Navigating between punishment, avoidance, and instruction: The form and function of responses to moral violations varies across adult and child transgressors

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A B S T R A C T

Immoral actions can elicit a wide array of responses, ranging from pugnacious confrontation to passive distancing. What leads onlookers to react so differently to various violations? Across four studies ($N = 2085$), we investigated how responses vary depending on whether moral transgressions are committed by adults or by children. Findings reliably demonstrated that adult participants were more likely to avoid adult transgressors, and more likely to instruct child transgressors about why their actions were wrong. These patterns arose from varying cost-benefit structures, derived in part from asymmetries in interpersonal power between adults and children, rendering adults' direct confrontation of children both less costly and more beneficial. Although adults' transgressions were judged to be relatively more wrong, participants had greater anxiety about the negative consequences of confronting adults, and they viewed adults' personalities as less malleable, thus diminishing the effectiveness of confrontation. In contrast, 4- to 9-year-old children did not differ in their willingness to avoid or instruct adult and child transgressors. Across studies, the content of transgressions (e.g., being harmful or impure) mattered little for determining the nature of responses. Overall, diverse responses to moral transgressions were uniquely tailored to the different costs and benefits associated with confronting adult and child transgressors.

1. Introduction

When you see someone do something wrong, how do you respond? Do you angrily rebuke them or seek to punish them for their transgression? Do you perhaps take a more instructional approach and gently explain to them why their behavior was wrong? Or do you just avoid interacting with them entirely? These alternatives show the variety of ways that people might choose to respond to others' moral transgressions, and each response provides different sets of costs and benefits. Compared to mere avoidance, any direct confrontation—whether in the form of angry rebuke or gentle instruction—is likely to be more immediately costly but also more likely to eventually pay off by reducing the transgressor's likelihood of repeating that transgression in the future. Therefore, the actual response that observers will choose is likely to differ across contexts, depending on specific variables that influence the

perceived costs and benefits of responding. Some of those variables pertain to the nature of the transgression itself (e.g., how harmful it was, whether it violated standards of purity, or whether it was intentional or not; Cushman, 2008; Kemper & Newheiser, 2018; Schein & Gray, 2018). But even identical transgressive actions may elicit different responses, depending upon the specific characteristics of perpetrators and perceivers. The role of personal characteristics, which has often been overlooked in previous literature (cf. Hester & Gray, 2020), is our focus here. Drawing upon the principles of a "person-centered" approach to moral cognition (e.g., Uhlmann, Pizarro, & Diermeier, 2015), we examine how—and why—people respond differently to a moral transgression depending on whether the transgressor was an adult or a child.

Although there is substantial literature on the moral cognitions of children (e.g., children's responses to others' transgressions; Hamlin, 2013; Killen & Smetana, 2015; Schmidt & Tomasello, 2012), there is

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much less research on moral cognitions *about* children. That limited body of research has revealed some striking differences in adults' moral cognitions about adults and children, including differences in the extent to which adults' and children's lives are valued, different appraisals of the wrongness of adults' and children's transgressions, and different predictors of these wrongness judgments (e.g., Goodwin & Landy, 2014; Li, Vietri, Galvani, & Chapman, 2010; White & Schaller, 2018). These findings provide reason to suspect that people may be inclined to make different choices about how to behaviorally respond to children's transgressions. For example, in comparison to tendencies toward punishment, rebuke, or avoidance in the case of adult transgressors, people may be more inclined toward instruction in the case of child transgressors. Understanding these differences—if indeed they exist—would both extend prior research on moral evaluations of children's transgression, and provide a novel lens through which to examine more general processes through which moral cognitions are influenced by specific interpersonal contexts. To inform hypotheses about the nature of those differences, it is useful to consider closely the potential costs and benefits of different responses to transgressions and how they vary across different interpersonal contexts.

1.1. Costs and benefits of various responses to transgressors

Confronting transgressors about their misdeeds provides several benefits to individuals and groups, including signaling what is correct behavior (Cushman, Sarin, & Ho, 2019; Ho, Cushman, Littman, & Austerweil, 2019), deterring further transgressions to ensure future prosocial behavior (Boyd, Gintis, Bowles, & Richerson, 2003; dos Santos & Wedekind, 2015; Marlowe & Berbesque, 2008), and reducing the possibility of future harm to oneself (Delton & Krasnow, 2017; Krasnow, Cosmides, Pedersen, & Tooby, 2012; Krasnow, Delton, Cosmides, & Tooby, 2016). Public condemnation of moral violations can also have reputational benefits for the punisher, when it communicates that the punisher disapproves of the transgression and values prosocial, normative conduct (Jordan, Hoffman, Bloom, & Rand, 2016; Jordan & Rand, 2019). These goals can be accomplished by both direct punishment, which imposes a cost or withholds a benefit from the transgressor, and through reprimands and instruction about correct behavior, which do not impose any punitive cost (Sarin, Ho, Martin, & Cushman, 2021). But each of these strategies requires a responder to directly confront and interact with the transgressor in order to communicate their disapproval.

Confronting a transgressor—whether through rebuke, punishment, or instruction—can be risky. Direct confrontation forces the responder to be in close proximity to the transgressor, which can be emotionally uncomfortable or even physically risky (e.g., it risks retaliation from a transgressor who does not take kindly to rebuke or unsolicited advice; Balafoutas & Nikiforakis, 2012). These responses may also risk being perceived by others as unnecessarily over-reactive, meddlesome, or socially inappropriate in some other way, thus subjecting responders themselves to reprimand or rebuke. For these reasons, witnesses to a transgression may be tempted to instead deploy a less confrontational response, such as simply avoiding the transgressor or excluding them from one's social network. Avoidance provides protection from the transgressor by limiting future social interactions, while additionally serving as a low-cost signal of disapproval of the transgressor's behavior (especially if accompanied by expressions of contempt or disgust; Kupfer & Giner-Sorolla, 2017; Yoder, Widen, & Russell, 2016). However, merely avoiding a transgressor in the future may not be a sufficient signal to communicate that they did something wrong, and therefore may be less likely to discourage future transgressions. A tacit appraisal of the balance of these potential costs and benefits within a given situation is therefore likely to shape how observers will respond to a moral transgression. Those appraisals can vary, depending upon the features of the persons who perpetrate transgressions.

1.2. Relationships between transgressors and responders affect costs and benefits

When responding to a transgression, people respond not just to the transgression itself, but to the persons involved, including the victim of a transgression (e.g., Lopez, Moorman, Schneider, Baker, & Holbrook, 2019; Molho, Tybur, Güler, Balliet, & Hofmann, 2017; Molho, Tybur, Van Lange, & Balliet, 2020; Pedersen, McAuliffe, & McCullough, 2018; Tybur et al., 2020) and—our focus here—the transgressor (Cushman, 2013; Malle, Guglielmo, & Monroe, 2014). Judgments of blame, for instance, are informed by inferences about the transgressor's intentions, capacities, and social obligations (Malle et al., 2014). These inferences, along with subsequent behavioral responses to a transgression, may differ for different transgressors. For example, people respond more punitively toward strangers than toward someone with whom they have a close relationship (Hofmann, Brandt, Wisneski, Rockenbach, & Skitka, 2018; Waytz, Dungan, & Young, 2013; Weidman, Sowden, Berg, & Kross, 2020); and people engage in less confrontational responses when they place less value on their relationship with the transgressor, or when there is a high threat of future exploitation from the transgressor (Burnette, McCullough, Van Tongeren, & Davis, 2012; McCullough, Kurzban, & Tabak, 2013; Smith et al., 2019). More generally, the perceived costs and benefits of any response can vary depending upon specific characteristics of the transgressor.

If the benefits of confrontational responses are perceived to accrue from reducing the likelihood of future transgressions, then people may be more inclined toward confrontational responses when the transgressor is viewed as actually capable of change, rather than viewed as stuck in their immoral ways or irredeemably contaminated by their transgression (Kemper & Newheiser, 2018; Kupfer & Giner-Sorolla, 2017). Other variables may affect the perceived costs of confrontational responses. One such variable is the power dynamic between the perceiver and the transgressor. If the transgressor is perceived to have relatively less power (e.g., lower authority or lower social status) than the responder, the potential costs of a confrontational response (e.g., interpersonal discomfort and risk of retaliation) are likely to be reduced, increasing the likelihood of a confrontational response. Consistent with this analysis, Molho et al. (2020) found that people were more inclined toward confrontational responses when they had greater interpersonal power, but were inclined toward more avoidant responses when they had lower interpersonal power. Similarly, cultures with greater power distance are more likely to endorse confrontational forms of punishment (Eriksson et al., 2021).

1.3. Factors shaping responses to adult and child transgressors

The preceding analysis provides multiple reasons to expect that people may respond rather differently to a transgression—even if the transgression itself and its consequences are identical—depending on whether that transgression is committed by an adult or by a child. One possibility follows straightforwardly from previous research on blame and punishment (e.g., Cushman, 2013; Malle et al., 2014): Because adults and children differ in their perceived mental capacities and social obligations (integral factors in judgments of blame; Malle et al., 2014), adults are more likely than children to be personally blamed for their moral transgressions. In general, adults' moral transgressions are likely to be perceived as weirder, more deliberate, and more harmful than children's moral transgressions (White & Schaller, 2018), with the consequence that adults' transgressive actions are more likely to be punished than identical actions performed by children. But it may not be quite so straightforward—especially if a punitive response requires a potentially costly confrontation with the transgressor. Other, less punitive responses (e.g., instruction, avoidance) must be considered too, and decisions may also depend on other variables along which adults and children differ.

People are more forgiving of transgressions committed by children,

and they view children's moral character to be relatively less developed and more malleable (White et al., 2020; White & Schaller, 2018). As a consequence—even when the perceived wrongness of a transgression is identical—perceivers may be more inclined to confront a child transgressor (compared to an adult transgressor), and to do so in a way that is less punitive and more instructional. Additionally, most societal norms are such that adults are typically viewed as having relatively greater status and/or authority (i.e., greater interpersonal power) than children. Consequently, compared to confrontational responses toward adult transgressors, confrontational responses to child transgressors are likely to be perceived as less risky. This too suggests that an avoidant response is relatively more likely when the transgressor is an adult, whereas some form of direct confrontation is more likely when the transgressor is a child. More generally, given the multiple dimensions along which adults and children differ, and the multiple ways in which people might respond to a transgression, there are many reasons to suspect that people may respond in different ways to adult and child transgressors.

It is also possible that responses to adult and child transgressions may differ depending on whether perceivers are adults or children themselves. For example, whereas adults might be mindful of adult/child differences in mental capacities and social obligations and thus more inclined to forgive children for their transgressions, children may be less mindful of these variables and thus less forgiving toward their peers. Additionally, to the extent that confrontational responses function to ensure partner control and inform partner choice, these responses may be preferentially directed toward members of one's own peer group (who serve as potential cooperative partners). The implication is that, in contrast to adults who witness transgressions, children who witness those same transgressions may respond just as punitively—and perhaps even more punitively—toward child transgressors as toward adult transgressors. To test this possibility, one of the four empirical studies reported below included children (as well as adults) as participants.

1.4. Overview of studies

In four studies, we presented participants with moral transgressions and examined how their responses—including inclinations toward punishment, instruction, and avoidance—differed depending on whether the transgressors were adults or children. In doing so, we tested a set of hypotheses about specific variables that might explain these differences. Study 1 tested whether adult participants responded differently to adult transgressors and child transgressors who violated harm- and purity-related moral norms, and provided preliminary evidence bearing on variables that might account for those differences. Study 2 extended these findings to a new sample of adult participants and also included a sample of 4- to 9-year-old child participants to test whether children also responded differently to adult vs. child transgressors. Studies 3 and 4 employed additional measures and mediation analyses to test additional hypotheses about additional variables that might plausibly explain why adult participants responded differently to adult and child transgressors. These mediational variables included: anxiety about confronting the transgressor, the perceived malleability of the transgressor's moral character, and perceived authority over the transgressor. Study 4 further manipulated the status of the perceiver relative to the transgressor, in order to experimentally test whether relative differences in interpersonal power affected adults' responses to transgressions.

Hypotheses, methods, and analysis plans were preregistered on the Open Science Framework prior to data collection (https://osf.io/mbn3y/), and all data and analysis scripts are available at the same link. In the Methods and Results sections (or in accompanying Supplementary Materials) we report all manipulations and measures completed by participants, as well as preregistered sample sizes and preregistered decision-rules for data exclusion. In addition, we identify any deviations from preregistered analysis plans.

2. Study 1

In Study 1, adults evaluated a series of transgressions that were described as being performed by children (4–9 years old) or adults (25–50 years old). Participants evaluated the transgressor's actions and then reported their willingness to physically and verbally confront the transgressor, instruct the transgressor about their bad deed, or avoid the transgressor in the future. The transgressions included actions that did or did not cause harm to another person, and actions that did or did not involve potential pathogens—in order to test whether adults' differential responses to adult and child transgressors, and the emotions elicited by these transgressions, are moderated by the nature of the transgressive action.

2.1. Methods

2.1.1. Participants

We planned to recruit a sample of approximately 350 adult participants, located in the United States, from Amazon's Mechanical Turk (MTurk). Based on power analyses via simulation conducted using the SIMR package in R (Green & MacLeod, 2016), a sample size of 350 should be able to detect reasonably-small two-way ($b = 0.20$) or three-way interactions ($b = 0.25$) between transgressor age and vignette types with >85% power. To increase power, all variables were manipulated within-subjects. According to additional power analyses conducted using the pwr package in R, this sample size should also have enough power to detect reasonably-small correlations ($r = 0.15$) between variables of interest with >80% power. Based on preregistered criteria, we excluded 98 participants who failed one or more attention check criteria (inability to recall one thing that an adult or child did in one of the scenarios; incorrect response to the question "Please select Always as your answer to this question" or a CAPTCHA; participants who reported that they did not pay attention, did not take the survey seriously, or were otherwise distracted while completing the survey). This resulted in a final sample size of 331 participants, 51% of whom were parents, 38% male (parental status and gender did not moderate any of the effects described below; all sample demographics are provided in Supplementary Materials). All data were collected in April 2019.[1]

2.1.2. Materials and procedure

2.1.2.1. Vignettes describing transgressions. Each participant evaluated eight different vignettes depicting transgressions, that manipulated within-subjects (a) whether the transgression was committed by an adult (aged 25, 30, 35, 40, 45, or 50 years old) or a child (aged 4, 5, 6, 7, 8, or 9 years old), (b) whether the transgression involved potential pathogens (e.g., "While David is alone at home, he smears a handful of his own poop all over his bathroom wall") or did not involve pathogens (e.g., "Brian says mean things about how an overweight person looks"), and (c) whether the transgression involved a victim (e.g., "Jennifer passes some food to her friend with her bare hands, even though she hasn't washed her hands all week long") or no victim (e.g., "When camping, Emily draws a picture and writes her name on a big, pretty rock with permanent markers") who might be affected by the transgression. The presence of pathogens and potential victims were manipulated orthogonally to create 4 different transgression types:

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[1] Results from this Study (Timepoint A) were replicated one year later, after the onset of the global coronavirus pandemic (Timepoint B). Results were highly similar at both timepoints (there was no significant change between timepoints in tendencies to avoid, confront, or instruct transgressors, nor did worry about COVID-19 meaningfully moderate any effects). Full results documenting this consistency across time are available in the Supplementary Materials, and analyses presented below describe results from the preregistered analyses at Timepoint A.

Pathogen and no victims, victims and no pathogens, both pathogens and victims, and neither pathogens nor victims. Vignettes were chosen from a broader pool of 7 scenarios per condition (each depicting a different target individual), the order of presentation of vignettes was randomized across participants, and the order of items was randomized within each type of question. All stimuli are available in the Supplementary Materials.

2.1.2.2. Evaluations of transgressions and transgressors. Participants made several evaluations of each vignette, all on 5-point rating scales. These questions were: "how wrong is [Transgressor]'s behavior?", "how angry does this make you feel?", "how grossed out does this make you feel?" and "do you think that [Transgressor] is usually a good person or a bad person?" These items were combined into a composite measure of action wrongness (Cronbach's $\alpha = 0.73$). Participants then rated whether the transgressor has various mental capabilities (is able to "do things on purpose," "come up with smart ideas," "tell right from wrong," "understand how others are feeling," "feel pain," and "feel joy," composite: $\alpha = 0.89$).

2.1.2.3. Responses to transgressions. Participants next reported how they would respond to the transgression. Based on exploratory factor analyses (see Supplementary Materials), these responses were grouped into three composite variables: Two items assessed willingness to *instruct* the transgressor ("I would try to explain to him [her] why it is better to behave well," "I would try to explain to him [her] why his behavior was wrong", $\alpha = 0.90$), two items assessed *physical/verbal confrontation* ("I would yell, shout, or scream at him [her]", "I would want to slap or hit him [her]", $\alpha = 0.82$), and four items assessed *avoidance* of the transgressor ("I would try to stay as far away from him [her] as possible," "I would not want to be his [her] friend," "I would feel embarrassed to have lunch with him [her]," "I wouldn't want to be on his [her] team when playing a game," $\alpha = 0.92$).

2.1.2.4. Transgression strangeness. Two items assessed perceptions of the transgression's strangeness: "How strange would it be for other children [adults] to do what [Transgressor] did?" and "Is [Transgressor] behaving very differently from most people her age?" (composite $\alpha = 0.95$).

2.1.2.5. Individual difference measures. After evaluating the vignettes, participants completed measures of several individual differences, including in the tendency to protect and nurture children and disgust sensitivity. These variables were included as controls in the primary preregistered models presented below, and full results are available in the Supplementary Materials.

2.2. Results

2.2.1. General analysis strategy

All analyses were performed as multi-level models that included random intercepts nested within participant, and random intercepts nested within vignette, to account for the repeated-measures nature of the data.[2] For these analyses, transgressor age was dummy coded (0 = child transgressor, 1 = adult transgressor) and the presence of a victim or potential pathogens was contrast coded (-0.5 = no victim/pathogens, 0.5 = victim/pathogens). Mental capabilities and strangeness, which contained repeated-measures within participant, were centered within-participants and then standardized. Individual differences in

disgust sensitivity and parental care were standardized across participants.

Separate regressions were performed predicting composite measures of (a) transgression wrongness, (b) avoidance, (c) physical/verbal confrontation, and (d) instruction. We first (Model 1) investigated differences across the experimentally-manipulated conditions in each vignette, by predicting each dependent variable from transgressor age, pathogen presence, and victim presence, plus all interactions between these variables. These models also controlled for disgust sensitivity, parental care tendencies, and the interaction between parental care tendencies and transgressor age, to account for individual differences in the tendency to respond to disgust-eliciting stimuli and to respond positively to children (the pattern of results is similar if these variables are not included in the model). Bivariate correlations between all variables and tests showing no issues from multicollinearity between variables are available in the Supplementary Materials for all studies. Fig. 1 displays means across conditions predicted by this model. Second (Model 2), mental capabilities and strangeness were added as covariates to this primary model, to assess the extent to which these variables can account for the differences between responses to adults' and children's transgressions. Results from these models are depicted in Fig. 1 and available in full in the Supplementary Materials, and simple effects derived from this model are described in the main text.

2.2.2. Model 1: condition differences, controlling for individual differences

In general, children's actions were rated as substantially less wrong than adults' actions, $b = 0.50$, 95% CI [0.44, 0.56], $p < .001$. This difference between judgments about children and adults was a large, statistically significant effect for each of the four transgression types ($bs > 0.35$), and for each of the four items that made up the composite wrongness measure (wrongness, bad person, grossness, and anger, $bs > 0.39$, $ps < .001$).

The preferred responses to transgressors also differed regarding children's and adults' actions. As depicted in Fig. 1 (Table S15), participants were substantially more likely to avoid adult transgressors than child transgressors, $b = 0.98$ [0.91, 1.05], $p < .001$, and this effect was slightly larger when the transgression included pathogens (with victim: $b = 1.00$ [0.86, 1.14], without victim: $b = 1.13$ [0.98, 1.27]) than when not including pathogens (with victim: $b = 0.94$ [0.79, 1.08], without victim: $b = 0.84$ [0.70, 0.99], all $ps < .001$). Participants were also more likely to confront (yell at or hit, Table S16) adult transgressors than child transgressors, $b = 0.32$ [0.26, 0.38], $p < .001$, and this effect was slightly larger when the transgression included a victim (with pathogens: $b = 0.41$ [0.29, 0.53], without pathogens: $b = 0.37$ [0.25, 0.50]) than when not including a victim (with pathogens: $b = 0.17$ [0.05, 0.29], with pathogens: $b = 0.32$ [0.20, 0.44], all $ps < .006$). In contrast, participants were substantially *less* likely to instruct (Table S17) adults about the wrongness of their actions compared to child transgressors, $b = -0.56$ [-0.63, -0.49], $p < .001$, and this difference did not significantly differ across different types of transgressions ($ps > .05$).

2.2.3. Model 2: accounting for mental capabilities and strangeness

To investigate possible explanations for these differences between responses of adult and child transgressors, the perceived strangeness of the action and the mental capabilities attributed to the transgressor were added into the regression model. When mental capabilities and strangeness were added to the model, the transgressor age differences in avoidance and vengeance were substantially reduced. To further investigate this effect, mental capabilities and strangeness were investigated as mediators of the transgressor age effect on responses, using an exploratory multilevel structural equation model in *lavaan* to calculate the indirect/total mediated effects (this model includes all of the same covariates and random intercepts by participant that were present in Model 1).

The mediation model predicting avoidance is depicted in Fig. 2. Adult transgressors were perceived to possess greater mental

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[2] We only preregistered including random intercepts by participant, but we added in random intercepts by vignette to make the analysis consistent with the analysis plan used in Studies 2 and 3. The patterns of results were similar – in magnitude and in inferential implications – for either specification of the models.
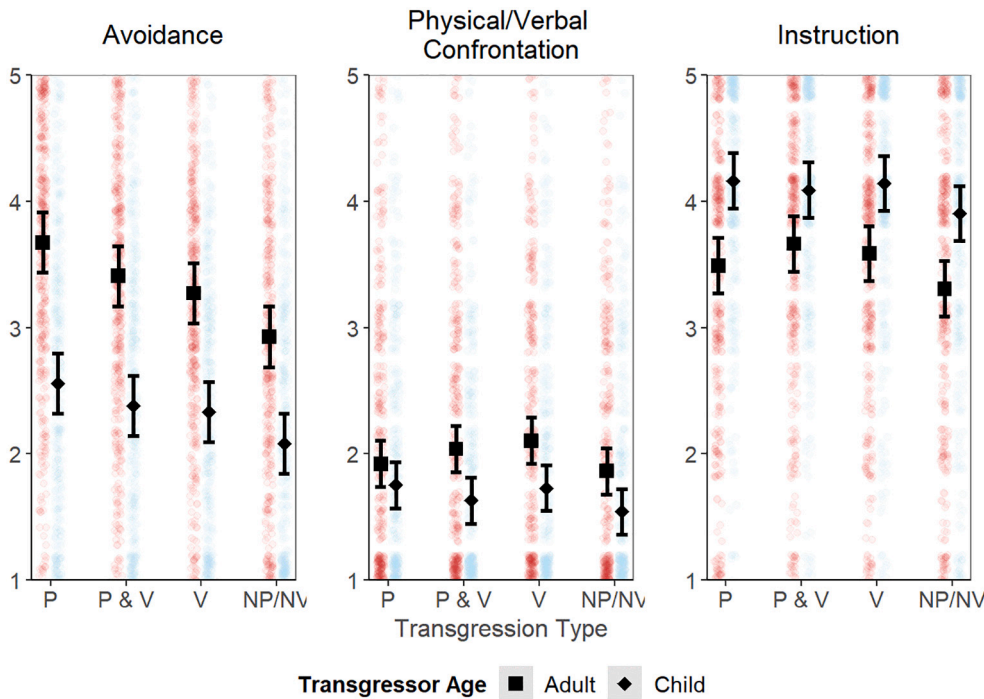
Fig. 1. Mean tendency to avoid, physically/verbally confront, and instruct adult and child transgressors, for each type of transgression. Means and 95% CIs are predicted from the multi-level models that include random intercepts nested within participants and within vignette scenario, and that control for individual differences in parental care and disgust sensitivity. A similar pattern is observed if only raw means are plotted. Transgression type: P = pathogens, no victim; P&V = pathogens and victim; V = victim, no pathogens; NP/NV = neither pathogens nor victim.
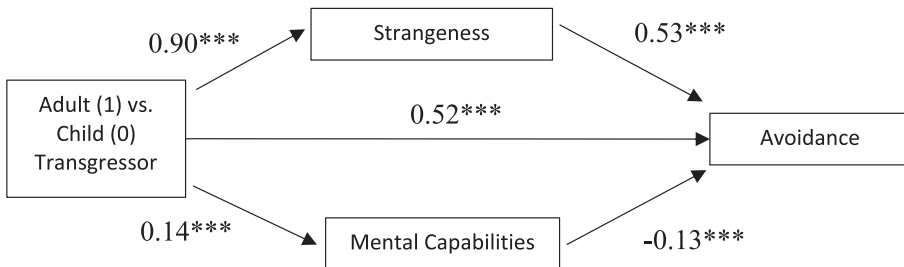

Fig. 2. Coefficients from the path model testing whether the greater tendency to avoid adult, compared to child, transgressors is mediated by the perceived strangeness of the actions and mental capabilities of the transgressor. The model also controls for whether the transgression involved pathogens or a victim, participants' level of disgust sensitivity and parental care tendencies, and random intercepts by participant, as in the primary preregistered models. ***$p < .001$.

capabilities and their transgressions were viewed as much stranger than were children's transgressions. Greater perception of mental capabilities predicted less avoidance, resulting in an overall negative indirect effect, $b = -0.019$, $95\% \ CI = [-0.03, -0.01]$, total effect: $b = 0.50$ [0.42, 0.57]. That is, transgressor age predicted *less avoidance* via mental capabilities, which therefore cannot explain why adult transgressors were *avoided more* than child transgressors. Transgression strangeness also predicted greater avoidance, and the greater strangeness of adult's transgressions did partially mediate the association between transgressor age and avoidance, indirect effect: $b = 0.48$ [0.43, 0.53], total effect: $b = 0.99$ [0.93, 1.06]. However, a large tendency to avoid adults more than children, $b = 0.50$ [0.43, 0.57], $p < .001$, remained even after accounting for transgression strangeness, indicating other untested factors leading to greater avoidance of adults.

Mental capability attribution also did not explain the elevated inclinations to confront adult transgressors with hitting or yelling or the elevated tendencies to instruct child transgressors about the wrongness of their actions. Greater mental capabilities predicted less willingness to physically/verbally confront the transgressor, $b = -0.10$, $p < .001$, but did not explain much of the relationship between transgressor age and confrontation tendencies, indirect effect: $b = -0.01$ [-0.02, -0.01], total effect: $b = 0.09$ [0.02, 0.16]. Greater mental capabilities also predicted less instruction, $b = -0.13$, $p < .001$, but did not explain much of the relationship between transgressor age and instruction tendencies, indirect effect: $b = -0.02$ [-0.03, -0.01], total effect: $b = -0.73$ [-0.82, -0.65]. Therefore, differences in mental capability attribution do not explain the differences in responses to adult and child transgressors.

Perceived strangeness of the transgression predicted greater willingness to confront adults, $b = 0.25$, $p < .001$, as well as the reduced tendency to instruct adults, $b = 0.20$, $p < .001$. Strangeness partially mediated the greater willingness to yell at or hit adult transgressors, indirect effect, $b = 0.22$ [0.18, 0.26], total effect: $b = 0.33$ [0.26, 0.39], indicating that the greater strangeness of adults' transgressions is part of the reason why participants were more inclined to confront adults ($b = 0.11$ [0.04, 0.17], $p = .003$, when controlling for mind attribution and strangeness). However, strangeness did not explain the tendency to instruct children more than adults, as indicated by the positive indirect effect of transgressor age on instruction via strangeness, indirect effect: $b = 0.18$ [0.13, 0.23], total effect: $b = -0.54$ [-0.62, -0.46]. In other words, adults' actions were stranger, and stranger actions were more likely to receive corrective instruction, but this cannot explain why participants were especially likely to instruct child transgressors. When controlling for mind attribution and the strangeness of the action, participants were *especially* likely to report that they would instruct children more than adults, $b = -0.73$ [-0.82, -0.65], $p < .001$.

Exploratory analyses indicated that, like these results for strangeness, the greater wrongness of transgressions predicted greater willingness to confront, instruct, and punish transgressors, but including wrongness in the models did not eliminate the tendency to avoid adults more than children and instruct children more than adults (see Supplementary Materials).

2.3. Discussion

Study 1 demonstrated a general tendency for adults to instruct child transgressors more than adult transgressors, and to avoid adult transgressors more than child transgressors. This pattern persisted even after controlling for the perceived strangeness of the behavior (a partial mediator of some response differences), the perceived mental capabilities of the transgressor, and individual differences in disgust sensitivity and nurturant tendencies toward children. Contrary to our predictions, these results did not consistently vary across different types of moral violations, indicating that the age of a transgressor was more important than the nature of a transgressive action in determining responses.[3]

3. Study 2

Study 2 tested the replicability of the primary findings obtained from Study 1—adults' different responses to adult and child transgressors—and additionally tested whether children also respond differently to adult and child transgressors. There is reason to believe that they might not. A large body of literature has shown that children are readily willing to judge (Fu, Xiao, Killen, & Lee, 2014; Smetana, Campione-Barr, & Yell, 2003; Tisak, 1993), condemn (Helwig, Zelazo, & Wilson, 2001; Wainryb, Brehl, Matwin, Sokol, & Hammond, 2005), tattle on (Misch, Over, & Carpenter, 2018), and punish (Jordan, McAuliffe, & Warneken, 2014; McAuliffe, Jordan, & Warneken, 2015) their peers when they misbehave, implying that the divergences in adults' responses to adult and child transgressors (documented in Study 1) might not be observed among child participants.

Because the nature of the transgressive action did not meaningfully shape participants' responses in Study 1, we reduced the number of action categories from four to two. Rather than treating the presence of victims and the presence of pathogens as orthogonal factors, we grouped items into categories of harm (including victims but no pathogens) and purity (including no victims, and including either pathogens or more abstract forms of contamination). Previous research has indicated that harm and purity may represent distinct moral domains that recruit different forms of cognitive processing (e.g., Graham et al., 2013; Rottman & Young, 2019; Young & Saxe, 2011) and that yield different forms of punishment (Kemper & Newheiser, 2018).

3.1. Methods

3.1.1. Participants

We aimed to recruit a final sample size of at least 90 child participants and 90 adult participants (after exclusions). A power analysis via simulation, conducted using the simr package in R (Green & MacLeod, 2016), indicated that this sample size would have more than 99% power to detect the difference between instruction or avoidance of children vs. adults, based on the effect sizes observed in Study 1. All data were collected between July and December of 2019.

3.1.1.1. Child sample. Ninety-one child participants, aged 4 to 10 years old (M_{age} = 6.85 years, SD = 1.70 years, range = 4.02–10.0 years, 39 girls, 52 boys), were recruited from and tested at a Montessori school in a small city in Pennsylvania or recruited from a participant database and tested at a college laboratory in the same city. An additional 10 children

were also tested but were excluded from the final sample, as preregistered, due to failures to pass the attention check at the end of the survey.

3.1.1.2. Adult sample. Adult participants were initially recruited from any willing parents of the child participants tested in the laboratory setting (n = 37); additional adult participants who reported that they were parents were recruited from MTurk (n = 53) to reach the desired sample size. (Responses did not meaningfully differ, in magnitude nor inferential implications, between participants recruited through MTurk and the children's parents.) An additional 37 adult participants, tested via MTurk, were excluded based on the same attention check questions used in Study 1.

3.1.2. Materials and procedure

3.1.2.1. Vignettes describing transgressions. Each participant evaluated four different vignettes depicting transgressions, that manipulated within-subjects (a) whether the transgression was committed by an adult or by a child, and (b) whether the transgression involved a harm-related transgression or a purity-related transgression. The pool of harm-related transgressions included 6 of the 7 victim/no pathogen scenarios used in Study 1, and the pool of purity-related transgressions included 3 victimless scenarios that potentially involved pathogens and 3 victimless scenarios that did not, adapted from the set of scenarios used in Study 1. Adult transgressors' ages were described as being between 28 and 63 years old (depending on the particular vignette). For child participants, the age of child transgressors was matched to be the same as the participant's age. For adult participants, the child transgressors' ages were described as 4, 5, 6, 7, 8, or 9. Each vignette was accompanied by a hand-drawn cartoon image of the described action, modified to include either an adult or a child transgressor (see Fig. 3 for examples). The order of vignette presentation, the age of the target, and the content of each scenario was randomized across participants.

3.1.2.2. Evaluations of and responses to transgressions. After reading each vignette, participants evaluated the perceived *wrongness* of the action ("How wrong is [Transgressor's] behavior?"), whether they would *instruct* the transgressor ("Would you try to tell [Transgressor] why his [her] behavior was wrong?"), whether they would *avoid* the transgressor ("If there was only one seat left on the bus, and it was right next to [Transgressor], would you sit next to him [her]?"), and the *strangeness* of the transgression ("How weird would it be for other kids [grown-ups] to do what [Transgressor] did?").

3.1.2.3. Individual difference measures. After evaluating the vignettes, participants completed measures of individual differences in disgust sensitivity, mental capabilities attributed to average adults and children, and reported other demographic characteristics. These variables did not reach sufficient reliability, so were not included in primary analyses below.

3.2. Results

3.2.1. Analytic strategy

All analyses were performed as multi-level models that included random intercepts nested within participant (to account for the repeated-measures nature of the data) and random intercepts nested within vignette scenario (to account for variability in stimuli). Transgressor Age and Participant Age were each dummy coded (0 = child, 1 = adult) and Transgression Type was contrast coded (−0.5 = purity, 0.5 = harm). Transgression Strangeness was centered within-participants, and then standardized. Separate regressions were performed predicting (1) wrongness judgments, (2) avoidance, and (3) instruction of the transgressor. We first (Model 1) investigated differences across the experimentally-manipulated conditions in each vignette according to

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[3] A series of equivalence tests, collapsed across the age of transgressors, indicated varying degrees of equivalency across transgression types for different response variables. Overall, there was neither predictable differentiation nor predictable equivalency for different levels of pathogen presence or victim presence. For all equivalence tests (here and below), the SESOI (smallest effect size of interest) was determined by a post-hoc power analysis determining the smallest effect size that was detectable with 90% power (see Lakens et al., 2018). Full results of these tests are available from the authors upon request.

Fig. 3. Examples of vignettes and images used as stimuli in Study 2.

participant age, and then (Model 2) strangeness was added as a covariate to this primary model. Results from these models are depicted in Fig. 4. Simple effects are described in the main text below; additional effects are described in the Supplementary Materials.

3.2.2. Wrongness

In contrast to our predictions and to the Study 1 findings, adults' and children's transgressions were rated as similarly wrong, by both adult participants, $b_{harm} = 0.16$ [−0.08, 0.40], $p = .19$, $b_{purity} = 0.06$ [−0.18, 0.30], $p = .65$, and child participants, $b_{harm} = 0.01$ [−0.22, 0.25], $p = $
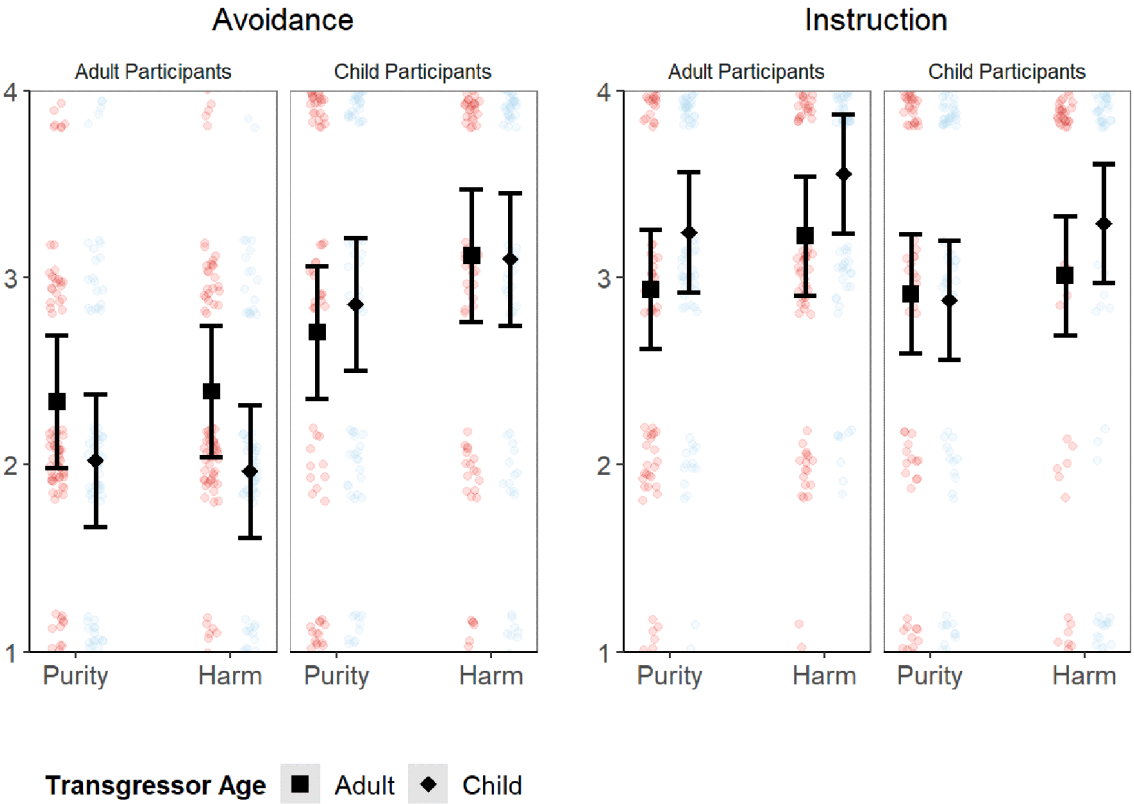

Fig. 4. Adult and child participants' mean tendency to avoid and instruct adult and child transgressors, for each type of transgression. Means, and 95% CIs, are predicted from the preregistered multi-level models that included random intercepts nested within participants and within vignette scenario.

.90, b_{purity} = −0.01 [−0.25, 0.22], p = .91. In all cases, equivalence tests (Lakens, Scheel, & Isager, 2018) confirmed the absence of meaningful effects, thus indicating that the perceived wrongness of adults' and children's transgressions was statistically equivalent as well as not significantly different from zero. (Full details are available in the Supplemental Materials.)

3.2.3. Avoidance

Adult participants were much more likely to avoid adult transgressors than child transgressors, b = 0.37 [0.20, 0.53], p < .001. Participants were more likely to avoid transgressors when their actions were perceived as stranger, and controlling for strangeness reduced the difference between avoidance of adult transgressors and child transgressors, b = 0.29 [0.13, 0.46], p < .001. This mediation was further probed using a structural equation model (SEM) in lavaan, including only adult participants (and only including random intercepts by participant, not random effects by vignette, due to constraints in lavaan's ability to account for random effects). Adult participants rated adults' transgressions as much stranger than children's transgressions, b = 0.54, p < .001, and strangeness predicted greater avoidance of transgressors, b = 0.19, p < .001. Strangeness therefore partially mediated adults' greater tendency to avoid adults more than child transgressors, indirect effect: b = 0.10 [0.05, 0.17], total effect, b = 0.31 [0.16, 0.47].

In contrast, child participants did not significantly differ in their likelihood of avoiding adult transgressors and child transgressors, b = −0.07 [−0.23, 0.10], p = .44. This null effect was shown to be robust with equivalence tests, $t(90)$ = 3.03, p = .002, given equivalence bounds of −0.30 and 0.30 (on a raw scale) and an alpha of 0.05 Additionally, child participants rated adults' and children's transgressions as similarly strange, b_{harm} = 0.20 [−0.06, 0.46], p = .14, b_{purity} = −0.22 [−0.48, 0.05], p = .11, and controlling for strangeness did not significantly alter their tendency to avoid adult and child transgressors, b = −0.06 [−0.23, 0.10], p = .44. The age of child participants did not moderate these null relationships (see Supplementary Materials for full details).

The type of transgression (harm vs. purity) did not significantly moderate the transgressor age effect, for adult participants, b = 0.11 [−0.21, 0.44], p = .49, or child participants, b = 0.17 [−0.16, 0.49], p = .32. This null effect was shown to be robust with equivalence tests showing the transgression type effect to be significantly smaller than the smallest effect size of interest, both for adult participants, $t(89)$ = −1.87, p = .033, given equivalence bounds of −0.46 and 0.46 (on a raw scale) and an alpha of 0.05, and for child participants, $t(90)$ = −2.59, p = .006, given equivalence bounds of −0.69 and 0.69 (on a raw scale) and an alpha of 0.05.

3.2.4. Instruction

Adult participants were less likely to instruct adult transgressors than child transgressors, b = −0.32 [−0.51, −0.13], p = .001. They were also more likely to instruct about the wrongness of actions that were perceived as stranger, and controlling for strangeness increased the difference between instruction of adult transgressors and child transgressors, b = −0.44 [−0.62, −0.25], p < .001. A test of this mediation (using SEM) indicated that adults' transgressions were rated as stranger than children's transgressions, and strangeness predicted instruction, b = 0.32, p < .001, indirect effect: b = 0.17 [0.10, 0.25], total effect: b = −0.36 [−0.51, −0.18], but strangeness did not explain the greater tendency to instruct child than adult transgressors: An even larger tendency to instruct child vs. adult transgressors remained after controlling for strangeness, b = −0.53, p < .001.

Child participants were similarly likely to instruct child transgressors and adult transgressors overall, although there was an interaction by transgression type such that children's instruction did not significantly differentiate between targets for purity-related transgressions, b = −0.10 [−0.48, 0.27], p = .59, but children were less likely to instruct adults for harm-related transgressions, b = −0.28 [−0.54, −0.02] p =

.038. This null effect for purity-related transgression was shown to be robust with equivalence tests, $t(90)$ = −2.93, p = .002, given equivalence bounds of −0.52 and 0.52 (on a raw scale) and an alpha of 0.05. Exploratory analyses indicated that there was an interaction between child participants' age and this transgressor age effect (see Supplementary Materials for full details), such that older children were more likely to instruct children than adults for harm-related transgressions, whereas younger children responded to adults and children more similarly. Controlling for the strangeness of transgressions did not meaningfully change these transgressor age effects, b_{harm} = 0.34 [0.04, 0.65], p = .026, b_{purity} = −0.07 [−0.44, 0.29], p = .69.

The type of transgression (harm vs. purity) did not significantly moderate the transgressor age effect, for adult participants, b = −0.03 [−0.40, 0.35], p = .90, or child participants, b = −0.31 [−0.69, 0.06], p = .099. This null effect of transgression type was shown to be robust with significant equivalence tests, both for adult participants, $t(89)$ = 3.15, p = .001, given equivalence bounds of −0.57 and 0.57 (on a raw scale) and an alpha of 0.05, and for child participants, $t(90)$ = 2.14, p = .017, given equivalence bounds of −0.71 and 0.71 (on a raw scale) and an alpha of 0.05.

3.3. Discussion

Replicating the results of Study 1, adult participants reported that they were more likely to avoid adult transgressors than child transgressors (an effect that was partially mediated by the greater perceived strangeness of adults' transgressions) and more likely to instruct child transgressors than adult transgressors. These patterns remained stable across moral domains of harm and of purity.

In contrast to the responses of adult participants, child participants' responses did not consistently differentiate between adult and child transgressors. Additionally, contrary to predictions, there were no consistent interactions between Transgressor Age and Participant Age. These non-effects contrast with previous research showing that both adults and children exhibit more negative attitudes toward transgressors when those transgressors are similar to themselves in age (Rottman et al., 2020), as well as research showing that children expect a child to receive more help from their parent than from their child-aged peers (Mammen, Köymen, & Tomasello, 2021). In the absence of additional evidence, we can only speculate about why children's responses—unlike adults' responses—were unaffected by the transgressor's age, and we offer some speculations in the General Discussion, below.

Given that only adult participants differentiated between adult and child transgressors on measures of instruction and avoidance, Studies 3 and 4 focused exclusively on adult participants. These studies were designed to test additional hypotheses about additional variables that might explain why adults are more likely avoid transgressors when those transgressors are adults, but to respond in a more instructional manner when those transgressors are children.

4. Study 3

In Study 3, adult participants were again presented with moral transgressions committed by either adults or by children. In addition to indicating their inclinations to avoid, instruct, or punish the transgressors, participants responded to several other measures. Some of these measures assessed evaluations of the transgressive events (e.g., the extent to which transgressions were judged to be wrong, strange, or harmful). Other measures assessed perceptions of the transgressor (e.g., a measure of the malleability of the transgressor's moral character) and expectations about the potential personal consequences of responding in specific ways (e.g., expectations about how anxiety-provoking it would be to confront the transgressor, and expectations about how other people might judge avoidant, instructional, or punitive responses). We included these additional measures in mediation models, testing the extent to which they might help to account for the effects of transgressor

age on instructional versus avoidant responses.

4.1. Methods

4.1.1. Participants

We planned to recruit a sample of approximately 350 adult participants, located in the United States, from MTurk. Following preregistered criteria, we barred 432 individuals from participating due to failure of an English-language comprehension check at the beginning of the survey. Following the same criteria as in Study 1 (which were also preregistered), 235 participants were later excluded for failing an attention check, providing inappropriate open-ended responses, or admitting that they were distracted during the survey. New participants were recruited until we met the desired sample size. This resulted in a final sample of 355 participants, 63% of whom were parents. All data were collected in April 2020.

4.1.2. Materials and procedure

4.1.2.1. Vignettes describing transgressions.
Each participant first evaluated four different vignettes depicting transgressions, which manipulated within-subjects (a) whether the transgression was committed by an adult or a child and (b) whether the transgression involved a harm-related transgression or a purity-related transgression. The pool of vignettes was identical to Study 2 but did not include the images that had accompanied the vignettes in the previous study.

4.1.2.2. Evaluations of transgressions.
Participants then reported how "wrong" the action was, how "angry" and "grossed out" it made them feel, how "harmful" the action was, and how "strange" it would be for other adults [children] to do what the transgressor did. These items were analyzed separately for some analyses, to assess the unique explanatory power of these different ways of evaluating the severity of the transgressive action (see Supplementary Materials). However, these variables were also highly correlated with each other, therefore in analyses reported below we include a single composite measure of transgression wrongness, as the mean across all evaluations (α = 0.86).

4.1.2.3. Responses to transgressions.
Participants next reported their likelihood of various responses to the transgression. Four items referred to *instruction*, e.g., "I would try to explain to him why his behavior was wrong" (composite α = 0.90), four referred to *avoidance*, e.g., "I would feel embarrassed to sit at the same table with him for lunch" (composite α = 0.91), and four referred to *punishment*, e.g., "He should be punished for his behavior" (composite α = 0.91).

4.1.2.4. Confrontation anxiety.
Participants were then asked to imagine how confronting the transgressor would make them feel, and reported whether they would feel "anxious" and "uncomfortable", and whether they would be "worried about how he [she] would react" and "afraid of his [her] response" (composite α = 0.92).

4.1.2.5. Predicted response consequences.
Participants next reported whether other people would think that they are "a trustworthy, moral person" if these others saw the participant telling the transgressor that they did something wrong (*instruction consequence*), avoiding the transgressor (*avoidance consequence*), and punishing the transgressor (*punishment consequence*).

4.1.2.6. Transgressors' mental capabilities.
Participants then rated whether the transgressor has various mental capabilities – specifically, whether she or he is able to "do things on purpose," "come up with smart ideas," "tell right from wrong," "understand how others are feeling," and "control her [his] behavior" (composite α = 0.89).

4.1.2.7. Transgressors' personality malleability.
Four items then assessed the perception that the transgressor will change over time, e.g., "James's moral character is something very basic about him and it can't be changed much" and "James will continue learning and changing as he gets older" (composite α = 0.77).

4.1.2.8. Individual difference measures.
After evaluating the vignettes, participants completed measures of individual differences in disgust sensitivity, the tendency to protect and nurture children, and interaction anxiousness, and reported other demographic characteristics and their worry about COVID-19.

4.2. Results

4.2.1. Analytic strategy

Preliminary analyses, replicating Studies 1 and 2, confirmed that adults' actions were rated as less worthy of instruction, $b = -0.45$ [−0.56, −0.34] $p < .001$, substantially more worthy of avoidance, $b = 0.66$ [0.56, 0.75], $p < .001$, and a little more worthy of punishment, $b = 0.11$ [0.01, 0.21], $p = .036$, than children's actions (see Fig. 5).

To assess possible explanations for these responses, we conducted a series of preregistered multi-level regression models that separately tested how each of the three responses—instruction, avoidance, and punishment—were predicted by each of the four sets of predictors (evaluations of actions, evaluations of the transgressors' mental capabilities, perceived consequences of responding, and individual differences). Results are depicted in Table 1 (and Tables S22 – S24) and Fig. 5. In every case possible, analyses were performed as multi-level models that included random intercepts nested within participants (to account for the repeated-measures nature of the data) and random intercepts nested within vignette scenario (to account for variability in stimuli). Manipulated variables were dummy coded and continuous predictors were standardized prior to analysis.

These preregistered analyses were then followed by exploratory analyses that included all variables in a single model, to assess their combined effect (a similar pattern of mediators was found when each set of variables was analyzed separately). This model (depicted in Fig. 6) was conducted as a structural equation model using *lavaan* to test which predictors mediated the association between transgressor age (adult vs. child) and instruction/avoidance/punishment. Random intercepts by vignette were dropped from this path analysis to simplify the model to suit the constraints of *lavaan*, while random intercepts by participants were retained to account for the repeated-measures nature of the data.

4.2.2. Evaluation of transgressions

Adults' actions were rated as more wrong, $b = 0.14$ [0.02, 0.26], $p = .022$, more anger-provoking, $b = 0.32$ [0.20, 0.45], $p < .001$, grosser, $b = 0.28$ [0.14, 0.42], $p < .001$, more harmful, $b = 0.16$ [0.04, 0.28], $p = .008$, and stranger, $b = 0.75$ [0.62, 0.88], $p < .001$, than identical actions performed by children. These transgressor age effects did not significantly differ between harm and purity transgressions (ps > .05).

All of these negative evaluations of actions predicted greater avoidance of the transgressor, and partially mediated the tendency to avoid adult transgressors more than child transgressors, although a large tendency to avoid adult transgressors remained after controlling for these perceptions of the transgression's wrongness, $b = 0.43$ (see Table S22). Anger and harmfulness also predicted greater instruction, although these variables cannot explain the greater tendency to instruct children: controlling for these variables actually *increased* the size of the transgressor age effect, such that participants are especially likely to instruct children, $b = -0.56$, after accounting for the anger, grossness, harmfulness, and strangeness of children's vs. adults' transgressions. Finally, anger, harmfulness, and strangeness also predicted greater punishment preferences, and mediated the greater tendency to punish adult transgressors. In general, these effects remained consistent across
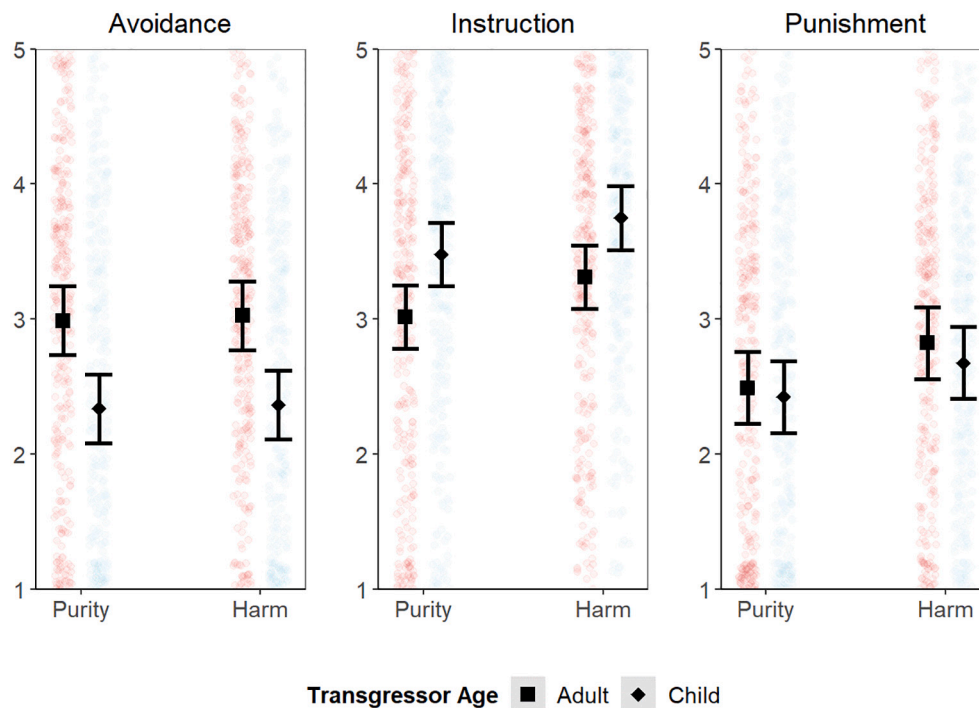
Fig. 5. Mean tendency to avoid, instruct, and punish adult and child transgressors, for each type of transgression. Means and 95% CIs are predicted from the multi-level models that included random intercepts nested within participants and within vignette scenario.

harm transgressions and purity transgressions, and so we do not investigate transgression type further here.

4.2.3. Perception of transgressors' mental states

Adult transgressors were rated as having greater mental capabilities than child transgressors, $b = 0.40$ [0.32, 0.47], $p < .001$, and adults' character was rated as less changeable than children's character, $b = -1.12$ [−1.20, −1.05], $p < .001$.

As depicted in Table 1, perceiving transgressors to have greater mental capabilities predicted less avoidance, less instruction, and less punishment, and mental capabilities had a small negative indirect effect on avoidance and instruction. Perceiving the transgressor's character as more changeable predicted less avoidance, $b = -0.27$, $p < .001$, and partially mediated the tendency to avoid adult transgressors more than children. Changeable character also predicted greater instruction, $b = 0.20$, $p < .001$, and mediated the tendency to instruct child transgressors more than adults. After controlling for perceptions of mental capabilities and personality stability, participants' willingness to instruct adults and children did not significantly differ, $b = -0.12$, $p = .10$. Perceptions of character changeability were unrelated to punishment.

4.2.4. Expected consequences of confrontation

The thought of confronting adult transgressors was much more anxiety-provoking than the thought of confronting child transgressors, $b = 0.71$ [0.62, 0.80], $p < .001$. Confrontation anxiety predicted greater avoidance, $b = 0.33$, $p < .001$, and punishment, $b = 0.12$, $p < .001$, of transgressors and partially mediated the greater tendency to avoid adult transgressors compared to child transgressors. Confrontation anxiety did not predict likelihood of instruction.

Participants were more likely to engage in avoidance, instruction, or punishment if they perceived reputational benefits from these reactions, bs ranged from 0.28 to 0.47, but this only partially mediated the tendency to avoid adults more than child transgressors. Avoiding child transgressors was perceived to have the least reputational benefits ($M = 2.22$, $SD = 1.31$), whereas avoiding adults was perceived to have much greater reputational benefits ($M = 2.68$, $SD = 1.27$), $b = 0.46$ [0.36,

0.56], $p < .001$. Participants perceived similar reputational consequences for instructing adult and child transgressors, $b = -0.04$ [−0.14, 0.07], $p = .51$, and for punishing adults and children, $b = 0.07$ [−0.03, 0.18], $p = .17$, and they thought they would be perceived as most moral for instructing the transgressor ($M = 3.14$, $SD = 1.26$), rather than punishing the transgressor ($M = 2.62$, $SD = 1.33$).

We also tested whether confrontation anxiety and expected response consequences moderated the association between transgression wrongness (i.e., a composite of how wrong, anger-provoking, gross, harmful, and strange the action was) and the likelihood of various responses to the transgressor. That is, we investigated whether the wrongness of transgressions predicts instruction, avoidance, and/or punishment more strongly among those who are low in confrontation anxiety, and among those who perceive reputational benefits from these responses. We did not find any evidence in favor of this hypothesis: transgression wrongness predicted greater avoidance, $b = 0.37$ [0.32, 0.41], $p < .001$, instruction, $b = 0.40$ [0.35, 0.45], $p < .001$, and punishment, $b = 0.35$ [0.30, 0.40], $p < .001$, but this association was not significantly moderated by confrontation anxiety or expected response consequences, all $bs < 0.03$, $ps > .16$, except in the case of instruction, where the association was in the opposite direction from hypothesized, $b = -0.09$ [−0.14, −0.05], $p < .001$ (see Supplemental Materials for full details). Therefore, the perceived wrongness of the transgression, reputational benefits of responding, and anxiety about confronting the transgressor appear to be independent predictors that have unique mediating effects on the willingness to avoid, instruct, and punish adults and children.

4.3. Discussion

Study 3 replicated the patterns of differential behavioral responses to adult vs. child transgressors found in Studies 1 and 2 and provided new insights into why these effects occur. For instance, the greater avoidance of adult (vs. child) transgressors was partially explained by the perception that adults' moral characters were relatively less malleable, and by the expectation that it would be relatively more anxiety-provoking to confront them about their transgression. In contrast, the

Table 1
Results of models predicting responses to transgressions.

	Separate models			Exploratory comprehensive model			
	b	95% CI	p	b	p	indirect effect	total effect
	Avoidance						
Analysis A							
Transgressor Age	0.47	0.38, 0.55	<.001	0.12	.020		
Wrongness	0.51	0.47, 0.55	<.001	0.38	<.001	0.135***	0.254**
Analysis B							
Transgressor Age	0.39	0.26, 0.52	<.001				
Mental Capabilities	−0.15	−0.20, −0.10	<.001	−0.08	<.001	−0.046***	0.073
Personality Malleability	−0.27	−0.33, −0.21	<.001	−0.15	<.001	0.200***	0.318***
Analysis C							
Transgressor Age	0.22	0.13, 0.32	<.001				
Confrontation Anxiety	0.33	0.28, 0.38	<.001	0.17	<.001	0.146***	0.264***
Consequences of Avoidance	0.28	0.23, 0.32	<.001	0.19	<.001	0.100***	0.219***
	Instruction						
Analysis A							
Transgressor Age	−0.64	−0.73, −0.55	<.001	−0.26	<.001		
Wrongness	0.51	0.46, 0.56	<.001	0.41	<.001	0.146***	−0.116
Analysis B							
Transgressor Age	−0.12	−0.26, 0.02	.10				
Mental Capabilities	−0.12	−0.17, −0.06	<.001	−0.05	.029	−0.029*	−0.291***
Personality Malleability	0.20	0.13, 0.27	<.001	0.18	<.001	−0.236***	−0.498***
Analysis C							
Transgressor Age	−0.46	−0.56, −0.35	<.001				
Confrontation Anxiety	0.02	−0.03, 0.08	.37	−0.08	.001	−0.077**	−0.339***
Consequences of Instruction	0.47	0.42, 0.51	<.001	0.32	<.001	−0.019	−0.280***
	Punishment						
Analysis A							
Transgressor Age	−0.07	−0.16, 0.02	.11	−0.02	.72		
Wrongness	0.48	0.43, 0.53	<.001	0.36	<.001	0.128***	0.108
Analysis B							
Transgressor Age	0.16	0.03, 0.30	.019				
Mental Capabilities	−0.10	−0.15, −0.04	.001	−0.03	.22	−0.016	−0.037
Personality Malleability	0.00	−0.07, 0.07	.98	0.02	.40	−0.032	−0.052
Analysis C							
Transgressor Age	−0.03	−0.13, 0.06	.52				
Confrontation Anxiety	0.12	0.07, 0.17	<.001	−0.00	.99	−0.000	−0.021
Consequences of Punishment	0.41	0.36, 0.46	<.001	0.31	<.001	0.022	−0.002

*p < .05, **p < .01, ***p < .001.

greater inclination to provide instruction to child (vs. adult) transgressors was partially explained by the perception that children's moral characters were relatively more malleable, and by the expectation that it would be relatively less anxiety-provoking to confront them about their transgressions. (These mediational effects were not observed on the punishment measure, indicating that moral instruction, avoidance, and punishment were perceived by participants to be psychologically distinct forms of confrontational responses.) These findings imply that, when making decisions about how to respond to a transgression that they witness, adults are sensitive to the benefits and costs of possible responses (e.g., the potential for moral instruction to have meaningful impact on the transgressor; the potential for an interaction with the transgressor to be unpleasant), and they expect those benefits and costs to differ depending on when the transgressor is an adult or a child.

In addition to the mediating variables identified in Study 3, other variables too might help to explain adults' different behavioral responses to adult and child transgressors. We designed Study 4 to examine one such additional variable: Adults' perception that they have greater authority over children (even children that are not their own) than over other adults.

5. Study 4

When an observer has higher status or authority over the transgressor, they may perceive greater potential benefits to the provision of moral instruction (e.g., expecting that instruction will actually be more influential in changing the transgressor's future behavior), and also judge that it will be less costly (e.g., the transgressor is less likely to respond negatively to instruction from someone of higher status, and other people will also view it as more normatively appropriate). Given the authority that adults are tacitly granted over children, these kinds of considerations may help to explain adults' different responses to adult and child transgressors. Study 4 tested this possibility. We measured participants' perceptions of their authority relative to the transgressor (along with other mediating variables identified in Studies 1–3) and tested whether this measure mediated the relationship between transgressor age and participants' inclinations toward instruction and avoidance. In addition, we added an experimental manipulation of participants' status relative to the transgressor, and tested whether this manipulation moderated those responses.

5.1. Methods

5.1.1. Participants

Following the same preregistered recruitment and exclusion criteria as Study 3, we recruited a sample of American adults from MTurk. After excluding 36 participants who failed English comprehension checks, 25 who failed an attention check, 18 who self-reported not paying attention, and 18 who did not provide a correct answer to the open-ended question, the final sample consisted of 1218 participants, of whom 49% were parents. All data were collected in August of 2021.

5.1.2. Materials and procedure

5.1.2.1. Vignettes describing transgressions. Each participant evaluated one vignette that depicted a transgression committed by an adult or
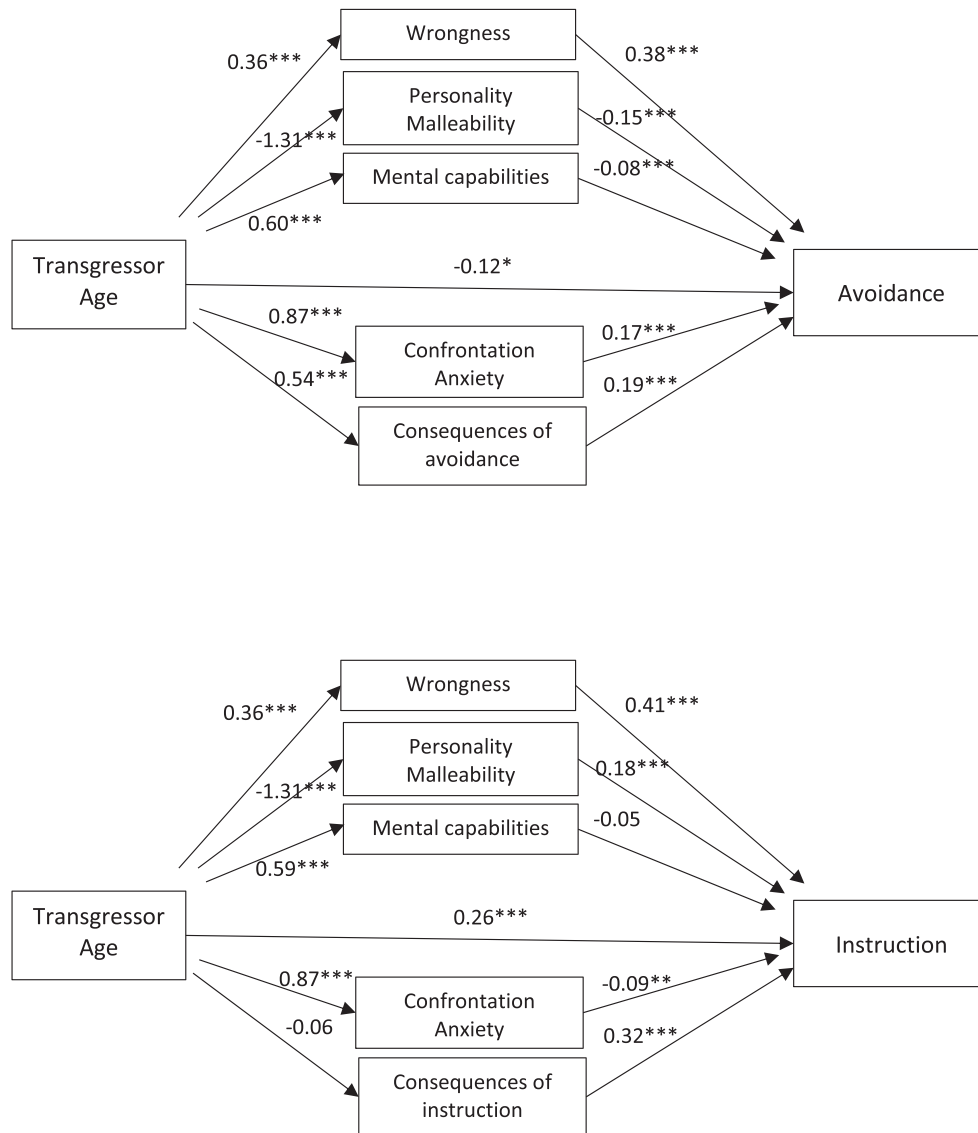
Fig. 6. Mediation model displaying unstandardized regression coefficients.
*p < .05, **p < .01, ***p < .001.

child (12 transgressions were selected from among the stimuli used in previous studies). Participants were randomly assigned to one of six conditions, between-subjects, that manipulated the age of the transgressor (adult vs. child) and participants' relative authority over the transgressor. Authority was manipulated by asking participants to imagine that the transgression took place at an office party, where the participant held a role in the company that placed them either relatively high in status (the participant is the manager of an office, and the transgressor is the son or daughter of an employee), low in status (the participant is an employee, and the transgressor is the son or daughter of the manager), or similar in status compared to the transgressor (the participant is an employee, and the transgressor is the son or daughter of an employee of similar status).

5.1.2.2. Evaluations of and responses to transgressions. After reading each vignette, participants evaluated the transgression's wrongness (composite of wrongness, anger, grossness, harmfulness, and strangeness of the transgression, α = 0.78), and indicated their predicted reactions to the transgression (instruction, α = 0.91; avoidance, α = 0.91; punishment likelihood, α = 0.92). They reported feelings of anxiety about potentially confronting the transgressor, α = 0.91; and rated the

potential malleability of the transgressor's moral character traits, α = 0.84. These measures were primarily adapted from Study 3. Participants also completed a novel 6-item measure of perceived authority over the transgressor (e.g., "I would feel like I have some authority over [Transgressor]"). Factor analyses indicated that one of these items ("I would feel like I have higher social status than [Transgressor]") had a substantially lower factor loading (0.30) than the other items (0.65–0.91). Therefore, feelings of authority were indexed by a composite of the remaining 5 items that formed a reliable scale (α = 0.91), used in the focal analyses below, and the single-item measure of perceived status was analyzed separately.

Participants also completed a measure of individual differences in parental care tendencies and reported other demographic characteristics.

5.2. Results

5.2.1. Responses to the child of an equal-status employee

In order to assess whether our previous findings would replicate with slightly revised stimuli, we first analyzed results only within the control condition, where the transgressor was the child of an employee of equal

status to the participant. Analyses were first performed as the preregistered multilevel models, which included random intercepts by vignette type (full details presented in the Supplementary Materials), and then as path models in *lavaan* (presented below) that dropped this random effect due to convergence issues (both techniques lead to similarly sized estimates and equivalent inferences).

Results replicated previous findings: Adults' transgressions were judged as more wrong than children's transgressions, $b = 0.37$ [0.21, 0.52], $p < .001$. Participants were more likely to instruct child transgressors, $b = -0.65$ [−0.86, −0.44], $p < .001$, and were more likely to avoid adult transgressors, $b = 1.02$ [0.81, 1.24], $p < .001$, but did not significantly differ in their willingness to punish adult and child transgressors, $b = 0.09$ [−0.07, 0.24], $p = .27$.

As predicted, judgments of the wrongness of transgressions predicted more of all responses, $bs > 0.29$, $ps < .001$, but other variables were more selectively associated with specific responses.

5.2.1.1. Avoidance. As depicted in the path model in Fig. 7, confrontation anxiety positively predicted and partially mediated the effect of age on avoidance, indirect effect $b = 0.13$, $p < .001$, whereas personality malleability and authority predicted less avoidance, and also partially mediated the effect of age on avoidance, indirect effect of authority, $b = 0.13$, $p < .001$, indirect effect of personality malleability, $b = 0.34$, $p < .001$. After controlling for these perceptions, participants were still a little more likely to avoid adult than child transgressors, but this effect was substantially reduced.

Single-item ratings of perceived status over the transgressor also predicted avoidance, but in the opposite direction of the authority composite score: Feelings of greater status were associated with greater willingness to avoid transgressors, $b = 0.15$, $p = .001$, and status did not significantly mediate the age-avoidance relationship.

5.2.1.2. Instruction. According to a path model, depicted in Fig. 7,

instruction was associated with greater feelings of authority and less anxiety about confronting the transgressor, and these perceptions both partially mediated the effect of transgressor age on willingness to instruct transgressors, indirect effect of authority: $b = -0.47$, $p < .001$, indirect effect of confrontation anxiety: $b = -0.11$, $p < .001$. Unlike in Study 3, expectations about personality malleability did not significantly predict instruction nor mediate the age-instruction relationship, although personality malleability did have a bivariate correlation with instruction, $r = 0.21$, $p < .001$. After controlling for all of these variables, willingness to instruct adults and children was substantially reduced and only marginally significant, $p = .056$.

In contrast to the effect of the authority composite score consisting of perceived power over and ability to affect the behavior of the target, the single item assessing feelings of higher status than the transgressor only marginally predicted instruction in the same analysis, $b = 0.085$, $p = .082$.

5.2.1.3. Punishment. Although punishment did not significantly differ between adult and child transgressors, we used the same path modeling technique to assess the predictors of punishment: Anxiety about confronting the transgressor was associated with less punishment, $b = -0.09$, $p = .019$, and feelings of authority were associated with more punishment, $b = 0.45$, $p < .001$. Perceptions of that the transgressor's personality can change predicted less punishment, $b = -0.14$, $p < .001$. These results highlight the unique pattern of variables that predict avoidance, instruction, and punishment, as psychologically distinct responses to transgressions.

5.3. Responses across all experimental conditions

5.3.1. Manipulation check: feelings of authority

As expected, participated reported greater feelings of authority over children ($M = 2.33$, $SD = 1.09$) than adults ($M = 1.82$, $SD = 0.98$), $d =$
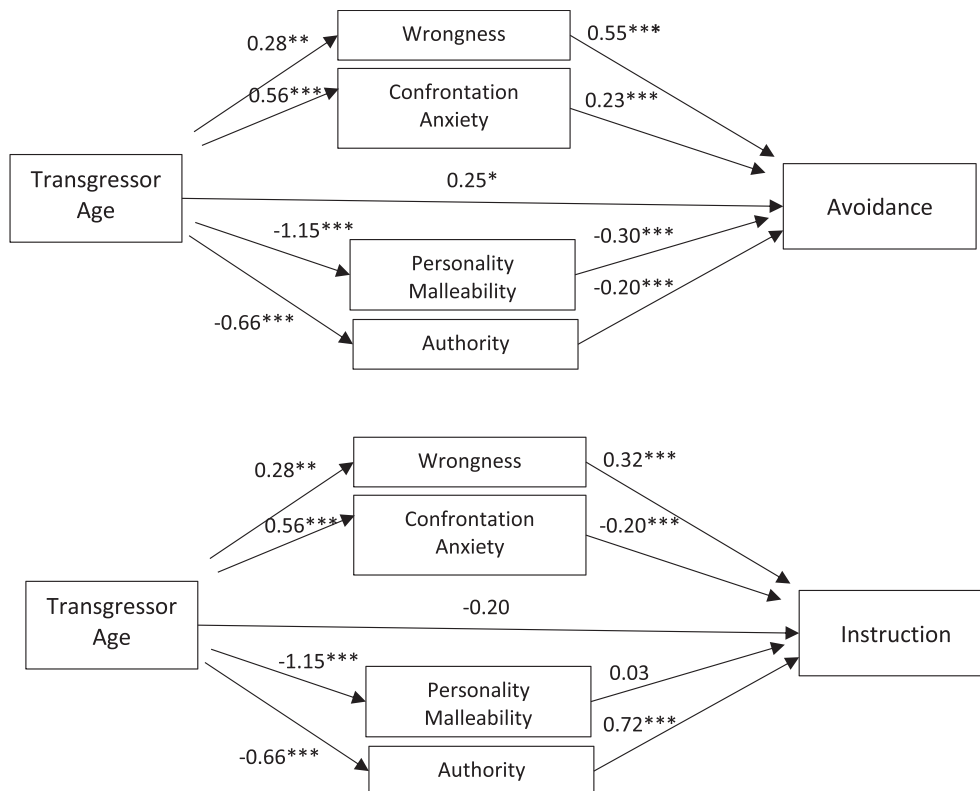

Fig. 7. Mediation model displaying unstandardized regression coefficients.
*$p < .05$, **$p < .01$, ***$p < .001$.

0.49 [0.38, 0.60], $t(1182.6) = 8.53$, $p < .001$. The manipulation of social status within the company successfully manipulated feelings of authority in several cases, although results were relatively weak overall. When thinking about an adult transgressor, participants who were in a high-status position in the company reported greater feelings of authority ($M = 1.98$, $SD = 1.05$) compared to the equal-status control condition ($M = 1.69$, $SD = 0.89$), $t(382) = 3.07$, $p = .002$, and marginally greater authority compared to when in a the low-status position ($M = 1.80$, $SD = 1.01$), $t(390) = 1.68$, $p = .09$, while ratings in the low-status and control condition did not significantly differ, $t(396) = 1.28$, $p = .20$. When thinking about a child transgressor, feelings of authority did not significantly differ in any comparison (Low: $M = 2.22$, $SD = 1.08$; Equal: $M = 2.40$, $SD = 1.14$; High: $M = 2.38$, $SD = 1.05$), $ps > .10$, although there was a trend such that the lowest authority was felt when they were in a low-status position in the company and the transgressor was the child of the manager. Thus, our manipulation was suitably effective only in the case of adult transgressors. Adults broadly perceived themselves to have authority over children, regardless of the social status of the participant relative to the child and their parent.

5.3.2. Responses across conditions

Mean levels of responses to transgressions are depicted in Fig. 8. When considering child transgressors, there were no significant differences in responses across experimentally-manipulated status conditions, $bs < 0.18$, $ps > .12$, which is likely due to a failed manipulation. When
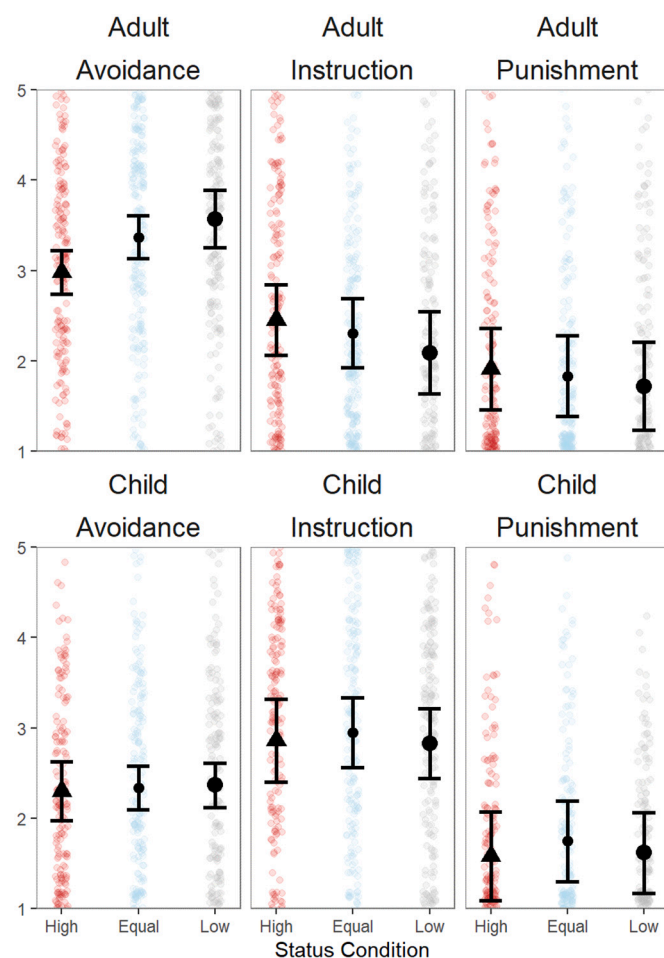

Fig. 8. Mean tendency to avoid, instruct, and punish adult and child transgressors, across each social status condition. Status condition labels refer to the participants' status relative to the transgressor. Means and 95% CIs are predicted from the multi-level models that included random intercepts nested within participants and within vignette scenario.

considering adult transgressors, participants reported marginally greater willingness to instruct when in the high status vs. low status condition, $b = 0.36$ [0.00, 0.73], $p = .050$, and significantly less avoidance when in the high status than in the low status condition, $b = -0.59$ [−0.93, −0.25], $p < .001$, or in the equal-status condition, $b = -0.39$ [−0.61, −0.17], $p < .001$. However, the interaction between condition and transgressor age did not reach statistical significance in any case. There were also no significant differences across conditions in judgments of the wrongness of the action itself, $bs < 0.13$, $ps > .12$.

When controlling for feelings of authority over the transgressor, anxiety about confronting the transgressor, wrongness of the transgression, and malleability of the transgressor's character, there remained no significant difference between responses to children across conditions. With controls, the difference between conditions was somewhat reduced for instruction of adults, $b = 0.20$ [−0.04, 0.43], $p = .099$, and avoidance of adults, high vs. low $b = -0.37$ [−0.63, −0.11], $p = .005$, high vs. control $b = -0.21$ [−0.39, −0.04], $p = .017$.

To more fully understand how these perceptions might explain the variation in responses across conditions, we created path models in which responses to adult transgressors across conditions was mediated by expected confrontation anxiety, wrongness judgments, feelings of authority, and perceived personality malleability.

5.3.2.1. Avoidance.
Avoidance was positively associated with confrontation anxiety, $b = 0.28$, and wrongness judgments, $b = 0.67$, and negatively associated with feelings of authority, $b = -0.18$, and perceived personality malleability, $b = -0.15$, all $ps < .001$. Feelings of authority also partially mediated the relationship between condition and avoidance, indirect effect of high status vs. control: $b = 0.053$, $p = .009$; indirect effect of high status vs. low status: $b = 0.032$, $p = .094$. More authority was felt in the high status than control (equal status) condition, $b = -0.30$, $p = .002$, and (marginally) in the low status condition, $b = -0.18$, $p = .076$, and authority predicted less avoidance of the transgressor. None of the other variables had significant indirect effects on avoidance. In contrast to the findings from authority, feelings of higher social status predicted more, not less, avoidance, $b = 0.099$, $p = .006$.

5.3.2.2. Instruction.
Across conditions, instruction was positively associated with feelings of authority, $b = 0.71$, $p < .001$, judgments that the action was wrong, $b = 0.33$, $p < .001$, and perceived malleability of the transgressor's personality, $b = 0.10$, $p = .001$, and negatively associated with confrontation anxiety, $b = -0.19$, $p < .001$. The relationship between condition and instruction was partially mediated by feelings of authority, significantly in the case of the high status vs. control comparison, indirect effect: $b = -0.21$, $p = .002$, marginally in the case of the high status vs. low status comparison, indirect effect: $b = -0.13$, $p = .077$.

Substituting the single-item measure of social status in place of the authority measure revealed that feelings of higher status also predicted greater instruction, $b = 0.17$, $p < .001$, and partially mediated the relationship between condition and instruction, indirect effect of high status vs. control: $b = -0.039$, $p = .033$, indirect effect of high status vs. low status: $b = -0.063$, $p = .004$.

5.3.2.3. Punishment.
Punishment was positively associated with feelings of authority, $b = 0.61$, $p < .001$, and judgments of transgression wrongness, $b = 0.33$, $p < .001$, and negatively associated with confrontation anxiety, $b = -0.14$, $p < .001$, and not significantly associated with personality malleability, $b = -0.04$, $p = .15$. Although punishment was not directly affected by condition, authority did partially mediate the relationship between condition and punishment, indirect effect of high status vs. control: $b = -0.18$, $p = .002$, indirect effect of high status vs. low status: $b = -0.108$, $p = .077$, such that more authority was felt in the high-status condition, and authority predicted

greater punishment.

5.4. Discussion

Adult participants who perceived that they had greater authority over a transgressor were more inclined toward both punishment and the provision of moral instruction, and less inclined to avoid the transgressor. And, because they perceived that they had greater authority over children than over adults, these effects partially accounted for their increased inclination to instruct, and reduced inclination to avoid, child transgressors. These mediating effects were statistically independent of the mediating effects of other variables identified in previous studies—including judgments of wrongness, confrontation anxiety, and the perceived malleability of the transgressor's moral character (the latter of which was a significant mediator of avoidance but, in contrast to Study 3, not instruction).

Conceptually complementary effects were produced by an experimental manipulation of status within a workplace hierarchy. Although the status manipulation did not successfully affect participants' perceptions of authority over child transgressors, it did affect perceptions of authority over adult transgressors, with consequences for responses to those adults' transgressions: Participants in the high-status condition were more inclined to instruct and less inclined to avoid adult transgressors. Responses to children, and feelings of authority over children, did not significantly vary across experimental conditions, indicating that while adults generally perceived themselves to have authority over children, the circumstances that increase adults' power over other adults do not similarly increase feelings of power over children.

Additional results indicate that these effects—including the effects of the status manipulation—were attributable specifically to the perception of authority over the transgressor, and not to the perception of higher status, per se. Why might this be? One interpretation is that interpersonal power is clearly implied by authority (but not necessarily by social status), and that increased power over a transgressor inoculates against the potential costs of confronting that transgressor. This interpretation is consistent with previous research documenting effects of interpersonal power on both confrontational and avoidant responses (Molho et al., 2020). Greater authority (and power) might also tacitly imply a greater obligation to confront a transgressor. This sense of obligation may be especially strong in contexts defined by explicit hierarchical structures (such as the workplace scenarios employed in this study); and, given that adults often exhibit "parental" responses to children who are not their own (Schaller, 2018), this obligation may also be tacitly implied when adults witness children's transgressions.

6. General discussion

Across four studies, we found that adults' responses to identical transgressive actions differed depending on whether the transgressor was an adult or a child. Modest differences emerged on inclinations to punish the transgressor (participants were more inclined to punish adults), and even larger differences emerged on two non-punitive responses: avoidance of future interactions with the transgressor (participants were more inclined to avoid adults), and provision of moral instruction to the transgressor (participants were more inclined to instruct children). The latter two effects were not only large but also robust. They were found consistently across all studies and across a range of transgressions that differed in consequences (whether the transgression negatively affected another person or not) and domain of moral violation (harm or purity). As discussed below, these results underscore the person-centered nature of moral cognition (Uhlmann et al., 2015), indicating that responses to moral transgressions are highly sensitive to features of transgressors, perhaps even more than to features of the transgressions themselves.

Why is it that identical transgressive actions elicited different responses when committed by people of different ages? One partial answer

is that transgressions were evaluated as less strange and less wrong when committed by a child. But evaluations of strangeness and wrongness only partially explained the greater inclination to punish and avoid adult transgressors, and provided no explanation at all for the greater inclination to provide moral instruction to children. (When participants evaluated a transgression to be less strange and less wrong, they were less—not more—inclined to provide moral instruction to the transgressor. Thus, while these evaluations accounted for some variance in the statistical relationship between transgressor age and instruction, they cannot explain why participants were actually more—not less—inclined to provide instruction to a child.) Our results revealed three additional variables that, when considered together, more substantially explained these effects. These variables pertained not to participants' evaluations of the transgression, but instead to participants' perceptions of, and relationship to, the person who committed that transgression: (a) perceived malleability of the transgressor's moral character (children were perceived to be more malleable); (b) perceived unpleasantness of confronting the transgressor (confrontations with children were perceived to be less unpleasant); and (c) perceived authority over the transgressor (adults perceived that they had greater authority over children).

All three of these variables may have implications for the benefits and/or costs of actually confronting—rather than just avoiding—a transgressor. For example, the potential benefits of moral instruction are more likely to be realized with a transgressor whose moral character is more malleable and amenable to change, and the costs of attempting to provide that instruction are reduced if one has greater authority—and thus greater interpersonal power—over the transgressor. Does this mean that people are cognizant of these potential benefits and costs when making decisions about how to respond to others' transgressions? Not necessarily. To the extent that these potential costs and benefits are represented cognitively, the representation may be implicit, analogous to the kinds of implicit cost-benefit calculations that govern other behavioral decisions (e.g., the "welfare trade-off ratio" that regulates altruistic decision-making; Delton & Robertson, 2016). It remains for future research to determine whether (and how) these potential costs and benefits inform responses to transgressions. Meanwhile, we suggest that this kind of cost/benefit analysis may provide a useful framework within which to integrate these results—and to potentially generate additional hypotheses about other variables that might also have some explanatory value.

6.1. The social context of moral cognition

The results reported here are thematically consistent with—and extend upon—other lines of research that are predicated upon the principle that, when judging and responding to moral transgressions, people are attentive not just to the transgression and its consequences, but also to the transgressor (e.g., Malle et al., 2014; Uhlmann et al., 2015). For instance, many responses to transgressions—such as judgments about wrongness—are informed by inferences about a transgressor's intentions (e.g., Cushman, 2008); and judgments about blame are informed by inferences about the transgressor's mental capacities and social obligations (Malle et al., 2014). The results reported here results extend this work in several ways. First, whereas previous research has focused primarily on wrongness, blame, and punishment, these results document implications of social inference processes for additional responses (e.g., provision of moral instruction) that are conceptually distinct and that may have unique real-world consequences. Second, these results identify inferences about enduring qualities of transgressors (e.g., the malleability of their moral character) that go beyond inferences about transient qualities like mental states and which can have unique implications for responses to transgressions. Third (complementing recent research by White & Schaller, 2018), these results show how one specific feature of a transgressor—whether the transgressor is an adult or a child—informs those inferences and, as a

consequence, regulates those responses. And, fourth (complementing other recent research by Molho et al., 2020), these results show that these responses are regulated not just by inferences about transgressor but also by inferences about the relationship between the perceiver and the transgressor (e.g., whether the perceiver has some authority over the transgressor).

These results are also relevant to recent research showing that confrontational responses to a transgression—such as punishment—serve as a form of interpersonal communication, signaling information about specific behaviors that are socially unacceptable (Cushman et al., 2019; Ho et al., 2019; Sarin et al., 2021). This kind of punitive communication has the potential benefit of remedying transgressors' behaviors; but it can also be risky, and people may choose less confrontational responses instead (Molho et al., 2020). Our results highlight another, less punitive form of confrontation that communicates functionally equivalent information: moral instruction. Indeed, based on mean responses (depicted in Figs. 1, 5 and 8), it appears that people might generally prefer instruction to punishment as a means of communication. But this inclination to provide moral instruction is variable, and differs depending on whether the transgressor is an adult or a child. And (as shown by additional results from Study 4), even when both the perceiver and transgressor are adults, it may also differ depending on other features of the social context that have implications for interpersonal power dynamics between perceivers and transgressor.

6.2. Future directions

Our methods focused on just one specific feature of transgressors—whether they are adults or children—but the results may have broader implications. Even adults may be perceived to be child-like (e. g., baby-faced adults), as are many nonhuman animals (e.g., kittens and puppy dogs); as a consequence, they elicit appraisals and psychological responses analogous to those that are commonly directed toward young children (Sherman, Haidt, & Coan, 2009; Woo & Schaller, 2020; Zebrowitz & Montepare, 2008). One intriguing implication is that people may be more inclined to offer moral instruction to baby-faced (compared to more mature-faced) adults, or to adults who are appraised as child-like in some other way. People might also respond differently to misbehavior by their household pets, depending upon the age of the pet (e.g., someone might punish a full-grown dog, but if their pet is a puppy they might optimistically attempt some form of non-punitive behavioral response that mimics moral instruction).

Other features of transgressors might also matter because of their effects on one or more of the explanatory variables identified here. One such variable is the transgressor's physical stature, which is likely to have implications for confrontation anxiety. Also potentially important are the transgressor's ethnicity and gender (Hester & Gray, 2020). All else being equal, perceivers may be more anxious about confronting a male stranger than a female stranger. And since both gender and ethnicity can have implications for interpersonal power, they may also have implications for perceivers' inclinations toward punishment, instruction, or avoidance.

Another potentially promising direction for future research would be a more systematic focus on *perceivers*—in order to identify variables that affect perceivers' inferences about transgressors and their relationship to the transgressor, which in turn may affect their judgments and responses. We included one such variable in Study 2: Participants were themselves either adults or children, and we found that the effects observed among adult participants did not occur among child participants. Child participants held adults and children similarly accountable for their transgressions, neither holding fellow children to a higher standard than adults, nor treating children more leniently than adult transgressors. The results from child participants were consistent with social domain theorists of moral psychology, and previous findings that children disapprove of adults' moral violations and reject adult authorities who say that these transgressions are permissible (e.g., Laupa &

Turiel, 1986; Smetana, 2006; Tisak, 1993).

Although the null effects from the child sample are difficult to interpret, we offer a tentative further explanation pertaining to the set of mediating variables identified in Studies 3 and 4. Some of these variables appear to reflect knowledge or experiences that adults have acquired as a consequence of maturing into adulthood. Compared to children, adults may be more aware that children are more malleable than are adults; and a person may actually need to be an adult (to occupy a prototypically adult social role) in order to feel some sense of authority over children. Thus, the mediation results obtained in our samples of adult participants may help to explain why the primary effects—on avoidance and instruction responses—were not found in our sample of child participants. Of course, the lack of effects on those two responses does not imply that the age of a transgressor is irrelevant to children. It is possible children might be more likely to differentiate between adult and child transgressors on other kinds of responses, such as inclinations to gossip or tattle. These possibilities could be explored in future research.

Other perceiver variables might also affect one or more of the mediating variables identified in Studies 3 and 4, with implications for responses to transgressors. Cultures differ in beliefs about the malleability of a person's behavioral dispositions (Chiu, Hong, & Dweck, 1997), implying the possibility that there may be cultural differences in inclinations toward the provision of moral instruction. And, just as a transgressor's ethnicity and gender might affect appraisals of interpersonal power, so too might the ethnicity and gender of the perceiver. This kind of conceptual analysis may help to explain why men are more punitive than women (Balafoutas & Nikiforakis, 2012), why women are more likely to be directly punished than men (Balafoutas, Nikiforakis and Rockenbach, 2014), and why some cultures are more accepting of punitive confrontations (Eriksson et al., 2021), and also suggests the possibility of additional effects on other kinds of responses to transgressions.

Responses may be further affected by the relationship between the transgressor and the punisher, or the punisher and the victim, such as if they are a parent and child rather than unrelated acquaintances (as described in our brief vignettes). Other sorts of moral judgments (e.g., McManus, Kleiman-Weiner, & Young, 2020; McManus, Mason, & Young, 2021; Weidman et al., 2020) and punishment behaviors (e.g., Lopez et al., 2019) are affected by familial bonds and close friendships, and instruction and avoidance of children's transgressions are also likely to be shaped by the punisher's pre-existing relationships.

More generally, by carefully considering the broader implications of the mediation models that emerged from our results, there is the potential to make many new and nuanced discoveries about people's differing inclinations to punish, instruct, or avoid people when they do something wrong. This overall pattern of results demonstrates how the particular response that is chosen in a given situation depends on much more than just the nature of the transgressive action: Confrontation, instruction, and avoidance afford unique risks and benefits, and they are deployed in different contexts, demonstrating how responses to moral transgressions reflect the person-centered nature of moral cognition.

Author note

Declarations of interest

None.

CRediT authorship contribution statement

Cindel J.M. White: Conceptualization, Methodology, Formal analysis, Investigation, Writing – original draft, Funding acquisition. **Mark Schaller:** Conceptualization, Writing – review & editing, Funding acquisition. **Elizabeth G. Abraham:** Methodology, Investigation, Writing – review & editing. **Joshua Rottman:** Conceptualization, Methodology, Writing – review & editing, Supervision, Funding acquisition.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.cognition.2022.105048.

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