg fell off when the child began to play with it. E waited to reenter the room until the child stopped playing with the toy for at least 5 seconds or until 3 minutes elapsed, whichever happened first. Following procedures from Cole et al. (1992) and Barrett et al. (1993) with slight timing alterations, E delivered a series of cues in a neutral tone of voice, each followed by 15 seconds during which the child could respond before the next cue was delivered. First, before opening the door, E spoke from outside the door to alert the child to his presence (cue 1) and waited 15 seconds before entering the room. E then opened the door and entered the room (cue 2), and looked at the toy with neutral affect for 15 seconds. He then asked neutrally “What happened to Mr. Beans?” (cue 3) and continued to look at the toy for 15 seconds. E then alternated looking between the toy and the child with mild concern (slightly furrowed brow) and asked “What happened to make his arm fall off?” (cue 4), waiting another 15 seconds. After this, E delivered the final cue, saying “Mr. Beans was my favorite toy” (cue 5) while continuing to look at the toy with mild concern for the final 15 seconds. All children received the full complement of five cues, regardless of their behavior. In the final step, E said cheerfully “Oops, I forgot, Mr. Beans was already broken! I can fix him again.” E then fixed the toy, said “See, he is good as new! Now Mr. Beans is happy, I’m happy, and you can be happy too” and put the toy away. This last step ensured that no child remained distressed about the broken toy. All children were eager to re-engage in the procedures following the mishap and did so cheerfully; no child exhibited any markers of upset or distress.

### Prosocial Tasks

Children were administered 6 tasks designed to measure 3 different types of prosocial behavior: 2 instrumental helping tasks, 2 empathic helping tasks, and 2 altruistic helping tasks. Free play was interspersed among the tasks to avoid carryover effects and the tasks were counterbalanced for order. These tasks have been used effectively to measure helping behavior in children between 18 and 30 months of age (Dunfield et al., 2011; Over & Carpenter, 2009; Svetlova et al., 2010; Warneken & Tomasello, 2006). Instrumental helping tasks are designed to measure children’s helping behavior with respect to goal-directed actions (e.g. picking up dropped items) and do not require a complex understanding of the recipient’s mental state. Empathic helping tasks require the child to read and understand E’s subjective emotional state in order to comprehend his need and assist him in alleviating his distress (e.g. bringing E a blanket when he shivers). As such, empathic helping tasks are significantly more difficult than instrumental helping tasks (Svetlova et al., 2010). Finally, in the altruistic helping tasks, the level of sacrifice is considerably higher as the child needs to

give the recipient something of the child's (brought from home); indeed, even 30-month old children have more trouble with this type of helping than with less sacrificial empathic helping (Svetlova et al., 2010). The tasks are described in Table 1.

For each task, after the relevant event occurred (e.g. dropping items on the floor; beginning to shiver), E delivered six cues about his need that communicated progressively more information to the child about the distress and how the child could alleviate it. For example, the first cue, E saying "oops" or beginning to shiver, communicated the least amount of information and was delivered immediately; the next cue, E saying "I dropped my stick" or "I'm cold" included a more explicit description of the problem or distress. The cue sequence culminated in a direct request for the target object (e.g. "Can you help me get the blanket?"). The child was given 6–7 seconds after each cue to help. Cues were stopped and the task ended after a child helped or after the final cue was given and E retrieved the target object. Specific cues are described in Table 1.

## Measures

Children's responses to the mishap procedure provided the measures of guilt- and shame-relevant behavior, and their responses to the helping tasks provided three different measures of prosocial behavior. Control measures (temperament; language) were derived from parent report on the questionnaires.

**Guilt and Shame Behavior**—Video records of children's responses to the mishap, both while E was still out of the room and after E had returned to the room, were scored for latency and frequency of the following discrete behaviors: attempting to repair the toy; telling about or showing the experimenter or mother the broken toy ('confessing'); averting gaze; and showing bodily avoidance of the experimenter (e.g. turning one's back toward E). This scheme was adapted from Barrett et al. (1993), and codes are defined in Table 2. Behaviors were not mutually exclusive; that is, participants could exhibit multiple behaviors at one time (e.g., confessing while averting gaze). As averting gaze from the experimenter required the experimenter to be present, gaze aversions were not coded while the experimenter was out of the room. In one case, a toddler invoked the experimenter's presence while he was out of the room and hid from him (i.e. "I'm hiding from [E]") and this was coded as an instance of bodily avoidance even though E was not physically in the room. This was the only such instance. All mishap behaviors were coded by the first author and assistants blind to the hypotheses. Reliability was established on 22% of the records using intraclass correlations, which ranged from .80 (bodily avoidance) to .93 (telling).

**Prosocial Behavior**—Video records of the prosocial tasks were scored as 0–6 on each task based on the cue at which helping occurred, with higher scores indicating faster and more skilled helping with less communicative support; that is, a child who helped on cue 1 would get a score of 6, a child who helped on cue 2 would get a score of 5, and so on, with a score of 0 assigned if the child didn't help at all. Scores for each type of helping were averaged across the 2 tasks, yielding a score for each child on *Instrumental helping* (0–6), *Empathic helping* (0–6) and *Altruistic helping* (0–6). Prosocial behavior was coded from video records by the first author and an assistant blind to hypotheses. Interrater reliability



calculated on 19% of the video records was excellent ( $Kappa=.97$ ). A dichotomous score of whether or not the child helped on each task was also derived.

**Child Temperament**—Parents completed three subscales of the Early Childhood Behavior Questionnaire (ECBQ), a parent-report measure of child temperament modified by Putnam et al. (2006) and based on the work of Rothbart (1981). Each item was rated on a 1–7 scale (1 = never; 7 = always) and scores across items within each subscale were averaged, yielding three scores for each child each ranging from 1–7: *Fearfulness* (11 items;  $\alpha = .786$ ), *Impulsivity* (10 items;  $\alpha = .458$ ), and *Effortful Control* (12 items;  $\alpha = .653$ ). The alphas in the current sample for *Fearfulness* and *Effortful Control* are similar to those reported by Putnam & Rothbart (2006). The alpha for *Impulsivity* is considered less than sufficient and lower than that reported by Putnam & Rothbart (2006), however the score was retained for analyses given its historical reliability and validity.

**Language Comprehension**—Parents completed the MacArthur CDI short form (Fenson et al., 2000). Parents reported whether their child understands (scored as 1), or understands and says (scored as 2) 89 words. Children’s score for language comprehension was the sum of the scores for all 89 words.

## Results

Preliminary analyses revealed that mishap-related behaviors and prosocial behaviors did not differ by gender and were generally unrelated to parent-report measures of effortful control, fearfulness, impulsivity, and language comprehension (CDI), so these measures were not included as covariates in the following analyses.

Substantive analyses were conducted as follows. We first determined whether guilt- and shame-relevant behavior could be distinguished. Following Barrett et al. (1993), two groups were created based on the number of total avoidant behaviors (see below). Then, to determine whether shame- and guilt-relevant behaviors exhibited distinct patterns, the frequencies and latencies of guilt-relevant behaviors (e.g., repairing, confessing), both before and after E returned to the room, and latencies of shame-relevant behaviors after E returned to the room (e.g., bodily avoidance) were examined as a function of avoidance group using single-factor and repeated-measures ANOVAs. Because avoiding and repairing or confessing are not inherently mutually exclusive (e.g., a child could, in principle, turn her back on E while trying to repair the toy, or could avert gaze while confessing), there is no necessary trade-off between avoidance, a shame-relevant behavior, and these guilt-relevant behaviors. Accordingly, we were not concerned that the presence of one behavior would preclude the presence of others, and create a procedural explanation for any group differences. We also tested, using planned contrasts, whether group differences would be most evident immediately after E returned to the room relative to the rest of the session. We then tested the patterns of behavior over the course of the session to determine when in the episode toddlers differed by group in guilt- and shame-relevant behavior and the consistency of group differences over time. Finally, using single-factor ANOVAs to test our a priori hypotheses about differences in guilt- vs. shame-relevant behavior in relation to some types

of helping but not others, we compared groups on instrumental, empathic, and altruistic helping.

### **Guilt- and Shame-relevant behavior**

Toddlers' behavior after the mishap, both while E was out of the room and after E had returned to the room, was analyzed for guilt- and shame-relevant behaviors. Following Barrett et al. (1993), frequencies of gaze aversions and bodily avoidances were summed to create a total avoidance score for each child; high- and low-avoidance groups were then created based on a median split on the total avoidance score (median = 4 avoidant behaviors). The low avoidance group (n=15; 9 females) and high avoidance group (n=17, 9 females) were compared on the remaining mishap-related behaviors to determine whether guilt- and shame-relevant response styles could be distinguished. The groups did not differ as a function of gender (Chi-square = .161, *ns*), so all analyses collapsed across gender. As noted by Barrett et al. (1993), toddlers likely experience both guilt and shame simultaneously when they commit a transgression; utilizing a median split allows toddlers in both groups to experience some amount of both guilt and shame.

A single-factor multivariate ANOVA, with avoidance group as the factor (high vs. low avoidance), revealed no group differences in the latencies or frequencies of bodily avoidance, confessing, or repairing while the child was in the room alone with the mother before E entered ( $p > .10$ ). Chi-square analyses reveal that, during this period, groups also did not differ in the proportion of children who told their mother about the mishap, attempted to repair the toy or both told their mother about the mishap and attempted to repair the toy (all  $p$ 's  $> .10$ ). Thus, toddlers' responses to having broken E's toy did not differ between the groups while E was out of the room.

In contrast, after E's return, a parallel single-factor multivariate ANOVA revealed that toddlers in the high avoidance group averted gaze and exhibited bodily avoidance significantly more quickly than did toddlers in the low avoidance group, while toddlers in the low avoidance group attempted to repair the toy significantly more frequently, and more quickly, and told E about the mishap marginally more quickly than did their high avoidance counterparts, multivariate  $F(4,27) = 5.095, p < .01$  (see Table 3 for descriptive and significance statistics for each behavior). Chi-square analyses revealed that significantly higher percentages of toddlers in the low avoidance group than in the high avoidance group told E about the mishap (80% vs. 41%,  $p < .05$ ), tried to repair the toy (80% vs. 24%,  $p < .01$ ) and both attempted to repair and told E about the mishap (60% vs. 12%,  $p < .01$ ). Thus, importantly, toddlers' emotional responses to the mishap were specific to E's presence in the room.

Furthermore, children demonstrated two distinct patterns of responding, consistent with the conceptual distinctions between guilt and shame. Low-avoidant toddlers not only seldom avoided E, they also more often confessed their misdeed and tried to repair the toy. High-avoidant toddlers not only avoided E more often, but also did so more quickly and seldom confessed or attempted to repair the damage. As these patterns are consistent with conceptualizations of guilt and shame and largely replicate the findings of Barrett et al.

(1993), we adopt their rubric, designating the low avoidance group *Guilt-Prone* and the high avoidance group *Shame-Prone*.

As noted by previous authors (Barrett et al., 1993), no methodology can provide conclusive evidence of which feelings toddlers are experiencing. In particular, it is not clear whether behavioral indicators of guilt and shame in toddlers reflect self- vs. action-evaluation processes as they do in older children, or whether they reflect simpler, but distinct, strategies for avoiding anticipated negative consequences upon committing a transgression. We will return to this issue in discussing the results.

To examine the timing, consistency and robustness of group differences in toddlers' behavioral responses to the mishap, we analyzed behavior over the course of the session. The episode was broken into segments delineated by the cues E delivered (i.e., talking outside the door, opening the door and entering the room, asking "what happened to Mr. Beans," etc.). We expected that the period immediately following E's reentry to the room (cue 2) would be the most affectively-charged of the episode, as it was the child's face-to-face reunion with the victim of her accidental transgression, and that differences between the shame- and guilt-prone groups would be the most pronounced in this period (see Table 3 for descriptive and significance statistics; see Figure 1 for cue by cue frequencies of each behavior). Four repeated-measure ANOVAs, one each for frequencies of gaze aversions, bodily avoidances, confessing, and repairing, were run with group (shame-prone vs. guilt-prone) as the between-subjects factor and cue as the within-subjects factor. As above, the ANOVAs yielded significant main effects of group for gaze aversions, bodily avoidances and repairing. Additionally, main effects of cue were significant for frequency of gaze aversions, confessing, and repairing. Planned comparisons were conducted to test whether toddlers' behavior immediately upon E's reentry (cue 2) differed from their behavior after the later 3 cues combined. Analyses revealed significant cue differences for gaze aversion,  $F(1,30)=5.874, p<.05$ , and confessing,  $F(1,30)=5.791, p<.05$ , but not for repairing,  $F(1,30)=.438, ns$ , or bodily avoidances,  $F(1,30)=.007, ns$ . Children averted gaze and confessed more frequently after cue 2 (but before cue 3) than after all later cues combined.

Finally, we conducted a series of ANOVAs for each cue with group (shame- vs. guilt-prone) as the factor. After E's reentry to the room (cue 2) and after E's first question ("What happened to Mr. Beans?") (cue 3), shame-prone toddlers averted their gaze significantly more frequently than did guilt-prone toddlers and they did so marginally more frequently after E asked "What happened to Mr. Beans" (cue 4) and "What happened to make his arm come off?" (cue 5) (Figure 1(a)). Shame-prone toddlers also exhibited bodily avoidances significantly more frequently than did guilt-prone toddlers after E reentered the room (cue 2) and after cue 4, and marginally more frequently after cue 3 (Figure 1(b)). Attempting to repair the toy followed a similar pattern, but with the groups reversed (Figure 1(c)). Toddlers in the guilt-prone group attempted to repair the toy significantly more frequently than did toddlers in the shame-prone group immediately upon E's arrival and after cue 4, and did so marginally more after cue 5. No significant differences emerged for toddlers' confessing the mishap (Figure 1(d)).

In sum, the behavior of toddlers in the shame-prone group was marked by frequent avoidant behaviors and infrequent reparative and confessional behavior; conversely, the behavior of the toddlers in the guilt-prone group was marked by frequent reparative and confessional behavior and infrequent avoidant behavior. These patterns emerged immediately upon E's return to the room (but not before) and persisted over the course of the episode.

### Helping Behavior

We hypothesized that guilt- and shame-prone toddlers would differ for empathic and altruistic helping but not for instrumental helping. To address this hypothesis, a single-factor ANOVA with guilt- vs. shame-prone group as the factor was conducted on each of the three helping scores (instrumental, empathic and altruistic). Guilt-prone children helped significantly more quickly than shame-prone children on the empathic helping tasks,  $F(1,30) = 5.842, p < .05$ , but not instrumental,  $F(1,30) = .804, ns$ , or altruistic helping tasks,  $F(1,28) = .383, ns$  (see Figure 2). In terms of how often children helped, Pearson chi-square tests revealed that a significantly higher proportion of children in the guilt-prone group (87%) than the shame-prone group (47%) helped on both empathic helping tasks,  $\chi^2 = 5.542, p < .05$ ; proportions of toddlers who helped on both of the instrumental or altruistic helping tasks did not differ between guilt- vs. shame-prone groups (see Figure 3). Thus, as hypothesized, guilt-prone toddlers helped more often and more quickly on the empathic helping tasks than did shame-prone toddlers.

### Discussion

The goals of the current study were twofold. The first was to distinguish and further characterize early features of the sociomoral emotions of guilt and shame in toddlers. Like the original and only other study to explicitly discriminate the two emotions in children this young (Barrett et al., 1993), we found that two-year-old children can be distinguished based on their guilt- and shame-like behavior toward an adult whose toy they have just broken. Importantly, the patterns in their transgression-related behavior align with the conceptual and empirical distinctions between these emotions evident in older children and adults (H. Lewis, 1971; Tangney & Dearing, 2002). This evidence suggests that guilt and shame, in some rudimentary form, begin to appear in toddlerhood.

The second goal was to determine whether these early forms of guilt- and shame-relevant behavior relate to prosocial behavior like they do in older children and adults. Insofar as guilt-prone individuals tend to focus on the other's emotions and want to repair them, whereas shame-prone individuals tend to be focused on their own emotions and want to avoid negative consequences, we predicted that guilt-prone toddlers would be more helpful than shame-prone toddlers. This prediction was confirmed: toddlers who exhibited more guilt-relevant behavior were significantly more prosocial on empathic helping tasks that call on emotion understanding and empathy than those who exhibited more shame-relevant behavior. They were not more helpful on instrumental helping tasks that are a function of action and goal understanding only, nor when prosocial behavior demanded a personal sacrifice. This is the first study to provide evidence that the precursors of sociomoral emotions in toddlers motivate early prosocial behavior.

## Distinguishing Guilt and Shame in Toddlers

Our results replicated and extended the findings of Barrett et al. (1993) that harming another produces coherent, discriminable action patterns in children as young as 30 months of age that are consistent with the emotions of guilt and shame. In response to having broken an adult's favorite toy, two response patterns emerged. The first was characterized by rapidly initiated and high levels of gaze- and bodily-avoidance of the victim of the child's transgression. The second was characterized by low levels of avoidance as well as frequent confessions of the transgression to the victim and attempts to repair the damage. These behavior patterns closely approximate the action tendencies in adults' shame and guilt, respectively, as outlined by a number of theorists and confirmed empirically (Haidt, 2003; Hoffman, 2000; H. Lewis, 1971; Mascolo & Fischer, 2007; Tangney & Dearing, 2002), namely that shame is characterized by avoidance and guilt by reparation and confession.

Importantly, children's behavior did not differ when they were alone with their parent before the victim returned to the room. This suggests, albeit speculatively, that already at 30 months of age toddlers may be sensitive to the sociomoral implications of their actions. That is, they may not experience guilt or shame simply when they do something "naughty" or "bad," but rather when they wrong *another person*. Thus, even in toddlerhood, these precursors of guilt and shame may be considered sociomoral emotions, not just self-conscious emotions. Furthermore, the pattern of differences was not fleeting, but persisted over the course of the session, demonstrating that these response styles are consistent and robust. Also important is that the adult who was wronged did not display distress or displeasure; thus, children were not simply responding to overt emotion signals of the victim. Rather, guilt- and shame-like responses in two-year-olds appear to reflect the recognition that one is responsible for the well-being or harm of another person. Finally, we found that several relevant dimensions of temperament (fearfulness, impulsivity, and effortful control) were not systematically related to children's transgression-related responses, suggesting that early guilt- and shame-relevant behavior is not based on temperament differences alone. Hence, by 30 months of age, it appears that something like guilt and shame are manifest in children's behavior following their having harmed another, with distinct action patterns that mirror those found in adults and older children.

It is important to note that these very young children are likely exhibiting precursors to, or rudimentary forms of, sociomoral emotions rather than the complex, advanced, and nuanced forms of guilt and shame that characterize the responses of older children and adults (Hoffman, 2000). Shame and guilt "do not emerge fully formed at a single point in ontogenesis" but rather follow interrelated trajectories that vary based on environmental input (Mascolo & Fisher, 2007, p. 92). Additionally, while guilt and shame may represent distinct affective experiences, individuals can experience both simultaneously to different degrees. The groups identified in this study likely represent points along a continuum of guilt and shame responding, with those in the guilt-relevant group experiencing and exhibiting more guilt- than shame-relevant affect (but not necessarily an absence of shame), and vice versa. Moreover, the patterns of behavior we observed may not stem from internal self-evaluation processes, but could instead represent behavioral strategies to avoid punishment or other negative consequences associated with transgressions (e.g., Ostojic,

Tkalcic, & Clayton, 2015). Indeed, development of sociomoral emotions may be bootstrapped by earlier behavioral tendencies in response to transgressions and/or harming others (thanks to an anonymous reviewer for this point). Nevertheless, the consistency of the behavior patterns exhibited in the current study, the similarity to those exhibited by older children and adults in analogous scenarios, the relevance of larger conceptualizations of guilt and shame, and the distinct associations with prosocial responding suggest that we are at least observing incipient, emergent forms of guilt and shame specific to guilt- and/or shame-inducing events such as harming another.

Additional research is needed to examine the developmental emergence and course of these early guilt- and shame-like responses, what situational factors generate and modify them, how they relate to other aspects of social and emotional behavior both concurrently and longitudinally, and what role socialization plays in their development.

### **Guilt and Shame in Relation to Prosocial Behavior**

As hypothesized, guilt-prone toddlers helped significantly more quickly than shame-prone toddlers when an adult exhibited emotional distress in a new situation and the child could alleviate the distress. These findings represent the first empirical evidence, to our knowledge, that early guilt- and shame-like emotions may differentially motivate prosocial behavior in toddlerhood. Further, they lend support to the assertion that these rudimentary precursors of guilt and shame are distinct in toddlerhood and serve functions similar to their more advanced counterparts in older children and adults, with early guilt as a motivator of other-oriented prosocial behavior and early shame as an inhibitor of such behavior.

Differences between guilt- and shame-prone children emerged only for empathic helping, and not for instrumental or altruistic helping, consistent with our hypotheses based on the differences among these types of helping. Instrumental helping is explicitly goal-oriented and the other's emotional state is neither overtly distressed nor otherwise as salient as in empathic helping tasks. Empathic helping, on the other hand, involves overt emotional communication by the other of a distressing internal state (e.g., sadness), which commands both attention to the emotional state and an effort to understand it in order to intervene effectively. As reviewed previously, guilt-prone individuals are more inclined to focus on and empathize with the other while shame-prone individuals are more inclined to become self-focused. A similar difference in orientation to others' emotions, whether witnessed or inferred, may underlie toddlers' responses in the empathic helping tasks. Because guilt is reparative by nature, guilt-prone toddlers may be more inclined to "repair" another's distress. Indeed, recent work has shown that preschool children's helping is related to the degree to which they exhibit self-versus other-oriented allocation of resources (Kenward et al., 2015). These differences in self-versus other-orientation may emerge earlier in development than previously thought and play an important role in the emergence of both guilt/shame and prosocial responding.

The fact that guilt- and shame-prone toddlers did not behave differently during the instrumental helping tasks shows that neither sociability nor regulation is a distinguishing component of guilt- versus shame-relevant responding in toddlers. Finally, altruistic helping, which was identical to empathic helping except that it required a personal sacrifice, is



significantly more difficult for toddlers than is empathic helping (Svetlova et al., 2010). We suspect that the motivational challenge of the altruistic tasks dampened responses in both groups, leading to directionally appropriate but statistically non-significant differences. Thus, the function of early guilt- and shame-like emotions as motivators of prosocial behavior varies according to situational constraints and the type of prosocial intervention needed.

An important limitation of the current design is that guilt and shame were not experimentally manipulated. Previous experimental work with adults has relied on verbal priming of guilt or shame (e.g., de Hooge, Breugelmans & Zeelenberg, 2008; de Hooge et al., 2011; de Hooge, Zeelenberg & Breugelmans, 2007; Ketelaar & Au, 2003; Niedenthal, Tangney & Gavanski, 1994), which is not possible with toddlers. Consequently, the associations between guilt- and shame-like emotions and prosocial behavior in the current study are correlational in nature and causality cannot be assumed. Additionally, as guilt- and shame-relevant behavior were measured in a task separate from prosocial behavior, we cannot be certain that guilt directly motivated empathic helping. However, findings with adults are consistent across experimental and correlational paradigms, supporting a similar inference in the current study.

Much future work is needed to further elucidate the role of early forms of guilt and shame in prosocial development. For example, the current study was limited by a small and homogeneous sample and needs to be replicated in more heterogeneous samples. Furthermore, it will be important to examine whether early guilt and shame differentially motivate prosocial behavior toward others whom children have not previously harmed. Although the current findings suggest that early guilt-like emotions motivate prosocial behavior beyond the immediate context of the transgression, the recipient of the prosocial behavior was the person the child had previously harmed. It is possible that the guilt-prone children had a lingering desire to demonstrate contrition or reparation, suggesting that multiple motivations may be involved and are worth exploring. It is also possible that children who are more prone to repair or confess following a transgression, rather than avoid, are more cognitively advanced, hence more likely to help in the more challenging empathic helping task. Alternatively, they may be more securely attached, with similar consequences. The cognitive, affiliative, and motivational correlates of early sociomoral emotions and prosocial behavior are thus also worth pursuing.

In conclusion, the results from the current study show that guilt- and shame-relevant emotions are associated with empathic helping in toddlers, consistent with their roles as motivators and inhibitors, respectively, of prosocial behavior in older children and adults. This affective foundation may set the stage for, or perhaps even drive the development of more complex aspects of both prosocial and moral behavior.

## Acknowledgments

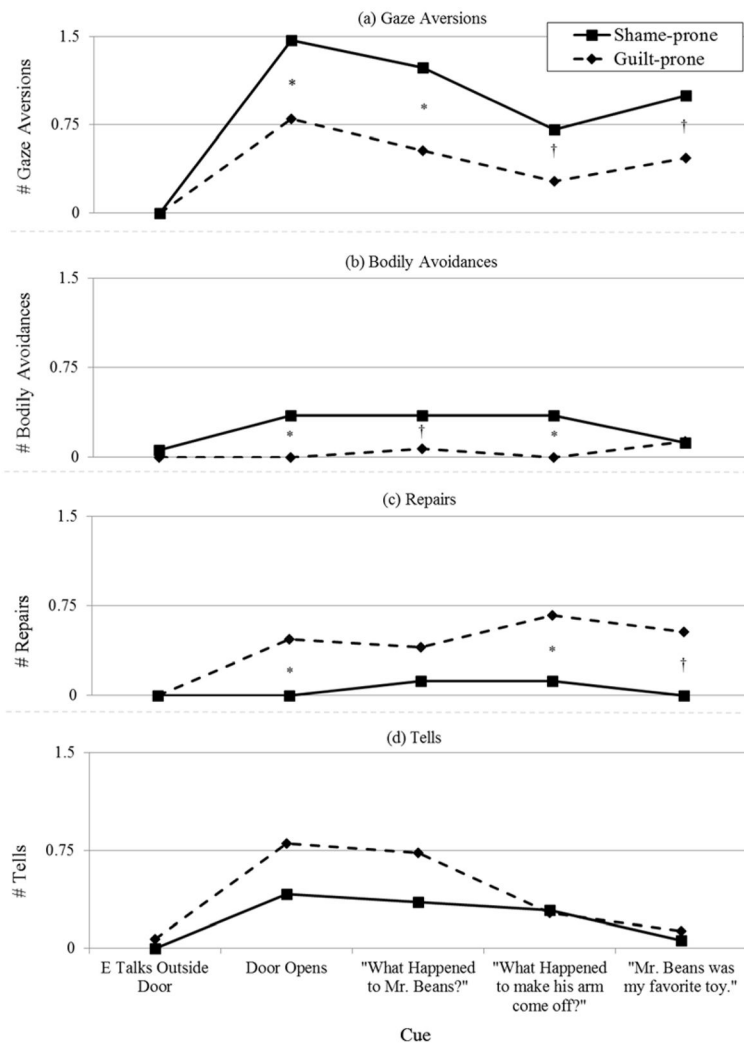
This research was supported in part by a grant from the National Institute of Child Health and Human Development, HD064972, to the last author. Portions of this research were presented at the International Congress for Infant Studies and meetings of the Society for Research in Child Development and Jean Piaget Society. We thank all the children and parents who volunteered their time to participate in this study, and the undergraduate research assistants for their help with recruitment, data collection, and coding.

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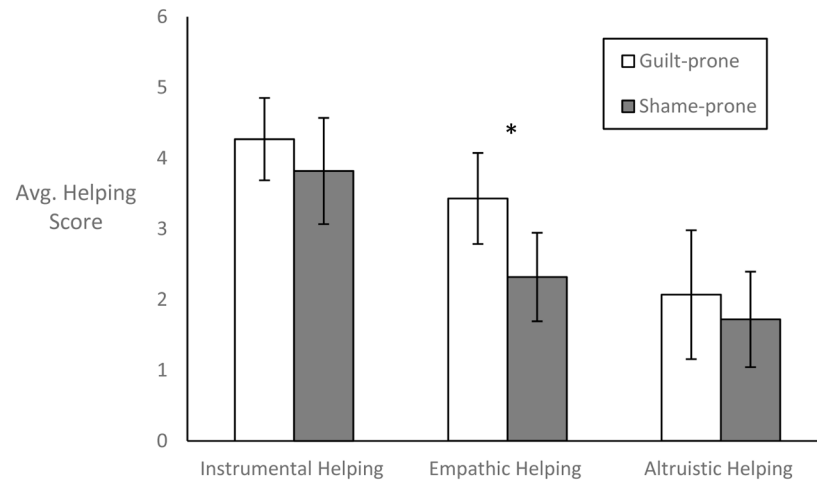
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**Figure 1.**  
 Mishap behavior (frequencies) by cue and avoidance group  
 †p < .10; \* p < .05



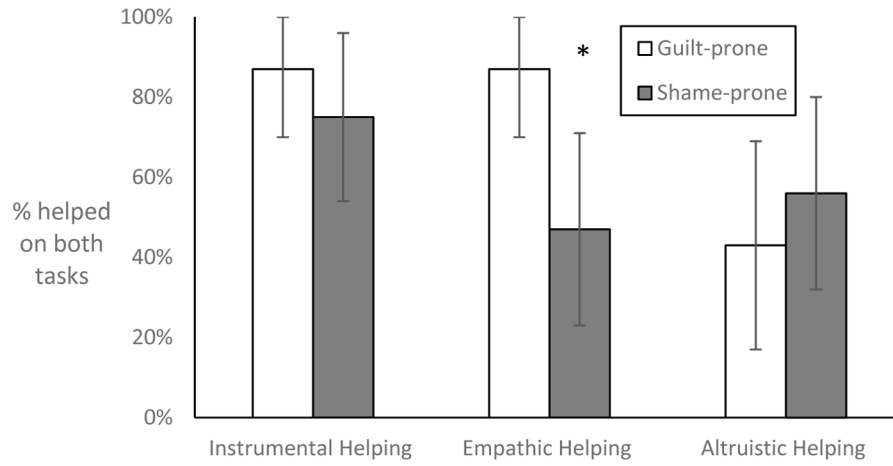
**Figure 2.**

Helping score by avoidance group and helping task type

Note: Height of bars represent the average helping score. Error bars represent 95% confidence intervals.

\*  $p < .05$





**Figure 3.**

Helping percentage by avoidance group and helping task type

Note: Height of bars represent the percentage of children who helped on both trials of each helping type. Error bars represent 95% confidence intervals.

\*  $p < .05$

**Table 1**

## Description of Prosocial Tasks and Corresponding Cue Sequence

Task	Description	Cues
<b>Instrumental Helping Tasks</b>		
Sticks Task	E “accidentally” drops six (6) wooden dowels onto the floor in front of the child. Target Action: hand E the dowels	1 E sighs loudly, says “oops.” 2 E says “my sticks/papers, they’ve fallen to the floor.”
Paper Task	E opens a shoulder high cabinet and several papers fall out onto the floor in front of the child. Target Action: pick up the papers.	3 E looks at child, says “my sticks/papers, I need them back.” 4 E reaches for the sticks/papers, palm down, and says “Oh, my sticks/papers.” 5 E reaches for the sticks/papers, palm up, and asks “[child’s name], can you help me?” 6 E reaches for the sticks/papers, palm up, and asks “[child’s name], can you help me get my sticks/papers please?”
<b>Empathic Helping Tasks</b>		
Cold Task	During warm-up play, E feigns being cold and shows the child that putting on his blanket makes him feel warm. During the prosocial event, E’s blanket is placed on a table. E sits across the room, and pretends to be cold. Target Action: bring E the blanket.	1 E shivers loudly (“brrrr”). 2 E says “I’m cold.” 3 E looks at child and says “I need something so I can feel warm.” 4 E reaches for the blanket, palm down, and says “Oh, a blanket.” 5 E reaches for the blanket, palm up, and asks “[child’s name], please will you help?” 6 E reaches for the blanket, palm up, and asks “[child’s name], please will you help me get my blanket?”
Sad Task	During warm-up play, E feigns being sad and shows the child that his favorite toy (chosen to be similar to the child’s own toy brought from home) makes him happy. During the prosocial event, E’s toy is placed on a table near the child. E receives a phone call while across the room that makes him visibly sad. Target Action: bring E the toy.	1 E sighs and sobs loudly. 2 E says “I’m sad.” 3 E looks at child and says “I need something so I can feel happy.” 4 E reaches for the toy, palm down, and says “Oh, a toy.” 5 E reaches for the toy, palm up, and asks “[child’s name], please will you help?” 6 E reaches for the toy, palm up, and asks “[child’s name], please will you help me get my toy?”
<b>Altruistic Helping Tasks</b>		
Cold Task	The child’s blanket, brought from home, is placed on a table. E sits across the room and pretends to be cold. Target Action: bring E the blanket.	Same as cues for Empathic Helping Tasks (above)
Sad Task	The child’s favorite/special toy is brought from home and placed on a table near the child. E receives a phone call while across the room and becomes visibly sad. Target Action: bring E the toy.	

**Table 2**

## Guilt- and Shame-relevant Behavioral Codes

<b>Behavior</b>	<b>Coding Description</b>
Shame-relevant behaviors	
Gaze aversions from E	Upon E's return, looks at E's face then looks away toward no meaningful object (e.g., the floor, ceiling, or furniture)
Bodily avoidance of E	Upon E's return, backs up while looking at E or moves away from E toward no meaningful object or person after focusing on E. Withdrawal to parent also counted as avoiding E.
Guilt-relevant behaviors	
Telling E/Parent about the mishap	Shows E/parent the monkey's broken leg, brings the broken toy and/or leg to E/parent, and/or verbalizes that the toy broken
Repairing the toy	The child tries to fix the monkey's leg or asks parent or E to fix the toy

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**Table 3**  
Descriptive and Inferential Statistics for Mishap Behaviors After E's Return, by Avoidance Group

(n=32)	Low avoidance(n=15)	High avoidance(n=17)	Group Difference(F)	Cue Difference(F)	Cue x Group(F)
Gaze Aversion					
Frequency	2.07 (1.03)	4.41 (1.77)	20.21 ***	3.98 *	.20
Latency (seconds)	21.50 (20.37)	9.72 (6.85)	5.06 *	-	-
Bodily Avoidance					
Frequency	.20 (.56)	1.24 (1.44)	6.84 *	1.23	1.85
Latency (seconds)	55.94 (12.10)	40.27 (25.69)	4.65 *	-	-
Telling					
Frequency	1.93 (1.94)	1.12 (1.73)	1.83	5.63 ***	.80
Latency (seconds)	20.75 (18.15)	37.64 (28.78)	3.82 †	-	-
Repairing					
Frequency	2.07 (2.09)	.24 (.44)	12.53 **	2.50 *	1.63
Latency (seconds)	30.61 (17.82)	51.24 (14.73)	12.86 **	-	-
			$\chi^2$		
% Telling	80%	41%	4.98 *	-	-
% Repairing	80%	24%	10.17 **	-	-
% Telling AND Repairing	60%	12%	8.22 **	-	-

† p < .1;

\* p < .05;

\*\* p < .01;

\*\*\* p < .001

Note: frequencies of gaze aversion and bodily avoidance were used in creating the groups, and accordingly are necessarily different between the groups.