Are Children Perceived to Be Morally Exceptional? Different Sets of Psychological Variables Predict Adults' Moral Judgments About Adults and Young Children

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Abstract

Conceptual analyses of moral cognition suggest that different variables may influence moral judgments depending upon the target's age. Five experiments (total N = 1,733) tested the implications for moral judgments about adults and young children. Results show that adults who were perceived to be more cognitively capable were judged to have greater moral rights and their transgressions were judged less harshly, but young children who were perceived to be more cognitively capable were judged to have fewer moral rights and their transgressions were judged more harshly. In addition, the perceived intentionality and disgustingness of transgressions had weaker effects on judgments about child transgressors than about adult transgressors. Perceivers' care-giving motives also had diverging effects on moral judgments, predicting more lenient judgments about children's transgressions and harsher judgments about adults' transgressions. These results have novel implications—both conceptual and practical—for moral judgments regarding adults and children.

Keywords

Human beings make many kinds of moral judgments—including judgments about others' moral rights and about the moral wrongness of others' transgressions—and these judgments are influenced by many different psychological variables. With rare exceptions (e.g., Goodwin & Landy, 2014), research on adults' moral judgments has focused on their judgments about other adults. Little is known about adults' moral judgments about children. This knowledge gap is nontrivial, given the consequential decisions that may follow from moral judgments (e.g., judgments about a child's moral rights may influence decisions regarding that child's medical care, and judgments about a child's transgression may influence punitive responses to their behavior). A tacit assumption, perhaps, is that the variables that influence moral judgments about adults also influence judgments about children, and that they do so in a similar manner. There are conceptual reasons to question this assumption. In this article, we report five studies that identify both similarities and notable differences in the variables that predict moral judgments about adults and about young children.

Perceptions of Adults' and Children's Moral Standing

Individuals are perceived to have a variety of moral rights, such as the right to *not* be harmed, as well as the right to

receive assistance when in distress. The possession of these rights—indicating that an individual is deserving of moral concern and consideration—represents an individual's *moral standing* (Goodwin, 2015). Both adults and children are capable of being harmed and experiencing distress, suggesting that the moral standing of adults and children may be predicated upon similar psychological considerations. However, conceptual analyses of moral cognition—coupled with research on the motivational psychology of parental care-giving—suggest specific differences in the psychological variables that predict the perceived moral standing of adults and children.

Particularly relevant is research indicating that, in the moral domain, people are categorized according to their *agency* and *patiency* (K. Gray & Wegner, 2009; K. Gray, Young, & Waytz, 2012; Schein & Gray, 2018). Moral "agents" cause moral events, whereas moral "patients" experience the consequences of these events. Therefore,

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moral agency reflects individuals' cognitive and behavioral capabilities, whereas moral patiency reflects individuals' capacity for basic affective experiences, such as pleasure and pain.

All human beings—even infants—are typically perceived to have the rudimentary affective capabilities that allow them to occupy the role of moral patient (H. M. Gray, Gray, & Wegner, 2007). Consequently, psychological variables connoting patiency—such as the perceived capability to experience pleasure and pain—might be expected to predict the moral standing ascribed to both adults and young children, and to do so in a similar manner. In contrast, adults and young children differ substantially in their cognitive and behavioral capabilities. Most adults possess substantial cognitive capabilities, whereas young children are typically viewed as lacking in sophisticated cognitive capabilities (H. M. Gray et al., 2007). Consequently, adults are likely to be perceived as exceeding some subjective threshold for categorization as moral agents, but young children may be perceived as falling below that threshold—and so adults and young children may be tacitly perceived as belonging to psychologically distinct moral categories. Variation may still be perceived within these different categories (e.g., although young children may generally be perceived to have low levels of agency, some children may be perceived as more agentic than others), but because these categories are differentially associated with expectations of agency, variation in agency may have different implications for judgments about the moral standing of adults and children.

One possibility is that appraisals of agency may predict judgments about moral standing only when making judgments about individuals who belong to category defined by expectations of agency (e.g., adults), but not when making judgments about individuals who do not (young children). One implication is this: Whereas adults are granted greater moral standing when they are perceived to possess more sophisticated cognitive capabilities (e.g., Haslam & Loughnan, 2014), this positive relationship may be limited to judgments about adults.

In fact, there is a reason to anticipate the opposite effect when judging young children: People may ascribe greater moral standing to children who are perceived to *lack* sophisticated cognitive capabilities. This implication emerges from a conceptual analysis of the evolved psychology of parental care-giving. From an evolutionary perspective, the value of other people derives from their beneficial implications for one's own reproductive fitness. These benefits typically accrue from behaviors that require some degree of agency (e.g., cooperative behavior, mating behavior). But, because young children are relatively helpless, their fitness value is contingent upon their maturation, and their maturation is contingent upon the care they receive from others. These caring responses are regulated by psychological mechanisms, which are sensitive to cues connoting infancy (Feldman, 2015; Glocker et al., 2009; Rilling, 2013). The implication is

that whereas the subjective value accorded to adults may reflect their perceived agency, the subjective value accorded to young children may instead reflect their perceived infancy, as indicated by the *absence* of agentic capabilities. To the extent that judgments about a child's moral standing reflect that kind of evaluation, the further implication is this: There may be a *negative* relationship between appraisals of a child's cognitive capabilities and judgments of that child's moral standing.

In addition, the perceived moral standing of adults and children might be differentially affected by individual differences in parental caregiving motives (Buckels et al., 2015). Perceivers who are more dispositionally inclined toward parental care would be expected to grant greater moral standing to young children, but there is little reason to expect that a parental disposition would predict judgments about the moral standing of adults.

Moral Judgments About Adults' and Children's Transgressions

Individuals judge others' actions to be morally wrong when those actions violate social norms and/or cause harm to others. Both adults and children are capable of engaging in behaviors that violate social norms and may pose a hazard to others, but judgments about adults' and children's transgressions may reflect different psychological considerations. Judgments of transgressions are substantially influenced by appraisals of transgressors' cognitive and behavioral capabilities—their ability to foresee the consequences of their actions, to regulate their own behavior, and so forth (Alicke, 1990; Malle, Guglielmo, & Monroe, 2014). If individuals are perceived to be less capable, they are judged to be less accountable for their transgressions and are more readily forgiven. One straightforward implication is that young children are held less accountable than adults who commit identical transgressions (Bastian, Laham, Wilson, Haslam, & Koval, 2011; K. Gray & Wegner, 2009). In addition, to the extent that a young child is perceived to have sophisticated cognitive capabilities, they may be subjectively appraised as less infant-like, and thus held more morally accountable for their transgressions. This implies that when adults judge the transgressions of young children, there may be a positive relationship between appraised cognitive capabilities and the harshness of moral judgments. This relationship is less likely to emerge when adults judge the transgressions of other adults, given that (except in cases of severe disability) adults' cognitive capabilities surpass a threshold that allows them to be readily categorized as moral agents and, as a consequence, to generally be held to be accountable for their actions.

An additional implication also follows from the assumption that young children generally resist categorization as moral agents: If this is the case, then variables associated with agency may have relatively less influence on judgments about children's transgressions. For instance, transgressions

are typically judged more harshly if those transgressions are perceived to be intentional (Ames & Fiske, 2013; Cushman, 2008; Hamlin, 2013), if they arouse greater disgust (Chapman & Anderson, 2013; Horberg, Oveis, Keltner, & Cohen, 2009), and if they have more harmful consequences (Cushman, 2013; McCullough, Kurzban, & Tabak, 2013). To varying degrees, these variables all reflect agentic capabilities (e.g., capacities for foresight and planning, for comprehension of and behavioral conformity to norms, and for causing physical harm to others). The implication is that intentionality, disgustingness, and harmfulness may have strong effects on moral judgments when the transgressor is an adult, but relatively weaker effects when the transgressor is a young child (even if those transgressions—and their consequences—are identical).

Finally, research on the motivational psychology of parental care suggests that dispositional inclinations toward parental care-giving may have different effects on moral responses to transgressions, depending on whether the transgressor is an adult or a child. The provision of protection is integral to parental caregiving, and so activation of the caregiving motivational system leads individuals to respond more harshly to potential threats (Gilead & Liberman, 2014; Hahn-Holbrook, Holbrook, & Haselton, 2011). Many social norms provide buffers against threats; therefore, people—parents or nonparents—who are more inclined toward parental care-giving respond more harshly to norm violations committed by adults (Buckels et al., 2015; Eibach & Mock, 2011). But this effect may be less likely to occur when the transgressor is less readily categorized as a moral agent. In fact, when the transgressor is a young child, an inclination toward parental care-giving may predict a more lenient and forgiving response instead.

Overview of Studies

We conducted five studies that tested the implications summarized above. Studies 1 and 2 focused on judgments about adults' and infants' moral standing, and tested the extent to which perceived moral standing was predicted by appraisals of adult's and infants' mental capabilities—including both affective capabilities (e.g., ability to feel pleasure and pain) and cognitive capabilities (e.g., ability to exercise self-restraint). Studies 3, 4, and 5 focused on judgmental responses to transgressions (e.g., judgments of moral wrongness, willingness to forgive). In each study, we manipulated whether the transgression was committed by an adult or a young child, allowing us to test whether this variable moderated the effects of intentionality (Study 3), disgustingness (Study 4), and harmfulness (Study 5). We also tested the extent to which these judgments about transgressions were predicted by appraisals of adult's and children's affective and cognitive capabilities. In addition, across all studies we tested the extent to which judgments were influenced by dispositional inclinations toward empathic concern and parental

care-giving. Overall, these studies allowed us to systematically test hypotheses bearing on both similarities and differences in the sets of psychological variables that predict moral judgments about adults and young children.

Study 1

Study 1 assessed judgments about the moral standing of specific individuals—either adults or infants. We examined the extent to which these judgments were predicted by perceivers' appraisals of the target's affective and cognitive capabilities, and by individual differences in perceivers' compassionate response tendencies, including inclinations toward parental caregiving.

Method

Participants. A total of 316 adults in the United States were recruited through Amazon's Mechanical Turk (MTurk) and participated in return for a small monetary reward.[1] Nineteen individuals were removed from analyses because they failed to respond correctly to at least one of the two attention check questions. The final sample consisted of 297 participants (M age = 36.52 [SD = 12.43]; 166 women, 133 men; 162 parents, 135 nonparents).

Individual differences measures

Empathic concern. Participants completed 14 items from the Interpersonal Reactivity Index (Davis, 1983). We computed the mean of seven items to create a measure of empathic concern (e.g., "I often have tender, concerned feelings for people less fortunate than me," α = .88). (The remaining items measure perspective-taking. Preliminary analyses revealed no unique effects associated with perspective-taking; therefore, we excluded it from all analyses reported below.)

Parental care and tenderness. Participants completed a 10-item version of the Parental Care and Tenderness questionnaire (PCAT; Hofer et al., in press). Six items assessed warm, nurturant responses toward young children (e.g., "Babies melt my heart") and four additional items assessed protective responses toward young children (e.g., "I would use any means necessary to protect a child, even if I had to hurt others"). We computed an overall PCAT score as the mean response to these 10 items (α = .92).

Demographic variables. Participants responded to a short questionnaire assessing demographic information (e.g., gender, age, status as parent or nonparent.)

Person perception task. After completing individual difference measures, participants were presented with photographs of eight target individuals—four of whom were young adults (two male, two female) and four of whom were infants (of indeterminate sex). Accompanying each photograph were

Table 1. Study 1: Predictors of Moral Standing of Adults and Children.

	Adults			Children		
	β	95% CI	*p*	β	95% CI	*p*
Gender	−0.37	[−0.56, −0.18]	<.001	−0.10	[−0.31, 0.10]	.32
Parenthood	0.00	[−0.20, 0.20]	.98	0.16	[−0.06, 0.37]	.15
Empathic concern	0.17	[0.06, 0.28]	.002	−0.02	[−0.14, 0.10]	.73
PCAT	0.07	[−0.04, 0.18]	.24	0.31	[0.18, 0.43]	< .001
Affective capabilities	0.28	[0.08, 0.49]	.007	0.36	[0.26, 0.46]	< .001
Cognitive capabilities	0.21	[0.01, 0.42]	.041	−0.10	[−0.20, 0.00]	.04
	$R^2 = .39$, $R^2_{Adjusted} = .38$, $F(6, 290) = 31.39$, $p < .001$			$R^2 = .32$, $R^2_{Adjusted} = .30$, $F(6, 290) = 22.27$, $p < .001$		

Note. In all regressions, gender is coded with women = *0*, and men = *1*; parenthood is coded with nonparent = *0*, parents = *1*. CI = confidence interval; PCAT = parental care and tenderness.

rating scales on which participants made specific judgments about the individual in the photograph.

Appraisals of adults' and infants' mental capabilities. For each photograph, participants completed eight rating scales on which they indicated their perceptions that the target individual was capable of "experiencing pain," "experiencing pleasure," "feeling embarrassed," "feeling pride," "exercising self-restraint," "doing things on purpose," "telling right from wrong," and "understanding how others are feeling." (Ratings were made on 7-point scales, with higher values indicating greater capabilities.) Based on psychometric analysis of responses (see Supplemental Materials), we computed mean scores for perceptions of *infants' affective capabilities* (the capability to experience pain and pleasure, α = .73) and *infants' cognitive capabilities* (remaining six items, α = .90.) We computed analogous scores for perception of *adults' affective capabilities* (α = .96) and *adults' cognitive capabilities* (α = .95).[2]

Perceived moral standing of adults and infants. For each target individual, participants indicated their agreement with three statements assessing perceived moral standing: "This individual deserves the same respect as other human beings," "This individual deserves to be treated with compassion," "This individual has the same legal rights as other human beings." (Ratings were made on 7-point scales, with higher values indicating greater agreement.) We computed mean responses to these items to create indices of the perceived *moral standing of adults* (α = .91) and the *moral standing of infants* (α = .75).[3]

Results

Examination of means revealed that participants judged the moral standing of both adults (*M* = 6.60, *SD* = 0.69) and infants (*M* = 6.45, *SD* = 0.91) to be very high, with a higher mean rating for adults, *d* = 0.24, *t*(296) = 4.13, *p* < .001.[4]

To identify the predictors of perceived moral standing, we conducted two separate regression analyses—one predicting
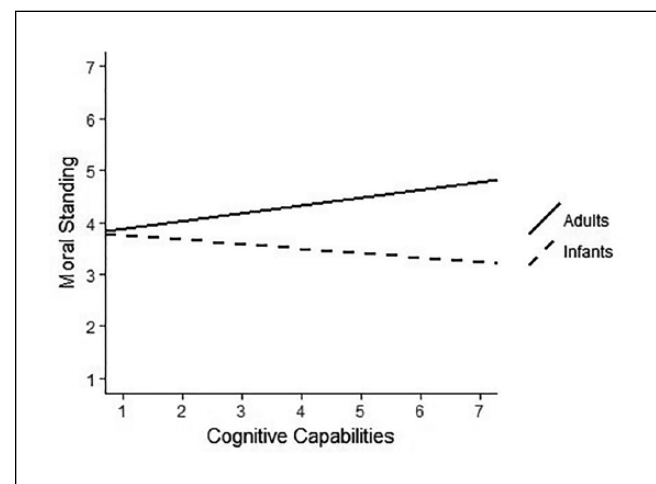

Figure 1. Study 1: Regression documenting a positive relation between perceived cognitive capabilities and moral standing of adults, and a negative relation between perceived cognitive capabilities and moral standing of infants, controlling for gender, parenthood, empathic concern, PCAT, and perceived affective capabilities.

judgments about adults and the other predicting judgments about infants. Six variables were entered as predictors: gender, parenthood, empathic concern, PCAT, perceived affective capabilities, and perceived cognitive capabilities. Results are reported in Table 1. The moral standing of adults was predicted by participants' gender (women gave higher ratings than men) and also positively predicted by empathic concern, perceived affective capabilities, and perceived cognitive capabilities. The moral standing of infants was also positively predicted by perceived affective capabilities, but in contrast to judgments about adults, judgments about infants' moral standing was *negatively* predicted by their perceived cognitive capabilities (see Figure 1). In addition, whereas PCAT had no meaningful relation with the moral standing of adults, PCAT positively predicted the moral standing of infants.[5]

Discussion

These results offer no evidence that young children are perceived to have *higher* moral standing than adults (if anything, the results show the opposite), but they do offer evidence that children's moral standing is psychologically *different*—in the sense that it is predicted by a somewhat different set of psychological constructs. A dispositional tendency to protect and nurture children had no apparent bearing on the perceived moral standing of adults, but it did uniquely predict the perceived moral standing of children. Even more striking is the different role of cognitive capability in predicting judgments of children and adults. When perceivers made judgments about adults, there was a positive association between appraisals of cognitive capabilities and perceptions of moral standing (a finding that conceptually replicates previous research; Haslam & Loughnan, 2014). But when perceivers made judgments about infants, the effect was reversed: Ratings of infants' moral standing was *negatively* predicted by their perceived cognitive capabilities.

Study 2

Study 2 provided a conceptual replication of Study 1, with a different measure of the moral standing of adults and infants. Specifically, Study 2 assessed judgments that the target individuals' moral rights were *unconditional* (e.g., the belief that the individual's well-being should be ensured regardless of the costs of doing so). To distinguish this measure from that used in Study 1, we refer to it as a measure of unconditional value.

Method

Participants. Participants were 455 adults in the United States, recruited through MTurk. Nine people were removed who failed at least one of the two attention check questions, resulting in a final sample of 446 participants (*M* age = 37.86 [*SD* = 12.59]; 288 women, 156 men, two did not report gender; 216 parents, 229 nonparents, one did not report parenthood).

Individual difference measures. Participants completed the same measures of individual differences described in Study 1. As in Study 1, analyses focused specifically on individual differences in empathic concern (α = .88) and PCAT (α = .89).

Person perception task. Participants were presented with photographs of eight target individuals (four adults, four infants), identical to those used in Study 1.

Appraisals of adults' and infants' mental capabilities. For each photograph, participants indicated their perception of the extent to which the target individual was capable of "doing things on purpose," "exercising self-restraint," "telling right from wrong," "understanding how others are feeling," "experiencing pain," "experiencing pleasure," "feeling happy," and "feeling sad." (Ratings were made on 7-point scales, with higher values indicating greater capabilities.) Based on psychometric analysis of responses (see Supplemental Materials), we computed separate four-item composite indices of *infants' affective capabilities* (α = .88), *infants' cognitive capabilities* (α = .86), *adults' affective capabilities* (α = .94), and *adults' cognitive capabilities* (α = .95).

Perceived unconditional value of adults and infants. For each target individual, participants also indicated their agreement with five statements (adapted from Hanselmann & Tanner, 2008): "People should always help this individual, even if it would be costly to do so," "People should never harm this individual, even if it would be beneficial to do so," "Under some circumstances, it would be acceptable to refuse to help this individual," "Under some circumstances, it would be acceptable to harm this individual," and "The value of this individual's well-being cannot be measured with money." (Ratings were made on 7-point scales, with higher ratings indicating greater agreement.) After reverse-scoring two items, we computed mean responses across all five items to create indices of the perceived *unconditional value of infants* (α = .88) and the perceived *unconditional value of adults* (α = .78).[6]

Results

Examination of means revealed that infants were judged to have greater unconditional moral value (*M* = 6.22, *SD* = 0.99) than adults (*M* = 4.82, *SD* = 1.12), *d* = 1.21, *t*(445) = 25.63, *p* < .001. To identify predictors of perceived unconditional value, we conducted two separate regression analyses—one on judgments about adults and the other on judgments about infants. Six variables were entered as predictors: gender, parenthood, empathic concern, PCAT, perceived affective capabilities, and perceived cognitive capabilities. Results are reported in Table 2. The unconditional value attributed to adults was uniquely predicted by gender—women gave higher ratings than men—and empathic concern. (An alternative analytic approach that addressed multicollinearity issues indicated that the unconditional value of adults was also positively predicted by perceived affective and cognitive capabilities; see Supplemental Materials.) The unconditional value attributed to infants was predicted by a somewhat different set of four variables. Empathic concern, PCAT, and perceived affective capabilities all had positive relations with judgments about infants' unconditional value. The perceived cognitive capabilities of infants had a *negative* relation with judgments about their unconditional value.

Discussion

Not only did adults and infants differ in mean levels of perceived unconditional value, they also differed in terms of the

Table 2. Study 2: Predictors of Unconditional Value of Adults and Children.

	Adults			Children		
	β	95% CI	*p*	β	95% CI	*p*
Gender	−0.39	[−0.57, −0.20]	<.001	−0.14	[−0.32, 0.03]	.10
Parenthood	−0.14	[−0.32, 0.05]	.14	−0.17	[−0.34, 0.00]	.054
Empathic concern	0.35	[0.25, 0.45]	<.001	0.20	[0.11, 0.30]	<.001
PCAT	−0.03	[−0.13, 0.07]	.57	0.26	[0.16, 0.35]	<.001
Affective capabilities	0.04	[−0.12, 0.20]	.64	0.24	[0.16, 0.33]	<.001
Cognitive capabilities	0.06	[−0.10, 0.22]	.45	−0.19	[−0.27, −0.11]	<.001
	$R^2 = .21$, $R^2_{Adjusted} = .20$, $F(6, 436) = 19.18$, $p < .001$			$R^2 = .32$, $R^2_{Adjusted} = .31$, $F(6, 436) = 34.58$, $p < .001$		

Note. CI = confidence interval; PCAT = parental care and tenderness.

variables that predicted it. For instance, individual differences in parental care-giving inclinations uniquely predicted the perceived unconditional value of infants, but had no effect on the perceived unconditional value of adults. Perhaps most notable is the finding that infants (but not adults) were perceived to have greater unconditional value to the extent that they were perceived to *lack* the capacity for sophisticated cognition. When considered together, Studies 1 and 2 show that the moral standing ascribed to adults and to young children are predicted by rather different sets of psychological variables. These results offer evidence that—at least in terms of the psychological considerations that inform judgments about moral standing—infants are perceived to be morally different from adults.

Studies 1 and 2 focused on judgments of persons, in the absence of any information about their actions. Other kinds of moral judgments are defined by responses to transgressions. In Studies 3, 4, and 5, we turned our attention to these kinds of moral judgments.

Study 3

People judge harmful actions harshly, and the tendency to do so is influenced by the intentionality of those actions: An identical action—with an identical consequence—is typically judged to be more morally wrong if it is perceived to have been intentional rather than accidental (e.g., Ames & Fiske, 2013). In Study 3, we tested whether the effect of intentionality might differ, depending on whether the perpetrator of the action was an adult or a child. In addition, we assessed whether additional variables (e.g., attributions about cognitive capabilities, PCAT) had similar—or different—effects on the perceived moral wrongness of harmful actions performed by adults and children.

Method

Participants. A total of 387 adults in the United States were recruited through MTurk. Thirteen individuals were removed from analyses because they failed to respond correctly to

attention check items. The final sample consisted of 374 participants (*M* age = 35.45 [*SD* = 12.92]; 226 women, 148 men; 159 parents, 213 nonparents, two did not report parenthood).

Individual differences measures. Participants completed the same measures of individual differences assessed in Studies 1 and 2. As in previous studies, analyses focused specifically on individual differences in empathic concern (α = .88) and PCAT (α = .89).

Vignettes describing harmful actions. Participants were presented with four short vignettes, each of which described an event in which one individual caused harm to another person (a bruised eye, a cut leg, a broken arm, a severe allergic reaction). We created eight variants of each vignette, to experimentally manipulate three variables: the intentionality of the harmful action (intentional vs. accidental), the age of the transgressor (adult vs. child), and the age of the victim (adult vs. child).

Intentional versus accidental action. Participants were randomly assigned to one of the two experimental conditions. In one condition, vignettes described the harm-causing actions as intentional (e.g., "Alex was sitting down and suddenly Mike turned and intentionally struck Alex in the face with his hand, severely bruising his eye"), whereas the other described the harm-causing actions as accidental (e.g., "Alex was sitting down and suddenly Mike tripped and fell forward and his hand accidentally struck Alex in the face, severely bruising his eye.").

Adult versus child transgressor and adult versus child victim. In two of the vignettes, the transgressor was identified as an adult (e.g., "an adult man") and in the other two vignettes, the transgressor was described as a child (e.g., "a 3-year-old boy"). In addition, in two of the vignettes the victim was identified as an adult, whereas in the other two vignettes the victim was identified as a child. These variables were manipulated orthogonally within the set of vignettes presented to each participant; specific variants of each vignette were counterbalanced across participants.
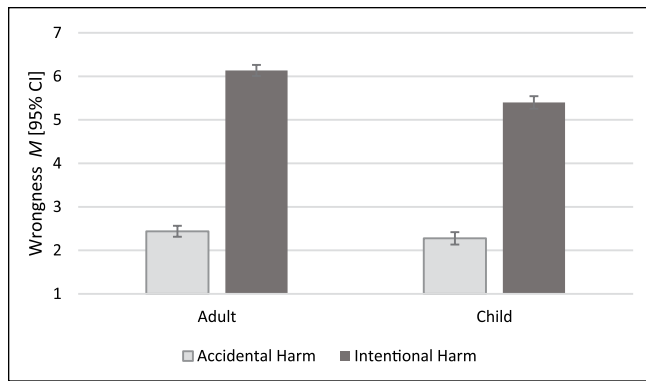
Figure 2. Study 3: Mean moral wrongness judgments about accidentally harmful actions and intentionally harmful actions, perpetrated by either adults or young children.

Judgment measures. Following each vignette, participants responded to a series of questions assessing judgments about the harmful actions and perceptions of transgressor's mental capabilities. (Ratings were made on 7-point scales.)

Moral judgments of actions. Six items assessed participants' judgments regarding the extent to which the harmful actions were "morally wrong," "appropriate," "offensive," upsetting," anger-provoking," and "deserving of punishment." After reverse-scoring the second item, we computed mean responses across all six items to create an index of *moral wrongness* (αs ranged from .82 to .84, depending on the vignette).[7]

Appraisals of mental capabilities. For each vignette, participants rated the transgressor's mental capabilities on the same eight items that were used in Study 2. We computed two separate four-item composite indices of the *affective capabilities* and *cognitive capabilities* attributed to the transgressor in each vignette (αs ranged from .81 to .95, depending on vignette).

Results

A 2 (intentional vs. accidental action) × 2 (adult vs. child transgressor) × 2 (adult vs. child victim) mixed factorial ANOVA was performed on judgments of moral wrongness. Results revealed main effects for all three variables. Intentional actions were judged as more morally wrong than accidental actions, $F(1, 372) = 1,740.09$, $p < .001$, $\eta_p^2 = .82$; the actions of adults were judged to be more wrong than the actions of children, $F(1, 372) = 71.90$, $p < .001$, $\eta_p^2 = .16$; and actions were also judged to be more wrong when a child—rather than an adult—was the victim, $F(1, 372) = 21.68$, $p < .001$, $\eta_p^2 = .06$. In addition to these main effects, there also emerged a statistically significant interaction between intentionality and transgressor's age, $F(1, 372) = 29.35$, $p < .001$, $\eta_p^2 = .07$. This interaction is displayed in Figure 2: The magnitude of the intentionality effect was greater when transgressors were adults ($d = 2.10$, intentional:

$M = 6.14$, $SD = 0.88$; accidental: $M = 2.44$, $SD = 0.88$) than when they were young children ($d = 1.57$, intentional: $M = 5.40$, $SD = 1.11$; accidental: $M = 2.28$, $SD = 0.88$).

Additional analyses examined additional predictors of judgments about the moral wrongness of adults' and children's harm-causing actions. We first computed two composite indices of moral wrongness that combined moral wrongness judgments across (a) the two vignettes involving adult transgressors and (b) the two vignettes involving child transgressors. Separate regression analyses were conducted on these two indices. For each analysis, the experimental manipulation of intentionality was entered as a predictor along with six additional variables: gender, parenthood, empathic concern, PCAT, affective capabilities, and cognitive capabilities. Results are reported in Table 3.

Results reveal that, in addition to the effect of intentionality, harsher moral judgments of adults' actions were predicted by higher levels of empathic concern and PCAT, and by appraisals of lower cognitive capability. (An alternative analytic approach that addressed issues of multicollinearity produced results showing that harsher moral judgments of adults' actions were also associated with appraisals of lower cognitive and affective capability; see Supplemental Materials.) A rather different pattern of results emerged on judgments of children's harmful actions: In addition to the effect of intentionality, harsher moral judgments of children's actions were predicted by appraisals of lower affective capability and by appraisals of *greater* cognitive capability.

Discussion

Three aspects of these results are notable. First, although the results replicate the effect that intentionality has on moral judgments of harmful actions, they reveal that this effect is reduced when the harmful action was performed by a child. Second, these results replicate previous findings (e.g., Buckels et al., 2015) showing that compassionate tendencies—as measured by empathic concern and PCAT—predict harsher moral judgments of adults' harmful actions; but the results revealed no evidence that these individual differences predicted moral judgments when the harmful actions were perpetrated by children. And third, the relationship between moral judgments and appraisals of mental capabilities differed depending upon whether people were making judgments about adults or young children: Harsher moral judgments of adults were associated with perceptions of *lower* cognitive capability, but harsher moral judgments of young children were associated with perceptions of *higher* cognitive capability.

Study 4

Counternormative actions that elicit greater levels of disgust tend to be judged more harshly (Chapman & Anderson, 2013; Russell & Giner-Sorolla, 2011). In Study 4, we tested whether

Table 3. Study 3: Predictors of Moral Wrongness Judgments for Transgressions Committed by Either Adults or Young Children.

	Adult transgressor			Child transgressor		
	β	95% CI	*p*	β	95% CI	*p*
Intentionality	1.73	[1.64, 1.83]	<.001	1.65	[1.54, 1.77]	<.001
Gender	−0.04	[−0.13, 0.05]	.33	0.05	[−0.07, 0.16]	.41
Parenthood	−0.04	[−0.13, 0.05]	.40	−0.10	[−0.21, 0.02]	.093
Empathic concern	0.05	[0.00, 0.10]	.049	0.04	[−0.02, 0.10]	.22
PCAT	0.07	[0.01, 0.12]	.013	0.01	[−0.06, 0.07]	.80
Affective capabilities	0.03	[−0.05, 0.12]	.45	−0.17	[−0.23, −0.10]	<.001
Cognitive capabilities	−0.11	[−0.19, −0.02]	.013	0.15	[0.09, 0.21]	<.001
	$R^2 = .83$, $R^2_{Adjusted} = .83$, $F(7, 364) = 254.85$, $p < .001$			$R^2 = .74$, $R^2_{Adjusted} = .73$, $F(7, 364) = 147.58$, $p < .001$		

Note. Intentionality was coded so that "accidental" = *0* and "intentional" = *1*. CI = confidence interval; PCAT = parental care and tenderness.

this effect differs depending on whether the transgressor is an adult or a child. We assessed whether additional variables (e.g., attributions about cognitive capabilities, PCAT) had similar—or different—effects on moral judgments of adults' and children's transgressions. In addition to assessing judgments about the moral wrongness of the transgression, Study 4 also assessed perceivers' willingness to forgive transgressors.

Method

Participants. A total 424 adults in the United States were recruited through MTurk. Fourteen individuals were removed from analyses because they failed to respond correctly to attention check items. The final sample consisted of 410 participants (*M* age = 35.77 [*SD* = 12.55]; 228 women, 182 men; 164 parents, 245 nonparents, one did not report parenthood).

Individual differences measures. Participants completed the same measures of empathic concern (α = .86) and PCAT (α = .90) assessed in Studies 1 to 3. In addition, after completing the tasks described below, participants completed two subscales—Pathogen Disgust (α = .83) and Moral Disgust (α = .94)—from a questionnaire assessing sensitivity to disgust (Tybur, Lieberman, & Griskevicius, 2009).

Vignettes describing counternormative actions. Participants were presented with two short vignettes, each of which described a person engaging in a counternormative action.

Low- versus high-disgust transgressions. Participants were randomly assigned to one of the two experimental conditions. In one condition, the vignettes described actions that were counternormative and were expected to elicit modest levels of disgust (e.g., an individual "smears a handful of grape jelly all over your living room wall"). In the other condition, the vignettes described transgressions that—because of the implied risk of pathogen transmission—were expected to elicit higher levels of disgust (e.g., an individual "smears a handful of his own feces all over your bathroom wall").

Manipulation checks confirm that vignettes in the latter condition were perceived to be more highly disgusting (see Supplemental Materials).

Adult versus child transgressor. For one of the two vignettes, the transgressor was identified as an adult (e.g., "Alex, a 28-year-old man . . . "); for the other vignette, the transgressor was identified as a young child (e.g., "Alex, a 2-year-old child . . . "). The specific variant of each vignette was counterbalanced across participants.

Judgment measures. Following each vignette, participants responded to a series of questions assessing judgments about either the transgressor or the transgression. (All judgments were made on 7-point rating scales.)

Moral wrongness. Four items assessed participants' judgments regarding the extent to which the action was "morally wrong," "inappropriate," "offensive," and "deserving of punishment." We computed mean responses across all four items to create an index of *moral wrongness* (adult transgressors: α = .85; child transgressors: α = .83).

Forgiveness. Participants responded to four items assessing their likely responses to the transgressor: "I would forgive [transgressor's name]"; "Despite what [name] did, I would have goodwill for [name]"; "I would try to keep as far away from [name] as possible"; and "I would find it difficult to act warmly toward [name]." After reverse-scoring the latter two items, we computed means responses across the four items to create an index of forgiveness (adult transgressors: α = .85, child transgressors: α = .76).

Appraisals of mental capabilities. Participants indicated the extent to which the transgressor was capable of "experiencing pain," "experiencing pleasure," "feeling happy," "feeling sad," "exercising self-restraint," "doing things on purpose," "making plans and working toward a goal," and "intelligent thought." (These items were modified from those used in
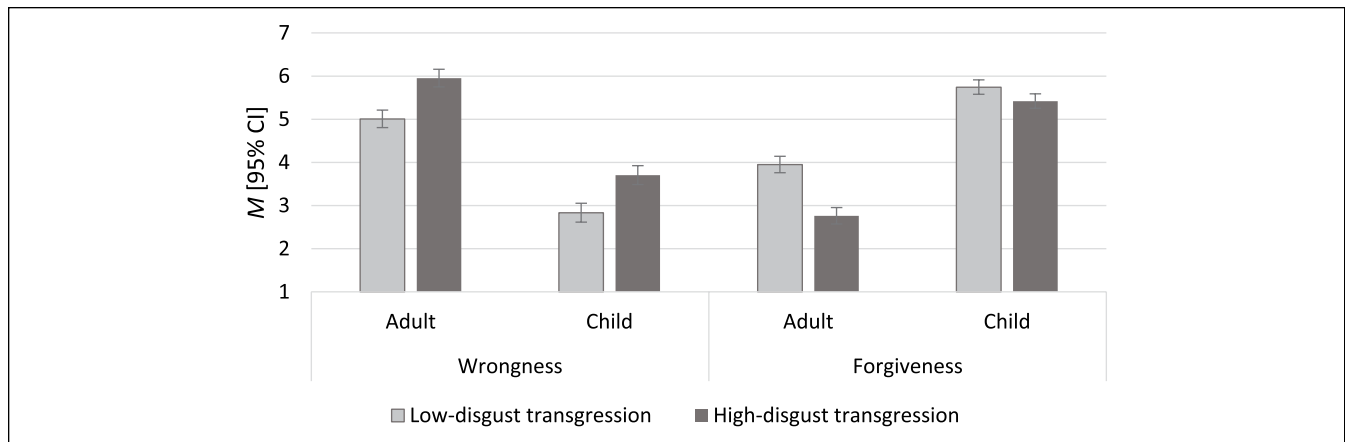
Figure 3. Study 4: Mean moral wrongness judgments and forgiveness judgments in response to low-disgust and high-disgust transgressions, perpetrated by either adults or young children.

previous studies, to remove any explicitly moral connotations from items assessing cognitive capabilities.) Based on psychometric analysis of responses (see Supplemental Materials), we computed separate four-item composite indices of perceived *affective capabilities* (adult transgressors: α = .93; child transgressors: α = .92) and *cognitive capabilities* (adult transgressors: α = .86; child transgressors: α = .82).

Results

Separate 2 (low vs. high disgust) × 2 (adult vs. child transgressor) mixed ANOVAs were performed on judgments of moral wrongness and forgiveness. (For means, see Figure 3.) Results on moral wrongness revealed main effects of disgustingness, $F(1, 408) = 70.48, p < .001, \eta_p^2 = .15$, and transgressor's age, $F(1, 408) = 429.16, p < .001, \eta_p^2 = .51$; the interaction was nonsignificant, $F(1, 408) = 0.12, p = .73$. Results on forgiveness also revealed main effects of disgustingness, $F(1, 408) = 60.48, p < .001, \eta_p^2 = .13$, and transgressor's age, $F(1, 408) = 706.55, p < .001, \eta_p^2 = .63$; in addition, the interaction was significant, $F(1, 408) = 26.78, p < .001, \eta_p^2 = .06$. This interaction reveals that the effect of disgustingness on forgiveness was stronger for adult's transgressions ($d = 0.43$) compared with identical transgressions perpetrated by a child ($d = 0.13$).

Four separate regression analyses examined additional predictors of judgments about the moral wrongness of adults' and children's transgressions and willingness to forgive adult and child transgressors. In addition to the experimental manipulation of disgustingness, eight other predictor variables were included in each analysis: gender, parenthood, empathic concern, PCAT, sensitivity to moral disgust, sensitivity to pathogen disgust, perceived affective capabilities, and perceived cognitive capabilities.

Results on moral wrongness (Table 4) reveal that judgments about the moral wrongness of adults' transgressions were positively predicted by disgustingness, PCAT, and

sensitivity to moral disgust. In contrast, judgments about the moral wrongness of children's transgressions were predicted by a different set of variables: In addition to the effect of disgustingness, these judgments were predicted *negatively* by PCAT and perceived affective capabilities, and *positively* by sensitivity to pathogen disgust and by perceived cognitive capabilities.

Results on forgiveness (Table 5) revealed that willingness to forgive adults was predicted negatively by disgustingness and positively by empathic concern. In contrast, willingness to forgive child transgressors was predicted (more weakly) by disgustingness and also predicted *positively* by PCAT and perceived affective capabilities and *negatively* by sensitivity to pathogen disgust and perceived cognitive capabilities.

Discussion

The disgustingness of a transgression affected perceivers' willingness to forgive the transgressor, but whereas this effect was substantial when the transgressor was an adult, it was weaker when the transgressor was a child. (The adult/child variable did not moderate the effect of disgustingness on judgments about the transgression's wrongness. It remains unclear why a moderating effect was found on willingness to forgive but not on judgments of moral wrongness. It is possible that this different pattern of results reflects an underlying distinction between judgments about specific actions and judgments about actors' culpability for those actions.) Further results—pertaining to individual differences in sensitivity to disgust—also imply that disgust may have different implications for moral judgments about adult and child transgressors. For instance, whereas responses to adults' transgressions were predicted by perceivers' sensitivity to moral disgust, responses to children's transgressions were not. These different effects suggest that young children resist categorization as moral agents and are thus not subject to the same obligations as adults.

Table 4. Study 4: Predictors of Moral Wrongness Judgments, for Transgressions Committed by Either Adults or Young Children.

	Adult transgressor			Child transgressor		
	β	95% CI	p	β	95% CI	p
Disgust manipulation	0.65	[0.46, 0.84]	<.001	0.63	[0.46, 0.80]	<.001
Gender	0.12	[−0.07, 0.32]	.21	−0.06	[−0.24, 0.12]	.49
Parenthood	−0.06	[−0.26, 0.14]	.54	−0.17	[−0.35, 0.02]	.07
Empathic concern	0.00	[−0.11, 0.10]	.93	0.08	[−0.02, 0.18]	.12
PCAT	0.13	[0.02, 0.25]	.021	−0.20	[−0.31, −0.10]	<.001
Pathogen disgust	0.08	[−0.02, 0.18]	.12	0.27	[0.18, 0.36]	<.001
Moral disgust	0.14	[0.04, 0.24]	.005	0.05	[−0.04, 0.14]	.29
Affective capabilities	0.08	[−0.07, 0.24]	.30	−0.22	[−0.30, −0.13]	<.001
Cognitive capabilities	−0.06	[−0.22, 0.10]	.46	0.30	[0.21, 0.39]	<.001
	$R^2 = .15$, $R^2_{Adjusted} = .13$, $F(9, 399) = 7.81$, $p < .001$			$R^2 = .27$, $R^2_{Adjusted} = .25$, $F(9, 399) = 16.19$, $p < .001$		

Note. Disgust manipulation is coded so that low-disgust transgressions = 0 and high-disgust transgressions = 1. CI = confidence interval; PCAT = parental care and tenderness.

Table 5. Study 4: Predictors of Willingness to Forgive the Transgressor, for Transgressions Committed by Either Adults or Young Children.

	Adult transgressor			Child transgressor		
	β	95% CI	p	β	95% CI	p
Disgust manipulation	−0.78	[−0.97, −0.60]	<.001	−0.30	[−0.47, −0.14]	<.001
Gender	0.05	[−0.13, 0.24]	.58	0.06	[−0.11, 0.23]	.49
Parenthood	0.07	[−0.12, 0.27]	.45	0.09	[−0.09, 0.26]	.32
Empathic concern	0.16	[0.06, 0.27]	.002	0.07	[−0.03, 0.16]	.15
PCAT	−0.05	[−0.16, 0.07]	.42	0.38	[0.28, 0.48]	<.001
Pathogen disgust	−0.04	[−0.14, 0.05]	.36	−0.15	[−0.23, −0.06]	.001
Moral disgust	−0.06	[−0.15, 0.04]	.23	−0.06	[−0.15, 0.02]	.14
Affective capabilities	0.05	[−0.10, 0.21]	.50	0.34	[0.26, 0.43]	<.001
Cognitive capabilities	0.01	[−0.14, 0.17]	.85	−0.13	[−0.21, −0.05]	.002
	$R^2 = .19$, $R^2_{Adjusted} = .17$, $F(9, 399) = 10.23$, $p < .001$			$R^2 = .33$, $R^2_{Adjusted} = .32$, $F(9, 399) = 21.91$, $p < .001$		

Note. CI = confidence interval; PCAT = parental care and tenderness.

Additional results provided further evidence that moral judgments about adults and young children are responsive to different psychological considerations. Empathic concern (but not PCAT) uniquely predicted a greater willingness to forgive adults; in contrast, PCAT (but not empathic concern) uniquely predicted a greater willingness to forgive children.[8] Also, whereas judgments of adults were unrelated to perceptions of their mental capabilities, judgments of children were uniquely predicted by appraisals of their mental capabilities: Children were judged more harshly to the extent that they were perceived to have reduced capacity for feeling and greater capacity for cognition.

Study 5

Actions that have more harmful consequences tend to attract harsher judgments, even if the harmful consequences are unintentional (Cushman, 2013). Study 5 tested whether the severity of harmful consequences has different implications (for moral wrongness judgments and for forgiveness), depending on whether an unintentionally harmful action was performed by an adult or a child. In addition, as in Studies 1 to 4, we assessed whether variables (e.g., perceived cognitive capabilities, PCAT) had similar—or different—effects on responses to the unintentionally harmful actions of adults and children.

Method

Participants. A total of 216 adults in the United States were recruited through MTurk. Ten individuals were removed from analyses because they failed to respond correctly to attention check items. The final sample consisted of 206 participants (M age = 38.36 [SD = 13.03]; 112 women, 94 men; 98 parents, 108 nonparents).

Individual difference measures. Participants completed the same measures of individual differences assessed in Studies 1 to 3. Analyses focused specifically on individual differences in empathic concern (α = .92) and PCAT (α = .90).

Vignettes describing actions with unintentional harmful consequences. Participants were presented with four short vignettes, each of which described a person engaging in an action that had unintended harmful consequences for another person. (E.g., "Alice . . . accidentally knocked a glass off of the kitchen counter. The glass shattered, leaving sharp shards on the floor. A neighbor, Jane, stepped on a shard of glass and cut her foot.") We created four variants of each vignette, to manipulate two variables: the severity of harm (slight vs. severe harm) and the age of the accidental transgressor (adult vs. child). These two variables were manipulated orthogonally within the set of four vignettes presented to each participant; the specific variant of each vignette was counterbalanced across participants.

Slight versus severe harm. In two of the four vignettes, the actions were described as having consequences that caused relatively low levels of harm. (E.g., "The cut on Jane's foot wasn't very deep, but it bled a lot; she had to wear a bandage on it for 2 days.") In the other two vignettes, the actions were described as having more substantially harmful consequences. (E.g., "The cut on Jane's foot was very deep, and it severed a tendon; she walked with a limp for the rest of her life.") Manipulation checks confirm that vignettes in the latter condition were perceived to be more harmful (see Supplemental Materials).

Adult versus child transgressor. In two of the vignettes, the accidental transgressor was identified as an adult (e.g., "Alice, a 25-year-old woman," "Tom, a 33-year-old man"). In the other two vignettes, the transgressor was identified as a young child (e.g., "Alice, a 1-year-old baby," "Tom, a 3-year-old child").

Judgment measures. Following each vignette, participants responded to a series of questions assessing judgments of the accidental transgressor and of the transgression itself. (All judgments were made on 7-point rating scales.)

Moral wrongness. Four items assessed participants' judgments regarding the extent to which the transgressor's actions were "morally wrong," "inappropriate," "offensive," and "deserving of punishment." We computed mean responses across all four items to create an index of *moral wrongness* (αs ranged from .88 to .92, depending on the vignette).

Forgiveness. Participants responded to two items assessing judgments of the transgressor: "[Name of victim] should forgive [name of transgressor]" and "[Name of victim]

should try to keep as far away from [name of transgressor] as possible." After reverse-scoring the latter item, we computed mean responses across the two items to create an index of forgiveness (αs ranged from .66 to .77, depending on the vignette).

Appraisals of mental capabilities. For each vignette, after judging the action, participants rated the transgressor's mental capabilities on the same eight items that were used in Study 4. Following the procedures described in Study 4, we computed composite indices of perceived *affective capabilities* and *cognitive capabilities* (αs ranging from .84 to .97, depending on vignette).

Results

We performed 2 (slight vs. severe harm) × 2 (adult vs. child) repeated measures ANOVAs on judgments of moral wrongness and forgiveness. Results on moral wrongness revealed two main effects: Actions were judged to be more morally wrong if the harmful consequences were severe ($M = 2.24$, $SD = 1.55$) rather than slight ($M = 2.00$, $SD = 1.37$), $F(1, 204) = 14.86$, $p < .001$, $\eta_p^2 = .07$, and if the transgressor was an adult ($M = 2.31$, $SD = 1.55$) rather than a child ($M = 1.93$, $SD = 1.35$), $F(1, 204) = 18.44$, $p < .001$, $\eta_p^2 = .08$. Results on forgiveness also revealed two main effects: Transgressors were less likely to be forgiven if harmful consequences were severe ($M = 5.67$, $SD = 1.36$) rather than slight ($M = 6.09$, $SD = 1.15$), $F(1, 204) = 39.76$, $p < .001$, $\eta_p^2 = .16$, and if transgressors were adults ($M = 5.67$, $SD = 1.28$) rather than children ($M = 6.00$, $SD = 1.26$), $F(1, 204) = 13.76$, $p < .001$, $\eta_p^2 = .06$. Neither analysis revealed any interaction effect ($Fs < 1$, $ps > .80$).

Four separate regression analyses examine additional predictors of judgments about the moral wrongness of adults' and children's accidentally harmful actions and willingness to forgive them. To do so, we first computed composite indices of moral wrongness and forgiveness, combining ratings across (a) the two vignettes involving adult transgressors and (b) the two vignettes involving child transgressors. Six predictors were included in each analysis: gender, parenthood, empathic concern, PCAT, perceived affective capabilities, and perceived cognitive capabilities.

Results on moral wrongness (Table 6) reveal that none of the predictor variables uniquely predicted judgments about the moral wrongness of adult's actions. An alternative analytic approach that addressed issues of multicollinearity produced results showing that harsher moral judgments of adults' actions were negatively predicted by appraisals of affective and cognitive capabilities (see Supplemental Materials). In contrast, whereas judgments about the wrongness of children's actions were negatively predicted by children's affective capabilities, these judgments were *positively* predicted by children's cognitive capabilities (replicating the effects observed in Studies 3 and 4). The wrongness of

Table 6. Study 5: Predictors of Moral Wrongness Judgments, for Transgressions Committed by Either Adults or Young Children.

	Adult transgressor			Child transgressor		
	β	95% CI	*p*	β	95% CI	*p*
Gender	0.10	[−0.18, 0.39]	.48	0.11	[−0.16, 0.38]	.43
Parenthood	−0.21	[−0.51, 0.09]	.16	−0.47	[−0.76, −0.18]	.002
Empathic concern	−0.14	[−0.31, 0.03]	.12	−0.11	[−0.27, 0.06]	.20
PCAT	0.11	[−0.06, 0.29]	.21	0.07	[−0.10, 0.24]	.42
Affective capabilities	−0.02	[−0.37, 0.34]	.93	−0.22	[−0.35, −0.09]	.001
Cognitive capabilities	−0.25	[−0.62, 0.11]	.17	0.25	[0.13, 0.38]	<.001
	$R^2 = .13$, $R^2_{Adjusted} = .10$, $F(6, 199) = 4.76$, $p < .001$			$R^2 = .19$, $R^2_{Adjusted} = .17$, $F(6, 199) = 7.97$, $p < .001$		

Note. CI = confidence interval; PCAT = parental care and tenderness.

Table 7. Study 5: Predictors of Willingness to Forgive the Transgressor, for Transgressions Committed by Either Adults or Young Children.

	Adult transgressor			Child transgressor		
	β	95% CI	*p*	β	95% CI	*p*
Gender	−0.16	[−0.40, 0.09]	.22	−0.26	[−0.51, −0.01]	.039
Parenthood	0.18	[−0.08, 0.44]	.16	0.35	[0.08, 0.61]	.011
Empathic concern	0.26	[0.12, 0.41]	<.001	0.14	[−0.01, 0.28]	.076
PCAT	−0.09	[−0.24, 0.07]	.26	−0.01	[−0.16, 0.14]	.90
Affective capabilities	0.13	[−0.18, 0.43]	.42	0.40	[0.28, 0.52]	<.001
Cognitive capabilities	0.32	[0.00, 0.63]	.048	−0.13	[−0.24, −0.01]	.036
	$R^2 = .35$, $R^2_{Adjusted} = .33$, $F(6, 199) = 17.95$, $p < .001$			$R^2 = .33$, $R^2_{Adjusted} = .31$, $F(6, 199) = 16.34$, $p < .001$		

Note. CI = confidence interval; PCAT = parental care and tenderness.

children's actions was also uniquely predicted by parenthood (parents judged these actions less harshly than nonparents).

Results on forgiveness (Table 7) revealed that empathic concern and appraisals of adults' cognitive capability both positively predicted forgiveness of adult transgressors. (An alternative analytic approach that addressed multicollinearity issues produced results showing that forgiveness of adults was also positively predicted by adults' affective capability; see Supplemental Materials.) A different set of four variables (gender, parenthood, and appraisals of affective and cognitive capabilities) uniquely predicted forgiveness of child transgressors. Particularly notable is the finding that—in contrast to its positive relation with forgiveness of adults— appraisals of cognitive capability *negatively* predicted forgiveness of children.

Discussion

The effect of harm severity on moral judgments and forgiveness was *not* moderated by the age of the (accidental) transgressor. However, other variables did differ in the extent to which they predicted moral judgments about adults and children. Particularly notable were the directionally different

effects associated with appraisals of adults' and children's cognitive capabilities: lower ratings of cognitive capability were associated with harsher judgments of adults and more lenient judgments of children. These findings further substantiate similar findings from Studies 3 and 4 and show that these differences emerge regardless of whether transgressions were intentional (as in Study 4) or accidental (Study 5), and regardless of whether the consequences were relatively slight or more profound.

General Discussion

Although previous research has suggested that children may have some sort of distinctive status in the moral domain (Anderson & Masicampo, 2017; Goodwin & Landy, 2014; H. M. Gray et al., 2007), these five studies are the first empirical investigation to systematically compare variables that predict moral judgments about adults and young children.

Two studies focused on judgments about the moral standing of adults and infants. Results revealed two notable similarities in the predictors of moral standing: The moral standing of both adults and infants was uniquely (and positively) predicted by attributions of their capacity to

experience basic affective states, such as pleasure and pain. The moral standing of adults and infants was also uniquely (and positively) predicted by perceivers' compassionate dispositions. But lurking within the latter similarity was a difference too: The moral standing of adults was uniquely predicted by perceivers' empathic concern (but not by perceivers' parental care-giving motives), whereas the moral standing of infants was uniquely predicted by parental care-giving motives (but not by empathic concern). These studies also revealed an even more profound difference: Adults' moral standing was *positively* associated with their perceived cognitive capabilities, but infants' moral standing was *negatively* associated with their perceived cognitive capabilities. These latter results suggest that adults and infants are tacitly perceived as belonging to psychologically distinct moral categories defined by different expectations about agency—with the implication that variables connoting agency have different influences on moral judgments.

Three additional studies focused on moral judgments regarding transgressions committed by adults and young children. Results again revealed several similarities in the sets of variables that predicted these judgments: Regardless of whether the transgression was committed by an adult or a young child, participants made harsher moral judgments if the transgression was more intentional, more disgusting, and more harmful. But, for two of these variables, the *size* of the effect differed depending on the age of the transgressor: When the transgressor was a child, there was a weaker effect of intentionality on judgments of moral wrongness (Study 3), and a weaker effect of disgustingness on willingness to forgive (Study 4). These differences suggest that, due to their relative lack of agency, young children may be exempted from typical moral expectations and thus are held less accountable for their purposeful behavior or for their failures to conform to social norms.

Another notable finding was the reversal of the effect associated with PCAT in Study 4: A dispositional inclination toward parental care-giving was associated with *harsher* responses to the transgressions of adults (replicating Buckels et al., 2015), but with more *lenient* responses to the transgressions of children. The former effect is consistent with an underlying inclination to protect children from threats posed by norm violations, the latter effect is consistent with an underlying inclination to treat children with warmth and kindness.

Perhaps an even more striking reversal was observed in the effects associated with perceived cognitive capabilities in Studies 3 and 5: Adults perceived as more cognitively capable were judged less harshly, whereas children perceived as more cognitive capable were judged *more* harshly. The latter result is consistent with speculation that when young children are perceived to have more sophisticated cognitive capabilities, they are subjectively perceived to be less infant-like (and thus more agent-like) and, as a consequence, held somewhat more accountable for their transgressions. No

such effect would be expected to occur when judging adults who are readily categorized as moral agents and thus held highly accountable for their transgressions. Instead, the opposite effect was observed in judgments of adults, reminiscent of previous research findings documenting a different psychological process: Dehumanization of adults who act immorally (Bastian, Denson, & Haslam, 2013; Khamitov, Rotman, & Piazza, 2016). If indeed such a process accounts for the effect observed in judgments of adults (and, because our results provide no evidence bearing directly on dehumanization, we must be cautious in drawing any such conclusion), these results would offer further indication that moral judgments about adults and young children are influenced by different sets of underlying psychological processes.

Broader Implications

These results make a novel contribution to research on the psychological underpinnings of human rights and the value attached to individuals' welfare. It has been observed that there is a special kind of unconditional or "sacred" value attached to the welfare of young children (Tetlock, 2003). Our results—particularly those summarized in Table 2—suggest that, although this value may be perceived subjectively to be unconditional, it actually is *not* unconditional. It is contingent upon a variety of underlying variables, including appraisals of a child's affective and cognitive capabilities, and upon perceiver's own motivational inclinations toward parental care-giving. An additional intriguing implication follows from the finding that the moral standing ascribed to adults was predicated upon their prototypically human abilities to feel and think, whereas the standing of young children was predicated upon their ability to feel and their inability to think. In a sense, the human rights of adults depend upon their apparent "human-ness," whereas the human rights of infants depend not so much upon their apparent "human-ness," but instead upon their apparent "infant-ness."

More broadly, the results of all five studies contribute to our understanding of the cognitive processes that underlie moral judgments of different kinds. Many of these results fit with the conceptual principles of "moral typecasting," and thus highlight novel implications of these principles (K. Gray & Wegner, 2009). It is well-established that adults and infants are perceived to have similar levels of patiency but different levels of agency (H. M. Gray et al., 2007). But adults and infants are not simply located in different places along an agency continuum; instead, because infants are so profoundly different from adults in perceived agency, they may be tacitly treated as belonging to a distinct moral category. This interpretation fits with a "person-centered" approach to moral judgment (Uhlmann, Pizarro, & Diermeier, 2015). It also fits with an evolutionary perspective on social cognition. Over the course of

human evolutionary history, people characterized by different phenotypic characteristics (corresponding to age, sex, health status, etc.) have had functionally different implications for others' reproductive fitness, and there evolved psychological mechanisms that are sensitive to those characteristics and respond to them in functionally distinct ways (Neuberg & Schaller, 2014). Unlike adults—and even unlike older children—young children (especially infants) require considerable protection and care before they might realize their potential to confer fitness benefits to others. In that sense, children are functionally exceptional. And so, they may be perceived as being morally exceptional too, which has consequences for the kinds of variables that do, and do not, influence moral judgments.

The results also make a novel contribution to research on the motivational psychology of parental care-giving. The parental care motivational system has unique implications not only for benevolent responses to children, but also for aversive responses to things—including other people—who pose a potential threat to children (Buckels et al., 2015; Gilead & Liberman, 2014; Hahn-Holbrook et al., 2011). This latter tendency accounts for the finding that, when people adopt a more "parental" mind-set, they respond more harshly to the moral transgressions of others (Buckels et al., 2015; Eibach & Mock, 2011). But this finding must now be qualified, given evidence (from Study 4) that the *opposite* effect occurs when the moral transgression is committed by a child. Importantly, however, both findings (harsher responses to adults' transgressions and more lenient responses to children's transgressions) are entirely consistent with the dual dispositions—protection and nurturance—associated with the motivational psychology of parental care (Hofer et al., in press).

These results may also have implications for important behavioral decisions that may be influenced by moral judgments (e.g., legal decisions, medical decisions). Our results suggest that one cannot rely on insights from the existing literature on moral judgment (which focuses almost entirely on judgments about adults) to predict punitive responses to young children. Another implication follows from the effect that moral standing judgments may have on decisions regarding others' health and welfare: The beliefs that a professional decision-maker (e.g., a physician or medical ethicist) have about others' cognitive capabilities may influence their professional decisions differently, depending upon whether those decisions affect adults or infants. These and other implications for truly consequential decision-making merit closer attention in future research.

Future research might also explore whether other person perception phenomena also differ across targets of different ages, in ways that are analogous to the differences documented here. If there is any merit to the suggestion that young children are morally exceptional, then they may be inferentially exceptional in other ways as well.

Notes

1. To increase power, we manipulated all variables within-subjects whenever possible. Exploratory power analyses revealed that a sample size of approximately 220 would have sufficient power to detect a small effect (correlation or within-subjects differences in responses) with .80 power, and would have sufficient power to detect a medium-sized effect with >.99 power. Therefore, we aimed to recruit 200 to 300 participants for studies involving entirely within-subjects effects (Studies 1, 2, and 5), and approximately 400 participants for studies including both within-subjects and between-subjects manipulations (Studies 3 and 4). In all studies, the sample size exceeded the size at which effect size estimates stabilize (Schönbrodt & Perugini, 2013). All data pertaining to these analyses is available at https://osf.io/t3jsw/

2. In all studies, items assessing the capabilities of adult targets loaded on a single factor, whereas identical items assessing the capabilities of child targets loaded on two separate factors. For the sake of analytic comparability, we computed separate measures of perceived affective capabilities and cognitive capabilities for all targets, and both measures were included as predictor variables in regression analyses reported in the results. This analytic strategy potentially introduces multicollinearity into analyses regarding adult targets. Therefore, for each outcome variable in each study we conducted additional regression analyses that addressed this multicollinearity issue. The results of these alternative analyses are presented in the Supplemental Materials. In general, these analyses produced results that are inferentially similar to those reported in the primary analyses, and any exceptions are identified explicitly in the "Results" sections.

3. One additional item completed by participants was removed from these composites, based on psychometric analyses. See Supplemental Materials for details.

4. Additional analyses tested mean differences in perceptions of adults' and infants' affective and cognitive abilities. In general, across all studies, adults were perceived to have substantially greater cognitive abilities than young children, but only slightly greater affective capabilities. See Supplemental Materials for details.

5. Tabulated results include confidence intervals around standardized regression coefficients. These confidence intervals inform binary decisions about statistically significant differences ($p < .05$) between predictors of judgments about infants and judgments about adults. In addition—for this study and for all subsequent studies reported here—we conducted multilevel regression analyses that explicitly tested the extent to which target age moderated the effects that other predictor variables had on the outcome variable. The results of these additional analyses are presented in the Supplemental Material.

6. Following the completion of these procedures, participants also completed a different kind of moral judgment task, in which they were presented with vignettes describing adult protagonists who engaged in actions that protected the well-being of multiple people at the cost of causing harm to a single person, who was either an adult or a child. Participants judged the moral wrongness of these actions. Methodological details and results are described in the Supplemental Materials.

7. Participants also responded to two additional items assessing how severe the harm was, and how much pain was experienced by the victim. Analysis on these variables revealed higher judgments of harm severity and pain when transgressors were adults, when victims were children, and when the actions were intentional; $\eta_p^2 s > .01$, $ps < .03$.

8. Hofer et al. (in press) report additional analyses on these data, focusing specifically on the extent to which the effects of PCAT—documented here—reflected protective tendencies, nurturant tendencies, or both. Results revealed that the relation between PCAT and harsh judgments about adults' transgressions was specific to items assessing protective tendencies, and that the relation between PCAT and lenient judgments about children's transgressions was specific to items assessing nurturant tendencies.

Supplemental Material

Supplementary material is available online with this article.

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