Developing judgments about peers' obligation to intervene

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A R T I C L E   I N F O

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A B S T R A C T

In some contexts, punishment is seen as an obligation limited to authority figures. In others, it is also a responsibility of ordinary citizens. In two studies with 4- to 7-year-olds (n = 232) and adults (n = 76), we examined developing judgments about whether certain individuals, either authority figures or peers, are obligated to intervene (Study 1) or to punish (Study 2) after witnessing an antisocial action. In both studies, children and adults judged authority figures as obligated to act, but only younger children judged ordinary individuals as also obligated to do so. Taken together, the present findings suggest that younger children, at least in the United States, start off viewing norm enforcement as a universal responsibility, entrusting even ordinary citizens with a duty to intervene in response to antisocial individuals. Older children and adults, though, see obligations as role-dependent—only authority figures are obligated to intervene.

1. Introduction

In our everyday lives, we often hope that antisocial actions do not go unnoticed. We would like to see transgressors punished and victims compensated. Upon learning about the crimes of Jeffrey Epstein, for instance, many felt strongly that he should be punished severely for his transgressions, that his victims should receive recompense, and that powerful others should condemn his behavior. Many have argued that these sorts of intervention-oriented behaviors, most notably punishment, are vital to maintaining cooperation within a society; they are needed to promote adherence to social and moral norms (e.g., Balliet, Mulder, & Van Lange, 2011; Boyd & Richerson, 1992).

Complicating this picture, however: individual citizens are often not the ones to enforce social and moral norms. Peer intervention is often discouraged in most modern societies, and the duty to intervene is typically endowed to individuals who have particular social roles, such as parents, teachers, and police officers (Cushman, 2015; Eriksson, Andersson, & Strimling, 2016; Guala, 2012; Jackendoff, 2007). In fact, in some contexts, punishing as a peer is labeled as vigilante justice and is condemned. Furthermore, many have argued that this division of labor is vital to maintaining large-scale cooperative systems (Gächter, Renner, & Selten, 2008; Hilbe, Traulsen, Röhl, & Milinski, 2014). Indeed, in recent behavioral work, Pedersen, McAuliffe, and McCullough (2018) find that adults, when they witness someone being insulted, do not punish the insulter, suggesting that strangers do not feel compelled to punish one another for transgressions in third-party contexts.

Yet, there are still certain other situations in which even ordinary people readily police their antisocial peers. For example, peers are often prone to punish one another in honor cultures (Sommers, 2018) and also in societies under less trustworthy governmental institutions (Tankebe, 2009). And experimental studies find contexts in which adults readily punish their peers, namely in cases in which they witness selfish or unfair behavior (e.g., Fehr & Fischbacher, 2004).

This impulse is early-emerging. Children even as young as three years of age will also punish their antisocial peers (Heyman, Loke, & Lee, 2016; Marshall, Wynn, & Bloom, in press; Riedl, Jensen, Call, & Tomasello, 2015; Yang, Choi, Misch, Yang, & Dunham, 2018). For example, children will take a personal cost (i.e., giving up time on a fun slide, throwing away candy, giving up time on an iPad) to prevent an antisocial child from receiving valuable resources (Jordan, McAuliffe, & Warneken, 2014; McAuliffe, Jordan, & Warneken, 2015; Yudkin, Van Bavel, & Rhodes, 2019, although see: Marshall, Gollwitzer, Wynn, & Bloom, 2019). Children will also tattle on antisocial individuals (e.g., Vaish, Missana, & Tomasello, 2011).

With this in mind, the present studies focus on examining our developing judgments about whether peers are obligated to intervene after witnessing an antisocial action. There is some research on this issue with adults. Martin, Jordan, Rand, and Cushman (2019) find that adults consider peers less obligated than authority figures to punish a transgressor. Specifically, individuals endorsed punishing strangers who fail to punish antisocial others in third-party contexts much less than they endorsed punishing authority figures who fail to punish antisocial others.

At least to our knowledge though, while there is a long tradition of

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2. Current studies

To examine more systematically how children reason about peer obligations to intervene, we conducted two studies. In Study 1, we presented 4- to 7-year-olds and adults with scenarios in which an authority figure—either a parent or a teacher—and a peer witness a moral transgression (i.e., teasing). We then asked children and adults the degree to which they thought each witness had to do something about the antisocial actor to measure participants’ sense of obligation (obligation judgments). We included an authority figure in addition to the peer to measure participants’ general beliefs about obligations to intervene—we suspected that children (regardless of age) and adults would consider authority figures obligated to intervene (Weston & Turiel, 1980). Our main research question was whether participants at different ages considered peers obligated to punish compared to the authority figure. In addition to obligation judgments, we asked participants in Study 1 the degree to which they think it is likely that the authority figure and the peer will do something about the antisocial actor (expectation judgments). We did so because we wanted to investigate whether children’s expectations about what people will do cohere with their judgments about what people are obligated to do. Recent research has found that in some contexts these judgments diverge from one another (Blake, McAuliffe, & Warneken, 2014; DeJesus, Rhodes, & Kinzler, 2014; Marshall et al., in press). And, finally, we also asked participants what they thought the authority figure and the peer would do if they were to intervene. By doing so, we hoped to generate a naturalistic picture of how children spontaneously reason about intervention-oriented behavior.

In Study 2, we conducted a similar study except that rather than asking broadly about whether authority figures and peers have to intervene, we asked about punishment specifically—that is, we asked whether the witnesses to the antisocial transgression, either a peer or an authority figure, have to get the transgressor in trouble (obligation judgments). Here, too, we also asked participants about the degree to which they thought it was likely that an authority figure and a peer would get the transgressor in trouble (expectation judgments).

3. Study 1: obligations to intervene

3.1. Methods

3.1.1. Participants

In Study 1, we tested children ranging in age from four years of age to seven years of age. A power analysis revealed that we needed to test approximately 76 participants (19 participants per categorical age group) to have 95% power to observe an interaction effect of medium size ($f = 0.25; \alpha = 0.05$). We thus aimed to collect approximately 19 children per categorical age. We stopped data collection on the last day in which the final child in a given age range was tested. In doing so, we ultimately tested 84 children between the ages of four and seven ($M = 6.07$, $SD = 1.09$; 21 4-year-olds, 21 5-year-olds, 20 6-year-olds, 22 7-year-olds).

Sixty-six children were tested in Central Park in Manhattan. Nine additional children were tested in the lab, five were tested at a local museum, and four were tested at a local school. Forty-seven of the children were female. The final sample was 46.4% White, 16.7% Black, 16.7% Hispanic, and 14.3% Asian. The remaining 6.0% identified as Other. Because of the nature of the testing location, we were not able to acquire additional demographic information about our participants (this is also the case for the other study in this manuscript). We do not find any effects of testing location or demographic variables (i.e., gender, ethnicity) in the studies presented here. Seven additional children were tested but excluded for failing attention check items (which will be described in Procedure and materials).

The adult sample was recruited on Amazon Mechanical Turk. We aimed to collect approximately 19 adult participants to match the 19 child participants per categorical age. We ultimately recruited 40 adults to account for attention check failures and because data collection is much easier for adult samples. Four participants were removed for failing attention checks (which will be described in the Procedure and materials). The results did not meaningfully change when including these individuals. The final sample consisted of 36 adult participants (11 females; $M_{\text{age}} = 30.89$; $SD_{\text{age}} = 5.87$).

3.1.2. Procedure and materials

All materials can be found on Open Science Framework: https://osf.io/fyv7n/. Child participants were presented with two stories in counter-balanced order. In one story, someone said something really mean to another person in a park and made them sad (henceforth, the park story); in the other story, someone teased someone else while at school and made them sad (henceforth, the school story). See Fig. 1 for full information. We selected teasing as the transgression in both stories given previous work on children’s reasoning about obligations, which has used teasing (Rhodes & Chalik, 2013).

In the park story, there were two witnesses to the transgression—the transgressor’s mother and a peer (i.e., someone walking in the park). In the school story, there were two witnesses to the transgression—the transgressor’s teacher and a peer (i.e., another student in the class). We counterbalanced which side of the screen the two witnesses appeared. All of the characters were depicted as adult-looking because we wanted to be sure our effects were not a result of participants thinking that young children do not have to punish (rather than thinking that peers in general do not have to punish). Because it is generally true that authority figures are usually older than peers in such contexts (i.e., parents are by definition older than their children; teachers are almost always older than their students), we could not eliminate this problem entirely, but decided to depict the characters as teenagers so they were at least not young elementary school-aged children.

Each story was followed by two attention-check items: (1) “Can you point to the girl who teased someone (said something really mean to someone)?” (2) “Can you point to the people who heard Veronica tease someone (said something really mean)?” If a child responded incorrectly to either of these questions, the experimenter reminded them of the appropriate response and re-asked the question. If the child still did not respond correctly, they were excluded for failing attention.

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1 We included one additional story about someone who teased someone in a public space, and two witnesses were present: a police officer and a peer. We decided to exclude this scenario from obligation and expectation analyses because we found scenario differences. See Supplemental Materials for full information.
checks (n = 7).

Afterward, participants were presented with two questions about expectations in counter-balanced order. See Fig. 1 for exact wording. One question asked about whether the authority figure will intervene, and the other about whether the peer will intervene. Participants responded to these questions on a scale from “Yes—Maybe—No” accompanied by smiley faces which depicted these responses. (In Study 2 and in Supplemental Study 2, these smiley faces were removed to ensure this element of the methods did not bias responding.) Because it is common in colloquial language to refer to authority figures (and not other individuals) as “punishing,” we intentionally worded these questions as “doing something about it,” as to not bias the participants towards choosing the authority figure.

We then asked participants two questions about obligations in counter-balanced order. See Fig. 1 for exact wording. We used the language “had to” based on previous research concerning children’s understanding of deontic obligations (Kalish & Lawson, 2008). The response choices were the same (“Yes—Maybe—No”) as the expectation questions. We then asked one final forced-choice question: “Who had to do something about Veronica (Jessica) the most? The teacher (the mom) or the other girl?”

Child participants were then asked free-response questions about what they thought the peer and authority figure would do if they were to intervene. We included these questions to verify that children were interpreting our intervention question as relating to norm-enforcement-related actions. To do so, the experimenter reviewed each story (in
randomized order). For example, for the school story, the experimenter said: “Now, this is a story I told you earlier. In this story, Veronica teased another person. The teacher and the other person heard Veronica tease someone.” The experimenter then asked about each character in counter-balanced order: (1) “If the teacher does something about it, what do you think the teacher would do?” (2) “If the other person does something about it, what do you think the other person would do?” We asked these same set of questions for each story.

The materials for adults were nearly identical to the materials for children. Adults read the same stories that were read to children and answered analogous attention checks (i.e., “who teased someone?”; “Who heard Veronica tease someone?”). For adults, the characters were given specific names because we were not verbally administering the study. After the test trials, adults responded to demographic questions and a final attention check item whereby we said, “People vary in the amount they pay attention to these kinds of surveys. Some take them seriously and read each question, whereas others go very quickly and barely read the questions at all. If you have read this question carefully, please write the word ‘yes’ in the blank box below. There is no need to respond to the scale below.” Those who failed this question were also excluded from analyses. Unlike child participants, we did not ask adults the free-response questions.

4. Results

4.1. Obligation judgments

We examined obligations first because such responses were most directly relevant to our main research question at hand.

4.1.1. Adults

We examined adults’ obligation judgments depending on social role. To do so, we conducted repeated measures analysis of variance (ANOVA) with Social Role (authority figure, peer) and Scenario (school story, park story) as within-subjects variables. For these analyses and all remaining analyses in Study 1 and 2, a ‘yes’ response was coded as a three, a ‘maybe’ response was coded as a two, and a ‘no’ response was coded as a one.

We did not find a Social Role x Scenario interaction, $F(1, 35) = 2.80, p = .103, \eta_p^2 = 0.074$. Collapsing across Scenario, we found an effect of Social Role, $F(1, 35) = 91.53, p < .001, \eta_p^2 = 0.723$. See Fig. 2. Adult participants considered the authority figure more obligated to intervene, $M = 2.64, SD = 0.56$, than the peer, $M = 1.44, SD = 0.58$. One sample t-tests also determined that adults rated the authority figure as more obligated to intervene compared to chance and peers as less obligated to intervene compared to chance, all $ps < 0.001$. These data confirm that adults think authority figures are obligated to intervene, whereas peers are not.

4.1.2. Children

To examine children’s responses, we conducted a repeated measures ANOVA with Social Role (authority figure, peer) and Scenario (school story, park story) as a within-subjects factors and child’s Age as a continuous predictor. We did not find a Social Role x Age x Scenario interaction, $F(1, 82) = 1.51, p = .223, \eta_p^2 = 0.018$. We then collapsed across Scenario. In doing so, we found a Social Role x Age interaction, $F(1, 82) = 8.05, p = .006, \eta_p^2 = 0.089$.

To assess the nature of this interaction, we examined the simple effect of Social Role at $-1.5$ SD (Age: 4.43) and $+1.5$ SD (Age: 7.70). At younger ages, there was a simple effect of Social Role, $F(1, 82) = 5.12, p = .026, \eta_p^2 = 0.059$: children considered the authority figure more obligated to intervene, $M = 2.54, SD = 1.18$, compared to the peer, $M = 2.18, SD = 1.18$. One sample t-tests also revealed that younger children thought the authority figure was obligated to intervene compared to chance, $p = .005$, whereas they did not consider the peer obligated to intervene compared to chance, $p = .319$. Finally, when treating age as a categorical variable and comparing 4-year-olds’ responses to adults’ responses, we found that 4-year-olds and adults both considered authority figures similarly obligated to intervene, $p = .429$. Four-year-olds, though, considered peers more obligated to intervene compared to adults, $p < .001$.

At higher ages too, there was a simple effect of Social Role, $F(1, 82) = 49.10, p < .001, \eta_p^2 = 0.375$: children considered the authority figure obligated to intervene, $M = 2.59, SD = 1.19$, compared to the peer, $M = 1.49, SD = 1.17$. One sample t-tests revealed that 7-year-olds like younger children considered the authority figure obligated to intervene significantly more than compared to chance, $p < .001$, and considered the peer not obligated to intervene compared to chance, $p = .001$. Finally, when treating age as a categorical variable and comparing 7-year-olds’ responses to adults’ responses, we found that 7-year-olds and adults both considered authority figures and peers similarly obligated to intervene, $p > .747$.

In line with these findings, we find that age did not correlate with considering an authority figure obligated to intervene, $r = 0.028, p = .798$, whereas it did correlate with considering a peer obligated to intervene, $r = -0.34, p = .002$. That is, younger and older children alike considered authority figures obligated to intervene, whereas older children considered peers less obligated to intervene compared to younger children.

4.2. Obligation forced-choice judgments

We then examined children’s forced-choice responses to: “Who had to do something about [the transgressor] the most?”. To do so, we conducted a logistic generalized estimating equation (GEE) with binary outcomes (0 = peer, 1 = authority figure). We did not find an Age x Scenario interaction, $\chi^2(1, N = 84) = 1.62, p = .203$, so we collapsed across Scenario. We did not find an effect of Age, $\chi^2(1, N = 84) = 0.36, p = .548$. All children selected the authority figure as most obligated to intervene: 4-year-olds ($M = 0.86, SD = 0.35$), 5-year-olds ($M = 0.94, SD = 0.25$), 6-year-olds ($M = 0.97, SD = 0.18$), 7-year-olds ($M = 0.91, SD = 0.29$).

To us, these findings show that younger children are not lacking a conceptual distinction between authority figures and peers because, when forced to choose between the two, 4-year-olds recognize that authority figures are more obligated. But, when independently considering a peer’s obligation to punish, younger children considered peers more obligated to intervene than older children and adults did.

4.3. Expectations judgments

4.3.1. Adults

We examined adults’ expectation judgments depending on social role. To do so, we conducted repeated measures ANOVA with Social Role (authority figure, peer) and Scenario (school story, park story) as within-subjects variables. We found a Social Role x Scenario
interaction, F(1, 35) = 10.08, p = .003, $\eta^2_p = 0.224$. The effect of Social Role was larger in the school story, F(1, 35) = 100.00, $p < .001$, $\eta^2_p = 0.741$, than in the park story, F(1, 35) = 37.80, $p < .001$, $\eta^2_p = 0.519$. Importantly, in the both stories, adult participants thought the authority figure was more likely to intervene, M = 2.81, SD = 0.47 (school); M = 2.47, SD = 0.70 (park), compared to the peer, M = 1.69, SD = 0.58 (school); M = 1.72, SD = 0.45 (park). Between the two scenarios, participants thought the teacher in the school story was more likely to intervene than the mom in the park story, F(1, 35) = 11.67, $p = .002$, $\eta^2_p = 0.250$, whereas participants did not think the peer in the school story was any more likely to intervene than the peer in the park story, F(1, 35) = 0.11, $p = .744$, $\eta^2_p = 0.003$. Because the patterns across both of these scenarios were similar, we ultimately collapsed across them. In doing so, we found an effect of Social Role, F(1, 35) = 97.81, $p < .001$, $\eta^2_p = 0.736$. Adult participants thought the authority figure was more likely to intervene, M = 2.64, SD = 0.52, than the peer, M = 1.63, SD = 0.42. See Fig. 3. One sample t-tests also determined that adults rated the authority figure as more likely to intervene compared to chance and peers as less likely to intervene compared to chance, all ps < .001. These data confirm that adults think authority figures are likely to intervene, whereas peers are not likely to intervene.

4.3.2. Children

To examine children’s responses, we conducted a repeated measures ANOVA with Social Role (authority figure, peer) and Scenario (school story, park story) as within-subjects factors and child’s Age as a continuous predictor. We did not find a Social Role x Age x Scenario interaction, F(1, 82) = 1.26, $p = .266$, $\eta^2_p = 0.015$. We then collapsed across Scenario. In doing so, we found a Social Role x Age interaction, F(1, 82) = 10.94, $p = .001$, $\eta^2_p = 0.118$.

To assess the nature of this interaction, we examined the simple effect of Social Role at −1.5 SD (Age: 4.43) and + 1.5 SD (Age: 7.70). At younger ages, there was a simple effect of Social Role, F(1, 82) = 4.66, $p = .034$, $\eta^2_p = 0.054$: children expected the authority figure to intervene more, $M = 2.47$, SD = 0.82, than the peer, $M = 2.17$, SD = 1.04. One sample t-tests also revealed that younger children thought the authority figure would intervene significantly more than compared to chance, $p < .001$, whereas their expectation judgments of the peer were not significantly different from chance, $p = .165$. Finally, when treating age as a categorical variable and comparing 4-year-olds’ responses to adults’ responses, we found that 4-year-olds and adults both considered authority figures similarly likely to intervene, $p = .219$. Four-year-olds, though, considered peers more likely to intervene compared to adults, $p < .001$.

At the higher ages too, there was a simple effect of Social Role, F(1, 82) = 59.11, $p < .001$, $\eta^2_p = 0.419$: children expected the authority figure, $M = 2.78$, SD = 0.83, to intervene more than the peer, $M = 1.70$, SD = 1.21. One sample t-tests revealed that 7-year-olds expected an authority figure to intervene significantly more than compared to chance, $p < .001$, but did not expect the peer to intervene compared to chance, $p = .029$. Finally, when treating age as a categorical variable and comparing 7-year-olds’ responses to adults’ responses, we found that 7-year-olds and adults both considered authority figures and peers similarly likely to intervene, $p > .230$.

In line with these findings, we found that age correlated positively with considering an authority figure likely to intervene, $r = 0.22$, $p = .048$, but negatively with considering a peer likely to intervene, $r = -0.23$, $p = .038$. That is, older children are more likely to think that an authority figure will intervene and that a peer will not.

4.4. Children’s naturalistic explanations

Finally, we explored the nature of children’s responses to the free-response questions and categorized them according to their content. We did so because we wanted to confirm that children were interpreting our broader intervention question to pertain to intervention-relevant behavior. In general, children were willing to give explanations to the experimenter. When children were asked what they thought the characters would do, they responded 91% of the time—93% when asked about an authority figure and 88% when asked about a peer.

Participants’ responses ranged from short phrases like “send to timeout” to longer phrases like “say that is not acceptable to tease someone in class.” Aside from participants who did not respond, a sizable number of responses were either meaningless because the child responded “I don’t know” (17%) or were erroneous because they responded “do nothing” to a prompt that specified that the actor did in fact do something (6.3%).

We generated a word cloud to visually illustrate children’s responses; see Fig. 4. To do so, we aggregated children’s responses in both
the authority figure and peer conditions, respectively. To remove words commonly referenced in both conditions (e.g., the, girl), we subtracted the number of times a given word was referenced in the peer condition from the number of times a word was referenced in the authority figure condition. The resulting word cloud illustrates that children tended to use words like “timeout” and “punish” more in the authority figure condition compared to in the peer condition in which children were more likely to say that the peer will “tell the teacher/police/mom” or “go over and talk to them.”

We also categorized children’s responses into different content categories (Fig. 5). The following categories were created after examining the responses: (1) Direct Punishment, which included explanations that referenced, for the most part, formal punishment, such as sending a time-out; (2) Reporting to a Higher Authority, which included explanations of indirect punishment, such as tattling (i.e., “tell his mom”); (3) Intervention, which in general included explanations that referenced verbal intervention (“tell him to stop being mean”); (4) Retaliation (“go tease the other person back”); (5) Victim consolation (“save her”). Two blind coders then categorized children’s explanations into these categories. There was good agreement between the two coders.

Fig. 3. Children’s and adults’ expectation judgments of authority figure (mother, teacher) compared to peers. Error bars represent ± 1 SE. Indications of “yes” were coded as 3, indications of “maybe” were coded as 2, and indications of “no” were coded as 1.

Fig. 4. Word frequencies of children’s spontaneous responses to, “If the teacher/mom/police officer does do something, what do you think s/he will do?” Deeper shades of red represent that the words which were said more frequently in the authority figure condition. Deeper shades of blue represent the words which were said more frequently in the peer condition. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)
raters, $k = .70$, by conventional standards. The two coders reviewed inconsistencies and decided on a final category. Each explanation was assigned only one category. See Fig. 5 for frequency of explanation types.

Overall, these data provide evidence that children construed the action of the authority figure and peer actor as referencing intervention-relevant behavior. That is, most children provided explanations that described “doing something about it” as either direct punishment (i.e., arresting) or indirect punishment (i.e., reporting someone or tattling), or less punitive but still norm-enforcement-related actions, like telling someone to stop (Intervention). Children very rarely generated explanations along the lines of retaliation, like teasing someone back, or consolation, like helping the victim. It is still plausible though that children considered intervention in the form of telling an authority figure or directly intervening as helping the victim because, through norm enforcement, the victim is often helped (Riedl et al., 2015). And, finally, in exploratory analyses, we examined whether the type of explanation types provided by participants differed depending on age; we did not find any meaningful differences across younger and older age groups. See Supplemental Materials for full information.

These findings are particularly interesting in light of recent discussions surrounding whether children and adults prefer to punish an antisocial other (i.e., reducing an unfair other’s payoﬀ in an economic game) or to compensate the victim (i.e., giving money from someone who received an unfair offer; Pedersen et al., 2018). Our data suggest that, in response to everyday transgressions, children consider neither of these options as an intuitive intervention strategies against antisocial others. Instead, children prioritize tattling and verbal intervention (Vaish et al., 2011; Yucel & Vaish, 2018).

5. Discussion

In Study 1, we documented several ﬁndings. First, we found that, as expected, children regardless of age tended to think that an authority ﬁgure actor had an obligation to intervene. Younger children (~4- and 5-year-olds) also thought that peers had an obligation to intervene, but older children (~6- and 7-year-olds) and adults in general did not. Second, we found a similar pattern with respect to children’s expectations about intervention. In general, children at all ages expected authority ﬁgures to intervene, but, as they grew older, they become decreasingly less prone to see peers as likely to do so. (We conducted two additional studies whereby we measured children’s and adult’s expectations and obligations judgments about intervention depending on social role. In these studies, we replicated the pattern of results from Study 1—See Supplemental Studies 1 and 2.) Third, we conﬁrmed that children in general viewed intervention as involving norm enforcement actions, such as directly or indirectly punishing.

6. Study 2: obligations to punish

In Study 2, we aimed to extend the ﬁndings of Study 1 by utilizing a dependent measure which explicitly referenced one form of norm enforcement: punishment. In Study 1, participants interpreted our broad intervention question to reference a mixture of actions, namely direct punishment (i.e., sending someone to jail), indirect punishment (i.e., tattling or reporting), and norm enforcement (i.e., telling someone to stop). We therefore wanted to see whether our effects remain when we referenced punishment explicitly. To do so, we asked participants to determine whether a witness—either an authority ﬁgure or a peer—had to “get someone in trouble”. We utilized this language in line with research by Van de Vondervoort and Hamlin (2017), who used this item to measure punishment in children of similar ages.

We also made three methodological changes between Study 1 and 2. Contrary to Study 1 where there were two witnesses to the transgression—an authority ﬁgure and a peer—we presented the potential punisher as the only person who witnessed the antisocial transgression in Study 2. This is because we thought adults and children may consider the peer as lacking a punitive obligation only because the authority ﬁgure was present. Second, we did not include the forced-choice obligation question, because it no longer made sense to do so, since only one potential punisher witnessed the transgression. Lastly, because the dependent measure referenced punishment explicitly, we did not
include the free response questions.

7. Method

7.1. Participants

A power analysis revealed that we needed approximately 140 child participants (approximately 35 children per categorical age) to have 95% power to detect a small to medium-sized (Cohen's $f = .18$) Age x Social Role interaction—the key finding of Study 1. We based this effect size on the results of Supplemental Studies 3 and 4: in those studies, we examined children's and adults' obligation judgments about peer punishment only utilizing the school scenario (rather than also including the park scenario). In those studies, we found an aggregate $\eta_p^2$ effect size of small- to medium-size.

With this information in mind, we tested 148 children ranging in age from 4 to 7 years old ($M = 5.96, SD = 1.13$; 37 4-year-olds, 38 5-year-olds, 36 6-year-olds, 37 7-year-olds). We adopted the same stopping rule as in Study 1 whereby we stopped data collection on the last day in which our goal was met. Forty-three participants were tested in Central Park in Manhattan, 38 were tested at a local natural history museum, 37 were tested at a local fair, 26 were tested in a child development lab, and four were tested at a local YMCA. Eighty-four of the children were female. The final sample was 60.8% White, 11.5% Asian, 11.5% other, 7.4% Black, 4.7% Indian, and 2.7% Hispanic. 1.4% of participants did not report an ethnicity.

Eight additional children were tested but excluded (5 4-year-olds, 2 6-year-olds, and 1 7-year-old). Three children were excluded for not understanding due to a language barrier, two children because their parents told us that the child was on the autism spectrum, two because we could not determine the children's true ages, and one child because they had previously participated in an earlier version of the study. The results do not meaningfully change if we include all participants.

The MTurk adult sample was recruited in the same manner as Study 1. We recruited 40 adults because we wanted approximately 35 participants to match the 35 children per categorical age and also to account for potential attention check failures. No participants were removed for failing attention checks. The final sample consisted of 40 individuals (19 females; $M_{age} = 36.95$; $SD_{age} = 11.68$).

7.1.1. Procedure and materials

Participants were presented with two story-sets with two sub-stories per set. In one set of stories, the transgressor said something really mean to another person in a park (the park stories), like in Study 1; in the other set, the transgressor teased someone else in a school setting (the school stories), like Study 1. See Fig. 6. Unlike in Study 1, there were two sub-stories within the park story-set—one where the transgressor's parent was the sole witness to the antisocial transgression and one where a peer (i.e., someone else walking in the park) was. Furthermore, there were two sub-stories within the school story—one where the teacher was the sole witness to the antisocial transgression and one where a peer (i.e., another student at the school) was.

As mentioned earlier, we presented the potential punisher as the only witness to the transgressor because we wanted to ensure that the presence of both authority and peer witness at the scene did not impact our findings. Like in Study 1, we avoided depicting the characters as young children because we wanted to be sure our effects were not emerging simply because adults and older children thought that young children do not have to punish (rather than thinking that peers in general do not have to punish).

For each story, we asked two sets of questions: (1) expectation questions and (2) obligation questions. See Fig. 6 for exact wording per story. We opted to utilize this phrase “get someone in trouble” because previous work has found that children as young as four understand this phrase (Van de Vondervoort & Hamlin, 2017), and we were concerned, based on pilot data, that 4-year-olds did not understand the word “punishment”. We asked the expectation questions for each of the four stories in randomized order, and we also asked the obligation questions for each of the four stories in randomized order. We counter-balanced whether we asked the set of four obligation questions first or second.

The materials for adult participants were largely identical to the child participant materials. We added one component. Unlike in Study 1, where we had participants read the names of the characters and verify they knew the actors, we made it easier on participants by having the color of the character's name in the survey match their t-shirt color of the character in the story image—see Fig. 6. We included a section describing this, and we also included an attention check to ensure participants understood this feature of the study: “The color of the character's name matches the character's what? Shoes, shirt, hair, or backpack?” Those who did not reply “shirt” were excluded from analyses. We also included the same basic attention checks as included in Study 1.

8. Results

8.1. Obligation judgments

8.1.1. Adults

We examined adults' obligation judgments depending on social role, as in Study 1. We conducted a repeated-measures ANOVA with Social Role (authority figure, peer) and Scenario (school stories, park stories) as within-subjects factors. We did not find a Social Role x Scenario interaction, $F(1, 39) = 1.55, p = .221, \eta_p^2 = 0.038$. Collapsing across Scenario, we found an effect of Social Role, $F(1, 39) = 65.79, p < .001, \eta_p^2 = 0.628$. Adult participants rated the authority figure as more obligated to punish, $M = 2.41, SD = 1.46$, than the peer, $M = 1.46, SD = 0.65$, like in Study 1. See Fig. 7. One sample t-tests also determined that adults rated the authority figure as more obligated to punish compared to chance and peers as less obligated to punish compared to chance, all $p < 0.001$.

8.1.2. Children

We next considered children's obligation judgments. To do so, we conducted a repeated measures ANOVA with Social Role (authority figure, peer) and Scenario (school stories, park stories) as within-subjects factors and child's Age as a continuous predictor. We did not find a Social Role x Age x Scenario interaction, $F(1, 142) = 0.95, p = .332, \eta_p^2 = 0.007$, so we collapsed across Scenario. In doing so, there was a Social Role x Age interaction, $F(1, 142) = 11.72, p = .001, \eta_p^2 = 0.076$, as in Study 1.

To assess the nature of this interaction, we examined the simple effect of Social Role at $-1.5 SD$ (Age: 4.27) and $+1.5 SD$ (Age: 7.66); see Fig. 7. At lower ages, the simple effect of Social Role was not significant, $F(1, 142) = 0.10, p = .748, \eta_p^2 = 0.001$. Younger children rated authority figures, $M = 2.52, SD = 0.96$, as obligated to punish as peers, $M = 2.56, SD = 1.20$. One sample-tests revealed that 4-year-olds judged both the authority figures and peers as more obligated to punish compared to chance, both $p < 0.001$. Finally, when treating age as a categorical variable and comparing 4-year-olds' responses to adults' responses, we found that 4-year-olds and adults both considered authority figures similarly obligated, $p = .596$. Four-year-olds, though, considered peers more obligated to punish compared to adults, $p < 0.001$.

At the higher age range, the simple effect of Social Role was significant, $F(1, 142) = 28.95, p < .001, \eta_p^2 = 0.169$. Older children rated authority figures, $M = 2.38, SD = 0.96$, as much more obligated to punish than peers, $M = 1.84, SD = 1.20$. A one sample t-test revealed that 7-year-olds thought authority figures were significantly more obligated to punish than chance, $p = .001$. For peers, 7-year-olds tended to think that peers were not obligated to punish, but this did not significantly vary from chance, $p = .299$. Additionally, 7-year-olds' obligation judgments for the authority figure did not differ from adults'
**Study 2**

<table>
<thead>
<tr>
<th>Park Stories</th>
<th>School Stories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Authority Figure Story:</strong> One day, these people were at a park. At the park, Jessica said something really mean to Kate. Jessica’s mom heard this. ~ Expectation question: Now, do you think this person—Jessica’s mom—will get Jessica in trouble for saying something mean? Yes, no, or maybe? Obligation question: Now do you think this person—Jessica’s mom—has to get Jessica in trouble for saying something mean? Yes, no, or maybe?</td>
<td><strong>Authority Figure Story:</strong> One day, these people were at school. At school, Brianna teased Trisha. The teacher heard this. ~ Expectation question: Now, do you think this person—the teacher—will get Brianna in trouble for teasing? Yes, no, or maybe? Obligation question: Now, do you think this person—the teacher—has to get Brianna in trouble for teasing? Yes, no, or maybe?</td>
</tr>
<tr>
<td>![Park Story Image]</td>
<td>![School Story Image]</td>
</tr>
<tr>
<td><strong>Peer Story:</strong> One day, these people were at a park. At the park, Jessica said something really mean to Kate. Emma—a person walking in the park—heard this. ~ Expectation question: Now, do you think Emma—the person walking in the park—will get Jessica in trouble for saying something mean? Yes, no, or maybe? Obligation question: Now, do you think Emma—the person walking in the park—has to get Jessica in trouble for saying something mean? Yes, no, or maybe?</td>
<td><strong>Peer Story:</strong> One day, these people were at school. At school, Brianna teased Trisha. Veronica—another student at the school—heard this. ~ Expectation question: Now, do you think Veronica—another student at the school—will get Brianna in trouble for teasing? Yes, no, or maybe? Obligation question: Now, do you think Veronica—another student at the school—has to get Brianna in trouble for teasing? Yes, no, or maybe?</td>
</tr>
<tr>
<td>![Peer Story Image]</td>
<td>![Peer Story Image]</td>
</tr>
</tbody>
</table>

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**8.2. Expectation judgments**

**8.2.1. Adults**

We then examined adults’ expectation judgments depending on social role. To do so, we conducted repeated measures ANOVA with Social Role (authority figure, peer) and Scenario (school stories, park stories) as within-subjects variables. In doing so, we did not find a Social Role x Scenario interaction, $F(1, 39) = 0.55, p = .463, \eta_p^2 = 0.014$. Collapsing across Scenario, we found an effect of Social Role, $F(1, 39) = 79.43, p < .001, \eta_p^2 = 0.671$. Participants thought the

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**Fig. 6.** Methods for Study 2; children were presented with stories (two park stories, two school stories). Participants heard each story twice. For the first presentation of the four stories, we read the story to the participant (or adult participants read the stories themselves) and asked the obligation question (or expectation question) for each story; the order of the presentation of the stories was randomized, and it was counter-balanced whether participants were presented with the obligation set of questions first and expectations second (or vice versa). © 2019 GoAnimate, Inc. Images are copyrighted by and used by permission of VYOND™. VYOND is a trademark of GoAnimate, Inc., registered in Australia, Brazil, the European Union, Norway, the Philippines, Singapore, Switzerland and the United Kingdom.

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**Fig. 7.** Children’s and adults’ obligation judgments of authority figure (mother, teacher) compared to peers. Error bars represent ± 1 SE. Indications of “yes” were coded as 3, indications of “maybe” were coded as 2, and indications of “no” were coded as 1.

$p = .569$. But they did differ from adults in their obligation judgments of peers, $p = .005$, such that adults considered peers less obligated to punish than 7-year-olds did.

In line with these findings, we found that age did not correlate with considering an authority figure obligated to punish, $r = -0.08$, $p = .319$. Furthermore, age correlated negatively with considering a peer likely to punish, $r = -0.34, p < .001$. 

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authority figure was more likely to punish, $M = 2.59, SD = 0.47$, than the peer, $M = 1.63, SD = 0.53$. See Fig. 8. One sample t-tests also determined that adults rated the authority figure as more likely to punish compared to chance and peers as less likely to punish compared to chance, all $p < 0.001$. These data replicate the findings of Study 1.

8.2.2. Children

We next considered children’s expectation judgments. To do so, we conducted a repeated measures ANOVA with Social Role (authority figure, peer) and Scenario (school stories, park stories) as within-subjects factors and child’s Age as a continuous predictor. We did not find a Social Role x Age x Scenario interaction, $F(1, 142) = 0.58, p = .447$, $\eta^2_p = 0.004$, so we collapsed across Scenario. In doing so, there was a Social Role x Age interaction, $F(1, 142) = 10.07, p = .002$, $\eta^2_p = 0.066$.

To assess the nature of this interaction, we examined the simple effect of Social Role at $-1.5 SD$ (Age: 4.27) and $+1.5 SD$ (Age: 7.66); see Fig. 8. At younger ages, the simple effect of Social Role was not significant, $F(1, 142) = 1.17, p = .282$, $\eta^2_p = 0.008$. Younger children rated authority figures, $M = 2.47, SD = 0.96$, as likely to punish as peers, $M = 2.58, SD = 0.96$. One sample t-tests revealed that 4-year-olds judged both the authority figures and peers as more likely to punish compared to chance, both $p < 0.001$. Finally, when treating age as a categorical variable and comparing 4-year-olds’ responses to adults’ responses, we found that 4-year-olds and adults both considered authority figures similarly likely to punish, $p = .872$. Four-year-olds, though, considered peers more likely to punish compared to adults, $p < .001$.

At the higher ages, the simple effect of Social Role was significant, $F (1, 142) = 17.69, p < .001, \eta^2_p = 0.111$. Older children rated authority figures, $M = 2.66, SD = 0.96$, as much more likely to punish than peers, $M = 2.25, SD = 0.96$. One sample t-test revealed that 7-year-olds thought authority figures and peers were significantly more likely to punish compared to chance, both $p < 0.003$. Additionally, 7-year-olds’ expectation judgments for the authority figures did not differ from adults, $p = .561$. But they did differ from adults in their expectation judgments of peers, $p < .001$, such that adults considered peers less likely to punish than 7-year-olds did.

In line with these findings, we found that age correlated positively with considering an authority figure likely to punish, $r = 0.12$, $p = .152$, although it was not significant. Furthermore, age correlated negatively with considering a peer likely to punish, $r = -0.20$, $p = .015$.

8.3. Discussion

In Study 2, we replicated Study 1’s findings with a more explicitly punitive question: “Does [the witness] have to get [the transgressor] in trouble?”. When it comes to determining whether one is obligated to punish, younger children, older children, and adults all considered authority figures obligated to punish, but younger children considered peers more obligated to punish compared to older children and adults. We documented similar findings with respect to expectations. This study then further corroborates the claim that younger children are more inclined to consider punishment a universal responsibility in comparison to older children and adults.

9. General discussion

Here, we examined children’s and adults’ judgments about obligations to intervene in response to antisocial others. In Study 1, children and adults alike considered authority figures (i.e., parents, teachers) obligated to intervene. This aligns with previous research with adults (Martin et al., 2019) and with children (Weston & Turiel, 1980). Younger children, though, considered peers obligated to intervene more than older children and adults did. Importantly, we found a similar pattern with respect to children’s expectations judgments. In Study 2, we examined children’s and adult’s judgments about punishment specifically (i.e., getting someone in trouble), and documented a similar shift in both obligation and expectation judgments.

The findings from Studies 1 and 2 cohere with other work suggesting that children’s early judgments about obligations are best characterized as broader and more expansive in nature than adults, at least in the United States. In particular, Marshall, Wynn, & Bloom, in press find that younger children evaluate an unhelpful friend and an unhelpful stranger as equally mean, suggesting that they see the two as equally obligated to help. In contrast, older children and adults evaluated an unhelpful friend as meaner than an unhelpful stranger, suggesting that they consider friends more obligated to help than strangers. Together, these findings suggest that younger children in general reason...
more universally than older children and adults about cooperation-based obligations, for both helping (the previous studies) and enforcing norms (the current studies).

Furthermore, the results reported here fit with a more general pattern found in studies of children’s intuitions about punishment. Smith and Warneken (2016) find that younger children, compared to older ones, are more approving of punishing an entire class for a singular classmate’s transgression. Cushman, Shkekoff, Wharton, and Carey (2013) find that children around the age of four endorse punishing someone for an accidental transgression, although older children do not. And other researchers find that younger children tend to be more approving of peers who tattle on another than older children are (Loke et al., 2011; Vaish, Herrmann, Markmann, & Tomasello, 2016). In general, then, children at younger ages seem to be less discriminating about in what contexts punishment is appropriate and are willing to endorse punishment in general across a wide range of contexts.

What explains the more specific developmental differences we find? Why do young children characterize peers as obligated to engage in punishment? One possibility is that younger children do not have a conceptual understanding of authority figures or of social hierarchies. We find this implausible, however. Recall that both younger and older children distinguish between authority figures and peers in their naturalistic explanations in Study 1. Specifically, children tended to accurately provide social-role-specific explanations of how authority figure versus peers pursue punishment (and excluding the children who failed to do so did not change the findings; see Supplemental Materials). Furthermore, younger children in Study 1, when required to determine who has to intervene, selected the authority figure at similar rates as older children and adults. This finding suggests that younger children have a conceptual understanding of authority figures as distinct from peers. But when given the opportunity to independently rate how obligated a peer is to intervene, they express more universal reasoning.

Instead, we think it is possible that considering intervention a universal responsibility may be a natural default because of its functionality and adaptability. Certain cultures may vary in the degree to which they retain this universal starting point. In the United States though, we might largely replace it with intuitions that take into account authority status. Such intuitions about cooperation-based obligations may arise as a result of a social learning process that begins in the early elementary school years. But other cultures—perhaps those with smaller and more emmeshed communities, might work differently. For them, this initial default might be retained. Future cross-cultural research though is needed to investigate this possibility.

Note also that in sufficiently severe cases, even adults in the United States think that peers should cooperate with others. This is the case for helping: Miller, Bersoff, and Harwood (1990) find that adults will consider strangers as obligated to help one another in extreme situations, such as when a child is dying. In a study reported in Supplemental Materials, with adults in the United States, we tested to see if severity also influences intuitions about intervention. We gave adult participants scenarios involving either moderate violations—like vandalizing school property or cheating on a test—or severe violations—like committing sexual assault or bringing a gun to school (see Supplemental Materials). We found that adults considered a peer much more obligated to punish in a severe case compared to a moderate one. It is then not the case that adults in the United States will never consider peers obligated to punish. When the stakes are high enough, all hands are on deck!

We end by discussing four limitations of the present studies. First, although we demonstrated that younger children not only think peers have to intervene (in Study 1) and that they also think peers have to get someone in trouble (Study 2), it is unclear from our data whether children ever think peers have to engage in direct punishment of peers such as personally taking away the transgressor’s resources, hurting the transgressor in retaliation, or socially ostracizing or humiliating the transgressor. We doubt it. We suspect that younger children view norm enforcement as obligatory but only as long as the response is socially appropriate and proportionate to the crime. Along these lines, the naturalistic explanations suggest that children tend to think peer intervention involves indirect punishment, such as tattling (a response that is both socially appropriate for peers and also proportionate)—and not actions like direct retaliation or harm. Still, in future research, it would be worthwhile assessing whether younger children’s tendency to consider intervention a universal duty extends to more direct forms of punishment, such as socially ostracizing a peer.

Second, the present findings stand in contrast with one finding from a study by Loke et al. (2011). They found that 6- to 11-year-olds believe that peers should tattle on antisocial others. In our own studies, we find that, with increasing age, children in the United States do not believe this. Perhaps we found somewhat discrepant results because we are measuring meaningfully different types of beliefs about social obligations. That is, we specifically chose the phrase “have to” to ensure our question measured children’s sense of deontological obligation (Kalish & Lawson, 2008); Loke et al. (2011) utilize the language “should”, which to us is a less rigorous way of measuring an obligation. There are many actions that we should take, but do not have to take, such as helping the poor. Perhaps, then, older children think that antisocial others should be punished, but do not think they have to be punished.

Third, other research has found younger children do sometimes behave in discriminant ways—that is, younger children will help their family members and friends over unknown others (Engelmann, Haux, & Herrmann, 2019; Moore, 2009; Olson & Speike, 2008), punish out-group members more than in-group members (Jordan et al., 2014), and also exhibit discriminant social judgments in some cooperation-oriented contexts (Liberman & Shaw, 2017; Pietschewski & German, 2013). In light of such findings, the proper interpretation of our own results should not be that the younger children are entirely indiscriminate—rather that they are comparatively more indiscriminate than older children, and this might show up more in some domains than others. And although young children may not be fully universalist when it comes to helping, there is evidence that they are relatively more so (that is, relatively more indiscriminate) when it comes to cooperation-based behavior, such as helping others, in comparison to older children (Berndt, 1981; Güroğlu, van den Bos, & Crone, 2014; Lu & Chang, 2016; Paulus & Moore, 2014; Yu, Zhu, & Leslie, 2016).

Finally, the current data cannot tell us whether children and adults consider the obligation to punish a strict moral obligation or a social-conventional one (Killen & Smetana, 2006; Smetana, 2006). Ample research has distinguished between moral obligations—obligations that are independent from societal rules and are legitimately regulated via punishment (i.e., one has to treat people fairly no matter what even and should be punished for failing to do so)—and social-conventional obligations—obligations that are legitimately regulated via punishment but are dependent on societal rules (i.e., one has to not chew gum in the classroom and should be punished if they do, but one could chew gum in the classroom if it were not a rule in place prohibiting such behavior). Here, we only measure whether children and adults consider intervention an obligation in a broad sense (Kalish & Lawson, 2008).

To sum up, the findings from our two studies suggest that suggest that children start off considering norm enforcement a relatively universal responsibility. Relative to older children and adults, preschoolers, at least in the United States, are more inclined to think we all possess an obligation to punish.

CRediT authorship contribution statement

Julia Marshall: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Validation, Visualization, Writing - original draft, Writing - review & editing. Kellen Mermin-Bunnell: Funding acquisition, Investigation, Resources, Writing - review & editing. Paul Bloom: Conceptualization, Funding
acquisition, Resources, Supervision, Writing - review & editing.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.cognition.2020.104215.

References