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The Socialization of Apology

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SOCIALIZATION OF APOLOGY

Abstract

A sincere apology requires the understanding and use of various socio-emotional skills that convey complex deliberation. There is reason to believe that children, with limited theory of mind, cannot demonstrate understanding of a victim’s perspective, and thus lack the capacity to apologize empathically. Despite having not yet developed the appropriate mental framework from which to grasp the meaning, young children are often expected to apologize for their misdeeds. Therefore, the manner in which children learn about and execute apologies warrants empirical investigation. The primary goal of this research was to examine how apologies are socialized and what preschool-age children understand about their use. Specifically, I investigated whether apologetic behavior is empathic, purportedly essential for successful social reparation, or performative, a conditioned response to contextual stimuli. Preschool-aged children were asked to help complete a story in which characters were depicted in various transgression scenarios. Parents completed a survey with questions about their parenting strategies. Contrary to my predictions, there was no relationship between parent-directed apologies and children’s apology-reasoning or the likelihood that children would spontaneously suggest that an apology be given. Data from child interviews and parent questionnaires revealed that, (a) parents’ apology-intervention proclivities significantly varied across transgression types, (b) preschoolers were significantly less likely to spontaneously suggest apologies than to do so after prompting, (c) preschoolers gave significantly more performative reasons for warranting an apology than any other reason, and (d) preschoolers’ theory of mind was not significantly related to their suggested use of apology. These findings indicate that it is not young children’s limited theory of mind that is associated with unempathic apology use but, rather, the performative socialization of “sorry.”

Key words: apology, emotion, theory of mind, socialization, empathy, intervention
The Socialization of Apology

Our need for social inclusion motivates various strategies for generating and maintaining relationships. These strategies include reparative techniques such as apology (Whited, Wheat, & Larkin, 2010). Apology is defined as a collective acknowledgment of misconduct and expression of guilt and regret (Leunissen, De Cramer, & Reinders Folmer, 2012; Leunissen, De Cremer, Reinders Folmer, & Van Dijke, 2013). By apologizing, an apologizer demonstrates that he or she understands the perspective of the sufferer in addition to the related social implications of the harm caused (Schleien, Ross, & Ross, 2010), and implicitly (and perhaps explicitly) promises against transgression reoccurrence (Leunissen et al., 2012; Leunissen et al., 2013). This process generally serves to initiate reparation of the social relationship. Conflict resolution tactics, such as apologies, are essential socio-moral actions that affirm shared values, show acceptance of responsibility, and communicate intention to repair a relationship (Schleien et al., 2010; Walfisch, Van Dijk, & Kark, 2013).

The power of apology lies in its facilitation of forgiveness. This can be beneficial to both the offended and the offender. As testimony to apology’s potent impact, post-conflict affiliation has been found not only in humans, but in more than twenty other primate species following comparative apology rites (Ljungberg, Horowitz, Jansson, Westlund, & Clarke, 2005). Forgiveness, described as releasing negative affect, cognition, and behavior in response to injustice (Gold & Davis, 2005), is associated with decreased anger, lower angst, less desire for revenge, and overall greater wellbeing for those involved in the conflict (Walfisch et al., 2013). Within appropriate contexts, apology induces empathy in victims (Exline, Deshea, & Holeman, 2007; Howell, Turowski, & Buro, 2012), who consequently attribute diminished blame (Darby &
Schlenker, 1982), assign less severe punishment (Darby & Schlenker, 1982; Walfisch et al., 2013), and increase future cooperation (Leunissen et al., 2012) with their transgressors. In return, apologetic wrongdoers profit from restored trustworthiness, reduced likelihood of revenge against them, and avoidance of social exclusion (Darby & Schlenker, 1982; Leunissen et al., 2012; Walfisch et al., 2013). These social incentives are especially beneficial for preschoolers who, in a crucial time of development, are realizing and implementing cooperative strategies they are likely to use throughout their lifetime.

Implementing a sincere apology requires the use of several socio-emotional skills and reparative strategies that are cultivated over time. Hinnant and O’Brien (2007) describe empathy as feeling with someone. This capacity to identify and vicariously experience an appropriate emotional state for a given context is linked to assisting, comforting, sharing, social understanding, self-esteem, and positive relationships (Adams, Summers, & Christopherson, 1993). Researchers have posited that humans are biologically prepared, and our brains hard-wired, for empathy, evidenced by the contagious crying of newborns (Robinson, Zahn-Waxler, & Emde, 1994). Subsequent to these primitive affective aspects, learned cognitive features emerge (Dadds, et al., 2009). As they accumulate knowledge of society through formal education and social experiences, children not only to learn about, but also practice empathy in their relationships.

Saarni (1999) proposes eight specific skills as precursors for emotional competence, which is a key component of empathy, four of which are related to children of the ages addressed in the current study. First, awareness of one’s own emotion is a skill that not only requires recognition of feelings, but acknowledgment of their connotation. Research suggests that children first develop an awareness of their own emotions during toddlerhood, between 12 and
28 months of age (Saarni, 1999). It is at preschool age (2.5–5 years old) that children begin to communicate about emotions and causal circumstances, thus increasing awareness and understanding. Children without a fully developed awareness of their emotions will likely have difficulty responding adaptively in social interactions. At preschool age, transgressing children may be equipped with effective strategies for contrition (i.e., they may know apology is required after harming another), but they may lack awareness of the feelings (e.g., guilt) that should cue their implementation.

Second, the ability to discern and understand others’ emotions is accomplished by way of social referencing, which is defined as looking to another for cues to verify an appropriate emotional response to unclear situations. Mastery of social referencing requires that children be able to identify facial expressions, understand emotion-eliciting situations, and comprehend the individuality of others’ experiences, intentions, and beliefs (Saarni, 1999). This proficiency is gained over time and honed through the establishment of theory of mind (ToM). ToM, the ability to attribute unobservable mental states to ourselves and others, develops rapidly during the preschool years with marked progress between the age of three (when most children fail standard ToM tasks), and five (when the majority accurately complete such tasks) (Wellman, Cross, & Watson, 2001). ToM requires the ability to distinguish between people’s beliefs and reality. In addition, it necessitates the understanding that people can have thoughts, beliefs, desires, and intentions that are different from one’s own (Wellman, 1990). Because we know that young children have difficulty understanding the internal mental states of others, there is reason to believe that they have difficulty interpreting and understanding others’ feelings and emotional states. In the context of apology, which should reflect understanding of the victim’s perspective, children with limited ToM are unlikely to have the ability to empathically apologize.

Third, the ability to use the vocabulary of emotion and expression is also essential for
achieving emotional competence. Enhanced lexical aptitude facilitates comprehension and communicates implications to others (Saarni, 1999). Socially popular children (ages 3 to 6) demonstrate greater emotion-knowledge than their less popular peers; they are able to more accurately identify facial expressions, clearly describe eliciting circumstances, and correctly connect their emotional experience with expressive display (Saarni, 1999). The groundwork for this combined status and proficiency is laid in the home and fostered by warm, engaged parents who directly and indirectly interact with their children and provide inductive discipline (Adams, Summers, & Christopherson, 1993; Braza et al., 2009; Saarni, 1999). For example, children with a healthy and trusting relationship with their mothers at 12-18 months have been shown to respond more empathetically to their peers in preschool (Lyubchik & Schlosser, 2010).

Finally, the capacity for empathic involvement is vital for instituting and preserving gratifying relationships. Empathy and associated prosocial emotions (agreeableness, appropriate regulation of guilt, humility, positivity, and open-mindedness) are thought to be primary mediators between apology and genuine forgiveness (Hashimoto & Karasawa, 2012) in addition to mediating one’s disposition to apologize at all (Howell et al., 2012; Leunissen et al., 2013; Mullet, Riviere, & Sastre, 2007). Emotionally responsive families foster adaptive emotions and regulation of feelings so that offspring are able to attend to other children appropriately. This allows for other-focus rather than self-focus, a key component in navigating the social world, perhaps specifically for reconciliation (Hinnant & O’Brien, 2007). Smith and Harris (2012) were some of the first to look at the emotional aspects of children’s apologies. In their experimental examination of children’s emotional reactions to receiving an apology, they found that apologies offered to children as young as four years old did, in fact, produce improved feelings and more positive ratings of the offender.

Prior to this study, theories regarding children’s knowledge about the principles of
apology suggested that young children would have difficulty integrating apologetic behavior into their judgments of others because of their presumably limited social information processing abilities. A debate remains over the extent to which preschool age children have insights about social conventions. With empirical reports of preschoolers deficiencies in rudimentary emotional skills, how can we be sure that children understand the meaning of an apology?

Perhaps a particular sensitivity to apology is derived from parental apology modeling and prompting (Schleien et al., 2010; Smith & Harris, 2012). Apologies, as they occur, have received a large amount of experimental attention though little has been done to understand the process of learning about them.

**Socialization of Apology**

Parents, as well as other primary caregivers, are responsible for appropriate socialization, establishing moral values, and modeling appropriate behaviors (Flynn, 1984). During toddlerhood, parents typically begin imposing socio-moral restrictions on their children (Lagattuta, 2005). Toddlers imitate socially relevant actions and can subsequently apply those actions appropriately, cognizant of their parents’ sanction, or lack thereof (Fuchs & Thelen, 1988; Williamson et al., 2013). In this way, individuals learn the Apology-Forgiveness Cycle: to apologize when they are responsible for a transgression, or as victims, to graciously accept an apology (Leunissen et al., 2013).

Children’s initial apologies are typically practiced through parent intervention at a very young age. However, current research raises several concerns about mandating apologies. For example, parents are likely to focus their interventions on actions they regard most harmful (Schleien et al., 2010). In a study investigating directed apology, parents tended to intervene in situations involving physical harm (e.g., pushing) more so than for rights violations (e.g.,
destroying or taking away property) or verbal harm (e.g., name-calling). Interestingly, children regarded property transgressions more seriously than did their parents, suggesting an apology motivation mismatch between children and adults. Adults are most often compelled to empathically apologize in an effort to salvage or restore a relationship, relieve a guilty conscience, escape punishment, or diminish pain they regret causing (Howell et al., 2012). Conversely, in a study investigating emotional attributions about a transgressor, children simply testified to being obligated by moral rules, with responses such as: “I said sorry because I am supposed to” (Smith et al., 2010). It is important to consider that because young children are instructed to apologize, they may not connect their vocal expressions to their feelings. Some research suggests that to maximize intrinsic motivation, it is important to avoid providing too much external justification (Exline et al., 2007) as it may lead children to attribute the apology to external pressure and not their own desire.

Sociolinguistic routines such as the Apology-Forgiveness Cycle, obligatory in American culture, are likely learned as much through adult intervention as through individual cognition. This suggests a performative, rather than referential, function of children’s early use of apology (Akhtar & Tomasello, 2000, p. 119). The meaning of “thank you,” for instance, may lie in the context in which it is used, rather than in its representation of an object or person (Becker & Smenner, 1986). In its earliest usage, this context is not likely understood, but is, perhaps, a conditioned response to certain stimulus conditions. Furthermore, it is possible that rather than being naïve to the meaning or context, children view the prompt as part of the ritual (Becker & Smenner, 1986; Greif & Gleason, 1980). Spontaneous production of “thank you” by preschoolers was only observed in 7% of appropriate opportunities; however, following
prompting by their parent (which occurred 51% of the time), 86% of the children said “thank you” (Greif & Gleason, 1980). The most common prompts given by parents include the word say: “say X,” “can you say X?” or “what do you say?” (Gleason & Weintraub, 1976). Overwhelmingly, children perform this “thank you” ritual verbatim, without any self-generated elaboration. That is, children are simply repeating the words without understanding their meaning. Similarly, children may choose to use the word “sorry” without internalizing the empathic emotion behind the conveyance.

Relatedly, Vaish, Carpenter, and Tomasello (2001) showed that 4-year-olds’ understanding of guilt displays rely on the key words “sorry” or “apologize” rather than the expressed emotions. These findings highlight a contextual understanding of apology in which children may learn to use it as a tool for rectifying particular offenses without any emotional attribution at all. It seems that in American society, apologies are often expected even when feelings are not necessarily congruent, which further emphasizes performative function over empathic concern. For example, people are expected to say “thank you” even when they do not feel thankful and, similarly, to apologize even when they do not feel sorry.

While we recognize that adults are often effective in prompting young children to express apologies, we do not yet understand exactly how this translates into preschoolers’ voluntary apology behavior or their reasons for doing so. Although the effectiveness of apology lies in its empathic implications, it seems doubtful that children learn about apology in that light. Research has not yet formally investigated apology within the context of theory of mind, an essential component of perspective taking required for an empathic apology, nor has it considered parent intervention strategies together with their child’s behavior or their reasons for apologizing.
Current Study

Parent-child dyads were recruited to participate in this study of children’s apology behavior and their related reasoning. Children were asked to help complete a story in which characters were depicted in various transgression scenarios. Parents completed a survey about their parenting techniques related to apology. Data from the child interviews and parent questionnaires were used to assess how and when parents instruct their children to apologize and to determine whether the instruction children receive in preschool years translates into spontaneous apology use. My goals were to assess:

1. Parents’ apology-intervention proclivities as part of their parenting strategy
2. Preschoolers’ propensity for suggesting that an apology is warranted in typical social transgression scenarios
3. Preschoolers’ reasoning (performance or empathy based) about why an apology is given
4. The relationship between preschoolers’ theory of mind (ToM) and their suggested use of apology

Based on previous literature, I predicted that (a) there would be a positive relationship between parent-directed apologies and child apology-reasoning such that higher parent apology intervention scores would correlate with more performative child apology reasoning and (b) that there would be a correlation between parent intervention and children’s spontaneous suggestion that an apology be given.

Method

Participants

Participants were parent-child dyads (N = 42) recruited from a childcare center on a west coast university campus and from families in the nearby community. Only pairs that completed
all tasks were analyzed in this study. Three children did not complete their interview and four parents did not return a survey, resulting in a final sample of 35 dyads. Children (57% female) ranged in age from 3.08 to 5.92 years old ($M = 4.37$, $SD = .94$). Parents (97% female) ranged in age from 23 to 44 years old ($M = 34.17$, $SD = 4.81$). All parents reported having at least some college education; most had completed graduate school (45.7%). The ethnicity of the sample was primarily Caucasian (82.9%), and also included Latino (11.4%), and other (5.7%). Permission from the childcare center director was obtained in addition to parental consent and child assent. Parents were asked to complete an online questionnaire. Children “helped the experimenter complete a story” and answered some questions about story themes.

**Power Analysis.** Due to the dearth of literature about apology socialization, I chose the following experiments that examined children’s perceptions of apology or their apology behavior. Schlein, Ross, and Ross (2009) examined the apology behavior between siblings. Based on Cohen (1988), their data revealed large effect sizes for frequency of apology by gender, $\eta^2 = .18$, and frequency of spontaneous versus parent-solicited apologies, $\eta^2 = .14$. They found that older children apologized for a larger proportion of their transgressions than did younger children, with a large effect size of $\eta^2 = .30$. Similarly, a large effect size was found for frequency of apology based on transgression type $\eta^2 = .50$. Smith, Chen, and Harris (2010) investigated how children judged a victim’s feelings after a transgression, either followed by an apology or not, and found a large effect size of $\eta^2 = .44$. Averaging these effect sizes yielded an overall large effect size of .31. As eta squared analysis is biased upward, and without detailed or directly related data available, I chose to be conservative and assume a medium effect size. Calculations at .80 power, .05 alpha, and a medium effect size produced a minimum sample size of 17 participants. Accounting for potential subject mortality and potential ineligibility, I recruited and collected data from 42 parent-child dyads with children of preschool age.
Child Sample

Procedure. Participants were interviewed individually in a quiet room by a pair of two of four female experimenters. At the start of the session, the lead researcher in the pair introduced children to the electronic book (displayed on a tablet) and explained that she needed help completing a story for each picture so that a real book can be made (see Appendix A for sample pictures). The researcher explained that the new book needs to be about “what would happen in real life.” Children were asked if they were willing to assist in that task. Gender of the characters in each story was matched to the participants to prevent potential related confounds.

Children were asked to complete stories in which one child commits a transgression against another. For example, in one vignette, a child says to another, “I don’t like you.” In another vignette, one child kicks another child. Transgression vignettes each show a pair of preschool-age characters: one transgressor and one victim. Scenarios were derived from experiences that young children are likely to encounter regularly in order to encourage accurate responses about a familiar situation rather than creative responses to an abstract situation. Transgressions also varied along two dimensions in order to explore how both parents and children reason in different situations.

The two dimensions were intentionality (intentional or accidental) and transgression type (physical, property, or verbal). These varied over six scenarios as exclusive use of one type of damage may incite bias in perceptions of the situation and differences in apology style (Sugimoto, 1998). See Appendix B for scenario balancing diagram. A pilot study was conducted to evaluate materials. Transgression scenarios were evaluated for both their efficacy in eliciting apology responses and whether responses differed significantly, depending on circumstance. Pilot data suggested that the manipulation of harm in the transgression scenarios was sufficient to elicit varying responses that correspond with previous literature (Schleien, Ross, & Ross, 2010).
Respondents were more likely to suggest an apology following a physical transgression than any other type as well as when the act was intentional versus accidental.

Scenarios were displayed individually (one per page) as the researcher read the “unfinished” content aloud. The researcher pointed to the appropriate characters while reading. The researcher asked all children to answer two questions (listed below) about each of the six randomly ordered scenarios and to explain their responses. Then, each child was assessed using the Theory of Mind Scale (Wellman & Liu, 2004). As the scale was incorporated into the electronic book, children were not required to switch tasks, but simply asked questions about additional characters in "the story."

If participants appeared to be distracted (as indicated by loss of eye contact) or uncertain (as indicated by a statement such as “I don’t know”), they were reminded about their task of completing the story and the procedure was repeated a second time. Interviews were unobtrusively transcribed verbatim (in real time) and audio recorded by the assisting researcher in the pair. The procedure lasted approximately 12 minutes.

Children were allowed to choose a small prize from a treasure chest before going back to their classroom (e.g., a bouncy ball, a pencil topper, a bracelet). They had the opportunity to choose a reward even if they opted to end the interview before it was completed as a thank you for their volunteerism.

**Measures.**

*Measure of Spontaneous Apology (MSA).* After hearing each scenario, participants were asked, “What do you think will happen next?” The words “Might” and “Should” were avoided as not to imply moral or rule obligation, thus allowing equal possibility of receiving an empathic versus performative response. This question was designed to capture the child’s spontaneous reaction. Children were scored according to the presence or absence (Yes = 1, No = 0) of an
apology suggestion which was summed across all scenarios for a total score out of six. Open ended answers were coded as themes and reported as descriptive statistics.

**Measure of Prompted Apology.** Given the nature of this research, I expected that some children may require prompting to consider apology in the scenarios. To allow for this, the researcher also asked a forced choice version of the question: “Do you think [Insert Character Name] will say “sorry” or will he/she just walk away?” A forced choice question was used to avoid the Affirmation Bias (Fritzley & Lee, 2003) often displayed by children of the age of those in this sample. Children were scored according to their choice (Sorry = 1, Walk Away = 0) which were summed across all scenarios for a total score out of six.

**Measure of Apology Reasoning (for Spontaneous and Prompted Apologies) (MAR).** After each of the questions (both the measure of spontaneous apology and the measure of prompted apology), the experimenter asked the children to qualify their response, by repeating it as a question, “So, you think ____. Why do you think that?” Opened ended questions were used to adequately represent a full range of responses. Themes were categorized as they were revealed in the interviews. Explanations for both questions were coded in the same way; however, responses were analyzed separately to maintain distinction between children who had a high level of apology understanding (and spontaneously suggested apology) and those with any level of understanding (who suggested apology but required prompting to do so).

**Theory of Mind Scale (ToMS).** Children were assessed using three selected items from Wellman and Liu’s (2004) ToMS, which all focused on perspective-taking (Not-Own Desire, Not-Own Belief, and Knowledge Access). For example, for the “Not-Own Desire” question, children were asked to identify a character’s food preference that explicitly differs from their own. In this particular question, children were asked which of two snacks (either a cookie or a carrot) they themselves would prefer, after which they were informed that Mr. Jones “really
likes” the opposite snack (e.g., the carrot, if children expressed a preference for the cookie), the child was then asked which snack Mr. Jones would choose to eat. If children responded that Mr. Jones would prefer the different snack, this was considered evidence that they had some appreciation of the mental states of others. See Appendix C for the complete list of items. Although traditionally presented through use of paper pictures and small toys, in the present study the ToMS questions and accompanying vignettes were adapted into digital form to be included in the electronic book that was used for the child interviews. (Adaptations are noted in brackets on the attached copy of the scale.) Similar images as per Wellman and Liu's (2004) original study were used in electronic form, rather than a physical piece of paper. Figurines were converted to an illustrated character that matched those in the apology scenarios. This adjustment was made to reduce confusion that may occur for children when changing instructions and materials. In addition, it reduced the overall length and complexity of the interview, which is especially beneficial for this preschool age sample. Scores were calculated (pass = 1, fail = 0) according to Wellman and Liu’s (2004) instructions. Children’s scores on each of the questions were summed across all questions for a total score out of three, to calculate their ToMS score.

**Parent Sample**

**Procedure.** Following informed consent for their participation and that of their child, parents completed an online questionnaire that included demographic information about the parent, the child, and their household in addition to questions about parenting strategies related to apology. This format was chosen for added convenience for parents in addition to automatic randomization within measures and for data entry advantages. As question order and responses were not significantly related in pilot testing (see Appendix D) questions were arranged according to the best data entry advantage. After signing and returning their child's permission slip and completing the adult questionnaire, adults were eligible for entry in a raffle to receive a
$50 Visa gift card. Of the 42 participant names, two winners were drawn at random out of groups of 21 (the probability of winning a prize was 1/21). Only winning participants were notified of the results via email and gift cards were sent to their provided address.

**Measures.**

*Measure of Parent-Instructed Apology (MPIA).* Using the same illustrated scenarios as provided to the children, parents were asked to read each vignette and imagine that the transgressor was their child. Scenarios were gender matched to the parent’s participating child. Then, they were asked to rate the likelihood that they would immediately intervene and instruct their child to apologize (1 = Not at all likely, 2 = Not likely, 3 = Somewhat likely, 4 = Likely, and 5 = Very likely). This measure was designed to capture the parents’ reported tendency to instruct their child to apologize in a variety of situations.

*Benefit of Apology Instruction.* Respondents were also asked whether they consider it beneficial for parents to immediately instruct children to apologize (yes/no). This assessed whether or not responses regarding apology intervention in the various scenarios reflect parents’ overall apology-instruction values. I expected responses to reflect the common rating of apology-instruction; however, as external behavior and internal values may differ, I believed it was important to include an item that did not specify transgression type.

*Apology Importance Ranking.* Finally, parents were asked to rank several apology explanation statements in the order of importance that they would convey to their children (e.g., apologies are given because that is the right thing to do). This was used to determine what parents believe is important to communicate to their children about apology and allowed us to examine the priority of apology functions, and whether they are empathic or performative, when discussing apology with their children. Statements were equally balanced between empathic and performative reasoning.
Results

This study was undertaken to test two hypotheses and address several questions about the socialization of apology. In the following sections results from parent-directed apologies, preschoolers’ apology suggestions, relationship of theory of mind to apologizing, and preschoolers’ apology reasoning will be reported. These will be followed by an examination of the likelihood of parent intervention and its relation to children’s spontaneous apologies. Finally, results of analyses of factors that may predict apology-related behavior will be reported.

Parent-directed Apology

To examine parents’ reported tendency to instruct their child to apologize, scores on the Measure of Parent-Instructed Apology (MPIA) were compared across scenarios in accidental and deliberate offenses and in physical, verbal, and property type contraventions. Examination of data confirmed that the assumptions of normality and independence were met. However, Mauchley’s test indicated that the assumption of sphericity was violated, $W = .78, \chi^2(2) = 8.15, p = .02$, therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\epsilon = .82$). A two-way repeated measures ANOVA revealed a significant main effect for transgression type, $F(1.64, 34) = 6.13, p = .006, \eta^2_p = .15$, as well as a main effect for intentionality, $F(1, 34) = 7.90, p = .008, \eta^2_p = .19$, on apology instruction; Bonferroni follow-up comparisons indicated that parents were just as likely to intervene after property transgressions ($M = 8.49, SD = 1.65$) as verbal ones ($M = 8.11, SD = 1.91$), but significantly more likely than after physical offenses ($M = 7.54, SD = 2.03$), $p < .001$. Additionally, parents were more likely to intervene after accidental transgressions ($M = 12.54, SD = 2.16$) than those that were deliberate ($M = 11.60, SD = 3.03$), $p < .001$.

A significant interaction between transgression type and intentionality was also found, $F(1.87, 34) = 11.27, p < .001, \eta^2_p = .25$. Post hoc analysis revealed that apology intervention was
most likely in accidental, property transgressions. Physical transgressions were least likely to
elicit adult direction and verbal offenses were rated similarly regardless of intentionality. See
Figure 1.

Parents \((N = 35)\) were asked to rank five reasons for giving an apology in the order of
importance as they would explain them to their children. The most popular top-ranked
explanations were that apologies are given because “it helps the other person feel better”
\((M_{ Weighted} = 4.34, WSD = 0.85)\) and because “that is the right thing to do” \((M_{ Weighted} = 4.32,
WSD = 0.84)\). The explanation that apologies are given “because it makes us feel better” was
most commonly ranked third most important \((M_{ Weighted} = 2.34, WSD = 0.93)\) followed by “…that
is what is expected,” ranked fourth \((M_{ Weighted} = 2.29, WSD = 0.80)\). Although most respondents
ranked it last \((M_{ Weighted} = 1.71, WSD = 1.09)\), 4.9% of parents indicated that apologies are given,
most importantly, because if not, punishment will follow. Interestingly, this response was
positively correlated to children’s spontaneous apology scores \((r(33) = .35, p = .04)\) such that the
higher parents ranked this explanation, the greater the frequency that children spontaneously
suggested apologies. When broken down by transgression type and intentionality, this
explanation remained the only one with a significant relationship to child scores. The punishment
explanation was positively correlated to scores in the verbal, \(r(33) = .48, p = .003\), (but not to
physical or property) and accidental, \(r(33) = .40, p = .02\), (but not to deliberate) transgression
scenarios. In summary, the likelihood of parents’ apology instruction varied depending on
circumstance. Also, parents reported that they convey, to their children, that apologies are
equally important for helping other people feel better and for being the “right thing to do.”

**Preschoolers’ Apology Suggestion**

To examine preschoolers’ tendency for suggesting that an apology is warranted, scores
on the Measure of Spontaneous Apology (MSA) were compared using a two-way repeated
measures ANOVA across scenarios. Examination of data confirmed that the assumptions of normality and independence were met. However, Mauchley’s test indicated that the assumption of sphericity was violated, $W = .82, \chi^2(2) = 6.74, p = .03$, therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\epsilon = .84$). There were no statistically significant effects found for transgression type ($p = 0.34$), intentionality ($p = 0.18$), or an interaction between them ($p = 0.23$), see Table 1.

Of 210 total opportunities to propose a spontaneous apology, children, as a whole, suggested apologies 32.8% of the time. Although responses were similar when transgression type and intentionality were collapsed, children’s likelihood of apology suggestion did vary across specific scenarios (see Table 2). Chi-square goodness of fit analyses indicated that children were significantly less likely to spontaneously suggest an apology following both the intentional, $\chi^2(1) = 4.43, p = .01$, and accidental, $\chi^2(1) = 6.43, p = .01$, property transgressions and the deliberate, verbal transgression, $\chi^2(1) = 10.31, p = .001$. Children appear to discriminate between contraventions based on specific context, rather than general principals, when spontaneously deciding whether or not an apology is merited.

Following prompting, frequency of apology suggestions greatly increased. Of those instances in which a spontaneous apology response was not elicited, 54.6% endorsed an apology when asked if the character in the story should “say they are sorry or just walk away.” In general, although children who required prompting recommended an apology as often as they did not, data show that they were significantly more likely to say that the character would apologize (72.7%) in the accidental, physical transgression than that he or she would walk away, $\chi^2(1) = 4.55, p = .03$.

**Theory of mind and apology.** Correlations were performed to assess the relationship between preschoolers’ theory of mind (ToM) and their suggested use of apology. Data did not
reveal a significant relationship between ToM ($M = 1.89$, $SD = 0.96$) and spontaneous apology scores ($N = 35$, $M = 1.97$, $SD = 0.99$), $p = .13$ or prompted apology scores ($N = 14$, $M = 2.71$, $SD = 2.52$), $p = .25$). Children who demonstrate increased theory of mind are no more likely to suggest an apology, even after being prompted.

**Preschoolers’ Apology Reasoning**

Children were asked why they made each decision throughout their story interviews. Apology responses were categorized (with excellent inter-rater reliability, Cohen’s kappa = .93) according to common topics. Examination of data revealed six obvious themes: performative, enduring traits, accidental explanations, empathic, future oriented, and uncertainty (see Appendix E). For Performative responses, coders looked for explicit use of regulation or contextual terms (“Because he is supposed to” or “Because he hit him”). For Enduring Traits, explicit use of personal traits must have been present (“Because it is nice”). Accidental explanations mentioned intentions (“Because it was an accident”). For Empathic responses, children explicitly used emotional terms (“Because he would feel sad”). For responses to be coded as Future Oriented, there must have been explicit focus on the future (“Because he wants to play next time”). Responses that included “Because” or “I don’t know” were coded as Uncertainty.

Of those who spontaneously suggested that the transgressor apologize, 37.7% gave a performative response, 24.6% gave responses related to enduring traits, and 14.5% reasoned that the offense was an accident. Only 7.25% of responses included an empathic theme. Chi-square goodness of fit tests revealed that children used themes similarly after accidental and deliberate contraventions and across transgression types. The pattern of responses was relatively consistent for children who suggested an apology after prompting, except for a decline in accidental explanations to just 2.6%. See Figure 2.
Parents and Children

A correlation was used to investigate the relationship between the likelihood of parent intervention and children’s spontaneous suggestion to give an apology. Contrary to my hypothesis, parent intervention scores ($M = 24.14, SD = 4.88$) were not significantly correlated with children’s spontaneous apology scores, ($M = 1.97, SD = 1.99, p = .36$). These findings indicate that preschoolers’ decisions about when apologies are warranted are unrelated to how often their parent might intervene and instruct them to apologize in the same scenario.

To examine the connection between parent-directed apologies and child apology-reasoning, new dependent measures were calculated for each theme. This proportion was computed using the number of times a theme was used in a child’s response and the total number of spontaneous apologies he or she suggested. For example, the performative variation of this measure explains the percentage of spontaneous apologies that are performative. In contrast to my prediction, likelihood of parent instruction was not correlated with performative responses ($p = .38$) nor any other reasoning themes. The data do not support a clear pattern between when parents instruct their children to apologize and which reasons children give that an apology is warranted.

Predicting Apology-related Behavior

There are often disparities in socialization between gender and age groups, specifically with regard to socio-emotional and socio-moral topics. I did not find any significant gender differences in frequency of apology suggestions (spontaneous or prompted), in apology reasoning themes, or in the likelihood of parent intervention. There were also no significant differences between children from the community and those recruited from the child care center. When examining age however, several incongruences arose.

Consistent with previous literature (Wellman & Liu, 2004) theory of mind scores were
positively correlated with age, \( r(33) = .54, p < .001 \). Whereas parents’ likelihood of apology instruction did not differ, spontaneous apologies were more frequent as children aged, specifically after verbal transgressions (see Table 4). Apology reasoning that included future oriented responses were also more likely to occur as age increased. Conversely, enduring trait responses were more likely at younger ages.

**Discussion**

To my knowledge, this study is the first to explore the socialization of apology. Specifically, I examined when parents are likely to instruct their child to apologize and which reasons were most important for teaching children about giving apologies. I investigated the likelihood that children would suggest an apology in various scenarios and recorded their subsequent reasoning. In the following sections findings will be discussed.

**Parents’ Apology-Intervention**

Parents reported that they were more likely to intervene and instruct their child to apologize after accidental transgressions than those that were deliberate. Leunissen et al. (2012) showed that victims want to receive an apology after an intentional provocation whereas transgressors are more willing to offer an apology following an unintentional act. It is probable that parents are most likely to instruct their children to apologize in accidental transgressions, because that is when parents are most likely to offer one.

Parents were also more likely to intervene after property and verbal offenses than following physical transgressions. Apology instruction was most likely in accidental, property transgressions. Physical transgressions were least likely to elicit adult direction, and verbal offenses were equally as likely to provoke intervention, regardless of intentionality. These results were surprising as they contradict previous findings that suggest that parents prompt their children to apologize most often after physical altercations. This data could be elucidating a
pattern of parent intervention between their child and an unrelated peer that differs from sibling mediation as previously studied by Schleien, Ross, and Ross (2010). Furthermore, this study manipulated the type of transgression between child-peers via an online survey that was completed without researcher intrusion in the home. In completing a questionnaire privately, parents’ responses may be more indicative of actual thoughts and behaviors and less from social desirability.

Previous literature has not yet addressed transgression type and intentionality together in the context of children’s apology understanding. Perhaps this added component in the current study contributed to the inconsistency with prior research. The highest likelihood of intervention followed a scenario in which a child, even though he or she was careful, spilled juice on another child’s favorite shoes. It could be that parents inferred amplified severity of this particular offense which would exaggerate the difference between types of contravention. It would be interesting to examine a broader variety of severity within transgression types to clarify intervention patterns in different situations.

Parents overwhelmingly reported that the most important reasons for giving apologies are because they help the other person feel better and because that is the right thing to do. The equal rating between these explanations suggests that parents understand both the empathic implications and performative expectations behind an apology. Curiously, although it was not a theme endorsed by children, the importance that parents placed upon punishment, in the context of apology, was significantly related to the frequency that children spontaneously suggested apologies. This may be reflective of how parents are intervening rather than when they do so.

Overall, it seems that parents in this sample recognize apologies as socio-moral tools with

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1 However, the pilot data did not show a difference in likelihood of intervention scores between the same property transgression scenarios.
which they should be equipping their preschool children, and a large majority (74.3%) affirmed immediate post-transgression intervention as the most appropriate means by which to do so. However, we do not yet know which disciplinary actions might be accompanying their instruction.

Children’s Apology Suggestion

There appears to be no relationship between when children warrant an apology and their theory of mind. This finding corresponds with the pervasiveness of performative reasoning and the scarcity of empathic explanations that children are reporting when suggesting an apology. Although understanding of the victim’s perspective is implied in an offender’s apology, it does not seem that preschool-age children are using it in that context; rather, they may simply be meeting a societal expectation.

Interestingly, children who required prompting recommended an apology most often in accidental transgressions; however, accidental explanations declined considerably from those made after spontaneous apology suggestions. Literature suggests that there is an acquired comprehension of harm, intention, and culpability between the ages of four and five (Darby & Schlenker, 1982; Schleien et al., 2010). Because spontaneous apologies were suggested more often as age increased, it is likely that older children were also providing the accidental reasoning. This follows the aforementioned developmental trends. This also follows patterns of parent instruction. Younger children, who require more prompting before endorsing an apology, may be more closely adhering to their parents’ coaching without clear understanding about why their behavior is applicable.

Limitations and Future Directions

Although the sample was limited to predominantly well educated, Caucasian mothers and
their children, this study is a step in the direction of understanding how children reason about apology and when they believe an apology is warranted. The hypothetical scenarios, used to elicit responses in this study, may be highlighting participants’ understanding of when an apology is appropriate rather than demonstrating children’s own willingness to apologize or parents’ actual frequency of instruction. However, considering the mismatch between transgressions for which parents were most likely to intervene and transgressions for which children most often suggest apologies, it is highly unlikely that child responses were purely reflections of parent prompting. This indicates that parent instruction may be more salient or perhaps exercised differently in certain transgressions which impact children’s understanding and subsequent behavior respectively. Alternatively, this could signify variations in social convention between children and adults.

With insight into parents’ apology intervention strategies we can move toward evaluating specific means and efficacy of intervention. This study only included one parent as an informant about apology instruction though there are likely others who influence children’s prosocial cognition and behavior. Therefore, intervention strategies employed by other caregivers, including teachers, are of great interest. Future research should investigate the relationship between individual parent-child dyads to determine whether specific models of mediation exist between parent instruction and how children use apology. Also, parent motivations for apology instruction should be examined more closely in addition to identification of specific instruction methods.

**Conclusion**

A child’s misdeeds are opportunities for his or her parent to instill moral principles. The results of this study suggest that personal traits are especially relevant in children’s decisions
regarding apology and that 3- to 5-year-olds may consider “sorry” as a means of communicating or preserving internalized values or both. My data has confirmed preschoolers’ performative use of apology and negated the connection to children’s competence in perspective-taking. Although preschoolers’ apologies appear to be driven more by social rules than empathy, parent-directed apologies, in appropriate contexts, may advance children’s understanding of harm and responsibility and allow for the emotional experience of consequences of children’s actions. It should be acknowledged however, that social conventions between adults and children likely differ thus complicating the nature of intervention strategies.
References


Figure 1. Likelihood of parent apology intervention across various transgression types. Error bars represent 95% confidence intervals around the mean.
Figure 2. Proportion of reasoning themes following children’s spontaneous versus prompted apology suggestions. Percentages were calculated from the frequency of theme as it was used and the total score on the child’s Measure of Spontaneous Apology or the Measure of Prompted Apology, respectively.
Table 1.

*Mean Scores on the Measures of Spontaneous and Prompted Apology Suggestions*

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<tr>
<th></th>
<th>$N$</th>
<th>Minimum</th>
<th>Maximum</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spontaneous Apology Score</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>0</td>
<td>6</td>
<td>1.97</td>
<td>1.99</td>
</tr>
<tr>
<td>Deliberate</td>
<td>35</td>
<td>0</td>
<td>3</td>
<td>0.89</td>
<td>1.08</td>
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<tr>
<td>Accidental</td>
<td>35</td>
<td>0</td>
<td>3</td>
<td>1.09</td>
<td>1.09</td>
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<td></td>
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<td></td>
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<td>0</td>
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<td>1.40</td>
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<td></td>
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<td></td>
<td></td>
</tr>
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<td>1.13</td>
<td>0.89</td>
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<td>1.05</td>
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<td>19</td>
<td>0</td>
<td>2</td>
<td>0.68</td>
<td>0.96</td>
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Table 2.

Preschool Children's Suggestions for Apology across Transgression Scenarios

<table>
<thead>
<tr>
<th>Transgression Scenario</th>
<th>Spontaneous Apology</th>
<th>Prompted Apology</th>
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<tr>
<td></td>
<td>$n$</td>
<td>Yes</td>
</tr>
<tr>
<td>Shane kicked Nathan.</td>
<td>35</td>
<td>13</td>
</tr>
<tr>
<td>Sophia kicked Natalie.</td>
<td>35</td>
<td>10*</td>
</tr>
<tr>
<td>Michael knocked over Luke's block castle.</td>
<td>35</td>
<td>8**</td>
</tr>
<tr>
<td>Madison knocked over Laura's block castle.</td>
<td>35</td>
<td>13</td>
</tr>
<tr>
<td>Phillip told Ryan, “I don’t like you.”</td>
<td>35</td>
<td>15</td>
</tr>
<tr>
<td>Fiona told Rachael, “I don’t like you.”</td>
<td>35</td>
<td>10*</td>
</tr>
<tr>
<td>Brian wasn’t looking and hit Chris.</td>
<td>35</td>
<td>15</td>
</tr>
<tr>
<td>Brianne wasn’t looking and hit Christina.</td>
<td>35</td>
<td>10*</td>
</tr>
<tr>
<td>Even though he was careful, Joshua spilled juice on Kellen’s favorite shoes.</td>
<td>35</td>
<td>10*</td>
</tr>
<tr>
<td>Even though she was careful, Jessica spilled juice on Kelly’s favorite shoes.</td>
<td>35</td>
<td>10*</td>
</tr>
<tr>
<td>Alex didn’t mean to hurt David's feelings when he said a bad word.</td>
<td>35</td>
<td>15</td>
</tr>
<tr>
<td>Anna didn’t mean to hurt Danielle's feelings when she a bad word.</td>
<td>35</td>
<td>15</td>
</tr>
<tr>
<td>Total number of suggestions</td>
<td>210</td>
<td>69</td>
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*Note.* $* p < .05.  ** p < .001 levels of significant differences between frequencies of apology suggestions in storybook scenarios.
Table 3.

*Frequencies of Spontaneous Apology Reasoning Themes across Transgression Scenarios*

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<tr>
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<th>Intentionality</th>
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<th></th>
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<tr>
<td></td>
<td>Total</td>
<td>%</td>
<td>Accidental</td>
<td>Deliberate</td>
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<tr>
<td>Performative</td>
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<td>37.68</td>
<td>13</td>
<td>13</td>
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<tr>
<td>Contextual</td>
<td>21</td>
<td>30.43</td>
<td>9</td>
<td>12</td>
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<tr>
<td>Regulation</td>
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<td>7.25</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Enduring Traits</td>
<td>17</td>
<td>24.64</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Accidental Explanation</td>
<td>10</td>
<td>14.49</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>8.70</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Empathic</td>
<td>5</td>
<td>7.25</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Uncertain</td>
<td>3</td>
<td>4.35</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Future Orientation</td>
<td>2</td>
<td>2.90</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>69</td>
<td>39</td>
<td>30</td>
<td>25</td>
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Table 4.

*Correlations between Preschoolers’ Apology Understanding and Age*

<table>
<thead>
<tr>
<th></th>
<th>Child Age</th>
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<tr>
<td>Theory of Mind Score</td>
<td>.54**</td>
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<tr>
<td>Measure of Spontaneous Apology Score</td>
<td>.40**</td>
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<tr>
<td>Deliberate</td>
<td>.38*</td>
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<tr>
<td>Accidental</td>
<td>.36*</td>
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<tr>
<td>Physical</td>
<td>.27</td>
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<tr>
<td>Property</td>
<td>.23</td>
</tr>
<tr>
<td>Verbal</td>
<td>.52**</td>
</tr>
<tr>
<td>Spontaneous Apology Reasoning Score</td>
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<td>Performative</td>
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<td>Enduring Traits</td>
<td>-.69**</td>
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<tr>
<td>Accidental Explanation</td>
<td>-.23</td>
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<tr>
<td>Empathic</td>
<td>-.08</td>
</tr>
<tr>
<td>Uncertain</td>
<td>.13</td>
</tr>
<tr>
<td>Future Orientation</td>
<td>.39*</td>
</tr>
<tr>
<td>Parent Instructed Apology Score</td>
<td>-.09</td>
</tr>
</tbody>
</table>

*Note. *p < .05. **p < .001*
Appendix A

E-book Sample Illustrations

1. Madison knocked over Laura's block castle.
2. Sophia kicked Natalie.
3. The cat saw a beautiful butterfly.
4. Anna didn't mean to hurt Danielle's feelings when she said a bad word.
5. Phillip told Ryan, "I don't like you!"
6. Even though he was careful, Joshua spilled juice on Keilen's favorite shoes.
7. Shane kicked Nathan.
8. The bird found a red balloon.
Appendix B

Scenario Balancing Diagram

<table>
<thead>
<tr>
<th>Scenario (Counterbalanced Gender)</th>
<th>Intentionality</th>
<th>Transgression Type</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Intentional</td>
<td>Accidental</td>
</tr>
<tr>
<td>Shane kicked Nathan.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Sophia kicked Natalie.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Michael knocked over Luke's block castle.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Madison knocked over Laura’s block castle.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Phillip told Ryan, “I don’t like you”.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Fiona told Rachael, “I don’t like you”.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Brian wasn’t looking and hit Chris Brianne wasn’t looking and hit Christina</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Even though he was careful, Joshua spilled juice on Kellen’s favorite shoes. Even though she was careful, Jessica spilled juice on Kelly’s favorite shoes.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Alex didn’t mean to hurt David's feelings when he said a bad word. Anna didn’t mean to hurt Danielle's feelings when she a bad word.</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Appendix C

Theory of Mind Scale [adapted for digital use]


**Not-Own Desire (X)**

Props: Colored realistic drawing [digital image] of carrot on one half and cookie on the other.

*Story:* Here’s Mr. Jones (place figure midway between two items). It is his snack time. So, Mr. Jones wants a snack to eat. Here are two different snacks: a carrot (point) and a cookie (point).

*Own Desire:* Which snack would **YOU like** best? Would you like a **carrot** (point) or…a **cookie** (point) best?

___ If carrot: Well, that’s a good choice, **BUT**…Mr. Jones **REALLY LIKES** cookies (don’t point). He doesn’t like carrots. What he **likes best** are cookies.

___ If cookie: Well, that’s a good choice, **BUT**…Mr. Jones **REALLY LIKES** carrots (don’t point). He doesn’t like cookies. What he **likes best** are carrots.

*Question:* So, now it’s time to eat. Mr. Jones can only choose **one** snack, **just one**. Which snack will Mr. Jones (point to Mr. Jones) **choose**?…A carrot or…a cookie?

___ carrot    ___ cookie

**SCORING:** To be scored as correct, or to “pass” this task, the child must answer the target question opposite from his/her answer to the own-desire question.
**Not-Own Belief (X)**

Props: Colored realistic drawing [digital image] of bushes on one half and garage on the other.

*Story:* Here’s Linda (place figure midway between two items). Linda wants to find her cat. Her cat might be hiding in the bushes (point) or…it might be hiding in the garage (point).

*Own Belief:* Where do **YOU think** the cat is? **In the bushes** (point) or…**in the garage** (point)?

___ If bushes: Well, that’s a good idea, **BUT**…Linda **THINKS** her cat is **in the garage** (don’t point). She **thinks** her cat is in the garage.

___ If garage: Well, that’s a good idea, **BUT**…Linda **THINKS** her cat is **in the bushes** (don’t point). She **thinks** her cat is in the bushes.

*Question:* So…where will Linda (point to Linda) **look** for her cat?…In the bushes or…in the garage?

___ bushes ___ garage

SCORING: To be scored correct the child must answer the target question opposite from his/her answer to the own-belief question.
Knowledge Access (X)


Experimenter: Here’s a drawer (keep finger over drawer).

Question to child: What do you think is inside the drawer (point to drawer)?
(If child gives an answer): _______________

Experimenter: (With drama) Let’s see…it’s really a DOG inside!
([Show image of] dog in the drawer)
([Proceed to image of closed] drawer to restrict view again after a pause)

Post-view Question: Okay…what is in the drawer? _______________
(If child makes an error here, show [dog image] again until child gets this question correct)

Experimenter: Polly has never ever seen inside this drawer. [Show image of Polly] Now here comes Polly.

Question: So…does Polly KNOW what is in the drawer?
___ yes ___ no

Did Polly see inside this drawer?
___ yes ___ no

SCORING: To be scored correct the child must answer the target question “no” and answer the memory control question (the last question about seeing) “no.”
Appendix D

Pilot Study

In preparation for the current research, we carried out a pilot study to aid in the development of an efficient and valid tool for assessing children’s understanding of apology and features of apology socialization. The primary purpose of this study was to pilot various scenarios to determine whether transgression type and intentionality would have demonstrable impact on apology intervention likelihood. We tested for potential confounds including age of child in the scenario and question order. Transgression scenarios were evaluated for both their efficacy in eliciting apology responses and whether responses differed significantly, depending on circumstance. Finally, the pilot was designed to gauge general perceptions about instructing children to apologize and to categorize apology reasoning.

University undergraduate psychology students (n = 152) participated in this study for course credit and were asked to complete a brief online survey. To combat potential order effects, questionnaires were organized in two different versions. Respondents were asked to identify benefit or no benefit (Yes/No) for caregivers’ immediate apology instruction either prior to or following exposure to specific scenarios and reasoning examples. A chi-square test revealed no evidence of a significant difference in responses between question orders (p = .701), therefore, in future use, the benefit question was arranged after the other apology questions as that allowed a slight data entry advantage.

Respondents were asked to explain their answer in the form of an open-ended question in order to capture a comprehensive range of explanations. This enabled us to test our coding procedures, establish inter-rater reliability (Cohen’s kappa = .91), and find common themes regarding apology instruction. Examination of data revealed five obvious response themes:
performative, empathic, etiquette/moral, learning oriented, and trait development. These themes were used to code data in the main study and to develop questions.

Respondents were asked to rate the likelihood of instructing their child (or hypothetical child if they were not a parent) to apologize in a variety of transgression scenarios. To assess age as a predictor of apology intervention strategy, Apology Intervention Scores (AIS) were calculated separately according to the age of hypothetical children. There was a statistically significant difference in AIS scores when asked about directing children 2-3 years of age or 4-5 years of age ($p < .001$). As age appears to moderate responses, we merged these into a single question about children three to five years old in the main study.

Previous literature (Sugimoto, 1998) suggests that apology behavior varies across transgression type. To acquire a comprehensive view of parent apology intervention strategies and child suggestions for apology, we included physical, verbal, and property type contraventions in our scenarios. Also, in considering apology mismatch (Leunissen et al., 2013), we took care to include both deliberate and accidental situations in our scenarios. Analysis revealed a significant main effect for transgression type ($p < .001$) as well as a main effect for intentionality ($p < .001$). A significant interaction between transgression type and intentionality was also revealed ($p < .001$) suggesting that both transgression type and intentionality are, in fact, mediating factors in apology intervention and should be considered, especially in combination, when developing tools for testing apology behavior.

**Conclusion.** Overall, this pilot study established parameters used in developing measures for appraising our predictions and evaluating our research aims. In analyzing our pilot data, we discovered several interesting effects that we explored in depth in the main study. Moreover, we
have confidently eliminated several confounds, strengthening the methodology. In contrast to this pilot study that used a limited sample of college students, the current study assessed the relationship between children’s understanding of apology and caregiver apology intervention strategies and included additional predictor variables from a demographic addendum to the caregiver questionnaire. It is important to note that analysis revealed no statistically significant difference in AIS between parents and non-parents ($p = .13$) suggesting that this pilot data is, in fact, directly applicable to the main study.
<table>
<thead>
<tr>
<th>Theme</th>
<th>Operationalization</th>
<th>Key Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performative</td>
<td>Explicit use of <em>regulation</em> and/or <em>contextual</em> terms</td>
<td>right/wrong, moral, should, have to, need to, must, manners, polite, respect, social cues, kicked, hit, spilled, said, knocked</td>
</tr>
<tr>
<td>Regulation</td>
<td>Explicit use of <em>regulation</em> and <em>conduct</em> terms; maybe put in the context of social norms/expectancy</td>
<td></td>
</tr>
<tr>
<td>Contextual</td>
<td>Explicit use of <em>story</em> terms, referencing the characters and/or scenarios in the story</td>
<td></td>
</tr>
<tr>
<td>Empathic</td>
<td>Explicit use of <em>emotional</em> terms</td>
<td>feel, feeling, feelings, caring about other people, empathy</td>
</tr>
<tr>
<td>Enduring Traits</td>
<td>Explicit use of <em>personal traits</em></td>
<td>honest, responsible, accountable, self-control, diplomatic, aware, nice, bad, mean</td>
</tr>
<tr>
<td>Future Orientation</td>
<td>Explicit use of <em>learning</em> or <em>future</em> terms</td>
<td>instruct, teach, learn, understand, show, example, guide, absorb, next time,</td>
</tr>
<tr>
<td>Accidental explanation</td>
<td>Explicit use of <em>accidental</em> terms; focus on the transgressor</td>
<td>Accident, didn’t mean to, fault</td>
</tr>
<tr>
<td>Uncertainty</td>
<td>Explicit use of <em>uncertain</em> terms</td>
<td>Because, I don’t know</td>
</tr>
<tr>
<td>Other</td>
<td><em>Preference / Dislike</em> &lt;br&gt; <em>Avoidance</em> &lt;br&gt; <em>Seeking Authority</em> &lt;br&gt; <em>Punishment</em></td>
<td>Go somewhere else, walk away, play with someone else, other friends, by myself, Go get, find, or tell a teacher, mom, or dad, Trouble, timeout</td>
</tr>
</tbody>
</table>