Agents' moral character shapes people's moral evaluations of accidental harm transgressions

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Abstract:

Previous research has documented that judging someone responsible for an accident mainly relies on considerations about the outcome endured by the victim and the intention to cause harm. Yet, we question how these two factors may be influenced by the morality ascribed to the agent, independently of the action itself. In two online experiments, we determined whether information about the moral character of agents influenced moral judgment of accidental harm. Participants were presented with short narratives depicting accidental harm scenarios and were asked to report their judgment of the perpetrator. In experiment 1 ($N = 337$), we manipulated the perpetrator's morality and warmth orthogonally. In experiment 2 ($N = 271$), we focused on morality and simultaneously manipulated the perpetrator's and victim's moral character. In both experiments, we found that the perpetrator's moral character influenced judgments of acceptability, blame, punishment and compensation. Participants were more forgiving toward perpetrators of high morality relative to low morality, and the effect of the moral character was greater than the effect of warmth (experiment 1). The victim's moral character also influenced moral judgments but to a lesser extent than that of the perpetrator and did not interact with the moral character of the perpetrator (experiment 2). Participants were harsher toward the perpetrator when the victim was described as having high morality as compared to low morality, and compensation for the victim also aligned with the victim's morality. These results show that third-party moral judgment is influenced by the moral character of agents despite information implying that harm was unintended.

Keywords: Moral judgment; Accidental harm transgressions; moral character; Reasoning

Highlights

- We tested whether the moral character influenced third-party moral judgment
- We manipulated the moral character of perpetrators and victims of accidental harm
- Participants were more forgiving of high-morality perpetrators
- The perpetrator's morality was more important than warmth for moral judgments
- The perpetrator's morality was more important than the victim's morality

1. Introduction

When it comes to judging someone responsible for an accident, third parties have to determine whether the harmful action itself was morally wrong. Yet, judging whether the accidental transgressor's behavior was good or bad and determining the appropriate punishment can be complex and is often influenced by a range of factors. In the present study, we investigate how information about the moral character of actors affects moral judgment of accidental harm.

How individuals reach moral judgments has been a central issue for philosophers and psychologists for decades. Cognitive models of moral judgment usually propose that the action and its outcome are evaluated as well as the agent's intention and mental states (Cushman, 2008; Greene, 2004; Malle, 2014; Monroe & Malle, 2017), and/or obligation and capacity to have prevented the outcome (Alicke, 1992; Alicke, 2000; Malle, 2014; Monroe & Malle, 2017). One of the most influential models is the two-process model of moral judgment (Cushman, 2008; Greene et al., 2004) which suggests that two independent cognitive processes are at work to determine judgment of a perpetrator following a moral transgression. While an "outcome-based process" processes the outcome of the moral transgression, an "intent-based process" is believed to examine the agent's intentions. Critically, the two processes are sometimes opposed, triggering a cognitive conflict in judges (Cushman et al., 2012; Greene et al., 2004). This is especially the case when an agent unintentionally harms someone. Here, the outcome-based process focusing on the harm inflicted to the victim would increase judgment severity and conflicts with the intent-based process examining the agent's innocent intention, which would decrease judgment severity.

Importantly, the resulting cognitive tension may be influenced by information about the agents, the action, or its outcome, or by the dispositions of individuals making the moral judgment. For instance, previous research has found that reasoning style (Patil & Trémolière, 2021; Schwartz et al., 2021a) and personality traits (Djeriouat & Trémolière, 2014; Trémolière & Djeriouat, 2016; Kroneisen & Heck, 2020; Schwartz et al., 2021b) of third parties predict their judgment severity. Additionally, the severity of harm inflicted to the victim (Robbenolt, 2000; Schwartz et al., 2021b), the

agent or victim's negligence (Mulvey et al., 2020) or differences in economic wealth between the agents (Schwartz et al., 2021c) have been found to modulate moral judgment of the perpetrator of accidental harm. In the present study, we investigate another moderator that may orient judgment of accidental transgressors toward greater severity or more forgiving: the moral character of the protagonists.

1.1. Interactions between intention and morality of an action plan

The literature suggests that the perceived morality behind an action plan can modulate the intentionality attributed to the actor. For instance, research by Knobe (e.g., Knobe, 2003a, 2003b) indeed shows that when the justification of an action plan is perceived by the judge as immoral, the evaluation of intent is affected, particularly when the action plan comes together with a negative side-effect. Specifically, when presented with foreseeable negative side-effects (e.g., harming the environment), people attribute greater level of intention to the actor (and more blame) following the action, as compared to cases of foreseeable positive side-effects (e.g., helping the environment), for which the actor is held less responsible - a phenomenon known as the "side-effect effect" (Knobe, 2006)¹. Other studies have also found that the morality behind actions which led to the same unintended outcome impacts the ascription of responsibility to the agent (Alicke, 1992; Alicke, 2000). For instance, when told that someone driving recklessly injured others in a car accident, participants judge that the driver had more control over the action when information indicated a bad reason for the irresponsible driving (i.e., hiding drug) relative to a good reason (i.e., hiding a birthday present). Thus, an important feature is that inferences about the moral character articulates with the perception of the agent's causal role and intention to form a moral judgment (Knobe and Fraser, 2008; Mazzocco, Alicke, and Davis, 2004). This is consistent with the idea that people generally question whether harm was caused intentionally and/or because of negligence (see the culpable control model; Alicke, 2000; Alicke et al., 2011). The extent to which judges exert internal, dispositional attribution is correlative

¹ We should note that some authors have recently investigated whether this side-effect effect was due to differences in the interpretation of the question as a function of the side effect valence (Laurent et al., 2021; but see Cova et al., 2016).

to the seriousness of the moral violation (see Pizarro and Tannebaum, 2011). Additional studies have focused on the integration of moral character by examining its independent incidence on causation and consequence (Siegel et al., 2017). Inferred bad character of fictitious agents resulted in amplified judgment of consequences. Harmful and helpful choices were respectively more predictive of judgment of blame and praise for bad agents than for good agents. However, causation was not found to be moderated by inferred moral character. From these previous studies, we can assume that the presumed morality of agents may affect the processing of intentionality following an accident, and ultimately impact acceptability of the agent's behavior, as well as deserved punishment and blame.

1.2. Role of the inferred agent's moral character and warmth

A very influential framework suggests that warmth and competence are two universal and orthogonal dimensions of impression formation (Fiske et al., 2007). People could first be perceived as high or low in warmth (for example, helpful, tolerant, sociable vs. unsociable, boring, irritable) before being perceived as high or low in competence (for example, skilled, knowledgeable, efficient vs. clumsy, naïve, superficial). As such, people first identify traits labeled as “other-profitable” before traits that are “self-profitable” (Peters, 1992), since the first provide information about the intention of others (i.e., harming or helping), and the latter provide information about the ability to enact those intentions (Fiske et al., 2007). Another critical trait, partly overlapping with warmth, turns out to be morality. Importantly, studies have found that warmth and morality are separable dimensions of person perception (Goodwin et al., 2014). Morality is even more valued than warmth in that it is more informative about a person's identity and qualities, and is thought to be a more controllable trait (Goodwin et al., 2014). Some authors have argued that morality and competence are thus the main determinants of social perception (Wojciske et al., 2005; Brambilla et al., 2011). When asked to recollect memories of others, most recollections could be framed in terms of morality or competence (Wojciske et al., 1994). Additionally, morality and competence explained most of impressions about famous people (Wojciske et al., 1998), leaders (Chemers, 2001), or political candidates from voter's commentaries (Kinder & Sears, 1985).

Although the relevance of character traits that people look for in others somehow depends on context (for example, competence will be more critical for an employee, and sociability will be more critical for someone invited to a party), morality was overall found to prevail over warmth and competence (Brambilla et al., 2011). Importantly, the initial perception of morality might exert an influence on the perception of competence (Stellar and Willer, 2018). For instance, it has been observed that information about other's immorality (but not about others' warmth) induces an impression of lower competence (Stellar and Willer, 2018). In this perspective, perceived recklessness of an agent responsible for accidental harm would lead to the attribution of lower competence and to presumably greater attribution of negligence. As negligence attribution is connected with accidental harm judgment severity (see Kneer and Machery, 2019), this would ultimately lead to harsher judgments.

When it comes to moral judgment, agent's rejection of a harmful option or prospect of harm conveys the impression of being warm, moral, empathic, and trustworthy whereas the reverse conveys an impression of being logical and competent (Rom and Conway, 2018) but is associated with negative character attribution (Uhlmann and Tannenbaum, 2013). As a result, psychological attributes such as warmth, morality, and competence can be interactively impactful on moral judgments. For these reasons, a person-centered approach of moral judgment, in which moral judgments are heavily influenced by the dispositions attributed to agents, implies to disentangle the respective influence of these dispositional attributes (see Goodwin et al., 2014).

1.3. Role of the victim's attribute in moral judgment

In addition to exploring the moral character of the perpetrator, the moral character of the victim may also influence moral judgment. The victim's moral character is likely to influence empathy from third parties, thereby modulating the output of the outcome-based process. In support of this idea, compassion for the victim's suffering following intentional harm has been found to positively correlate with third-party punishment (Pfattheicher et al., 2019). There is also evidence in the literature that perceived likeability of a victim triggers harsher judgment of the agent who caused harm. People

are for instance more willing to punish an agent causing the death of a physically attractive woman than a less physically attractive woman (Callan et al., 2007). Interestingly, if a Halo effect (i.e., the tendency to make an overall impression of a person on the basis of a particular trait) partly explains this process, we might expect judges to show more compassion for a victim of high morality (and as such, more likeable) accidentally harmed by a perpetrator of low morality. Conversely, we might expect less compassion for a victim of low morality accidentally harmed by a perpetrator of high morality. More generally, information about the perpetrator that contributes to moral judgment may also be looked for in victims, and either exacerbate or attenuate judgment severity toward the perpetrator. A recent study presented participants with accidental harm scenarios and manipulated both the perpetrator and the victim negligence (Mulvey et al., 2020). The authors reported more lenient judgment of the perpetrator when the victim was described as negligent, suggesting that relevant information about the victim -- that might extend to the victim's moral character—contributes to moral judgment of a perpetrator who harmed someone accidentally.

1.4. The present study

In the present preregistered study, we investigated how the moral character shapes moral judgment of a perpetrator following accidental harm. To this aim, we presented participants with fictitious accidental harm scenarios in which we manipulated the attributes associated with the actors (perpetrator in experiment 1, perpetrator and victim in experiment 2). We used attributes based on the person perception literature (Goodwin et al., 2014). Specifically, we selected attributes referring to high or low warmth but not conveying information about morality, as well as attributes referring to high or low morality but not conveying information about warmth. In experiment 1 (preregistration: <https://osf.io/z7wx2>), we manipulated the warmth and morality of the perpetrator orthogonally in a within-subject design. We predicted that the moral character of the perpetrator would contribute to moral judgment more than warmth. In experiment 2 (preregistration: <https://osf.io/8fv6x>), we manipulated the moral character of the perpetrator and victim simultaneously (high, low, unknown) in a mixed design and determined their interaction. We predicted that moral judgment would be most

severe toward low-morality perpetrators harming high-morality victims, and most lenient toward high-morality perpetrators harming low-morality victims.

In both experiments, we ran exploratory analyses to test whether individual differences in reasoning style explained the sensitivity to the moral character of agents. We made two competing claims: First, the contribution of the moral character may be reduced in participants with a more deliberative reasoning style because only the innocent intention of the perpetrator will matter to these individuals. By contrast, the moral character may contribute to moral judgment to a greater extent in more deliberative individuals because they will try to infer intentionality based on the moral character of the perpetrator.

2. Experiment 1 : Effect of the perpetrator's warmth and morality on moral judgment of accidental harm

2.1 Material and method

2.1.1 Sample size rationale

We used G*power software to estimate the minimum sample size for this study. We ran an a-priori power analysis for ANOVA (fixed effects, special, main effects and interaction) with 2 predictors, with $\alpha = 0.05$, Power = 0.95. Given that we were interested in both fixed effects and their interaction, we ran the power analysis on the interaction. We set an effect size f of 0.20 (medium effect size) with numerator $df = 1$, and number of groups = 4 (corresponding to the 4 possible combinations of warmth by morality). The required sample size to observe such effect size under these assumptions was 327 participants.

2.1.2 Participants

We recruited 368 participants aged 18 or older living in the United Kingdom and United States of America. Participants were recruited using the Prolific service. They gave their written informed consent to complete an online survey and were paid £1 upon completion of the survey. Participants who did not complete the survey ($n = 20$) or failed attention checks ($n = 11$) were excluded from analysis. The final sample included 337 participants (203 females, mean age = 25.96, $sd = 7.89$).

2.1.3 Moral judgment task

We used 4 short stories featuring accidental moral transgressions adapted from the literature (Young et al., 2007). The stories framed an interaction between an agent and a victim in a daily-life context. Following the introduction of the protagonists, the perpetrator's character was explicitly stated using two attributes and a short description. This was followed by a foreshadow sentence that invoked the presence of an imminent danger. The next sentences stated that the perpetrator was unaware of the danger. The last sentence of the story described the occurrence of the accident and included a brief description of the victim's harm (no lethal harm). The gender of the perpetrator and victim was counterbalanced across stories so that each of the 2 x 2 combinations were presented once to participants.

The perpetrator's character was manipulated within-subjects along two dimensions : *warmth* and *morality*. Experimentally speaking, one attribute referred to the perpetrator's morality (high or low) such as honest, dishonest, trustworthy and untrustworthy. The other attribute referred to the perpetrator's warmth (high or low), such as funny, boring, friendly and unfriendly. Attributes were preselected from Goodwin and colleagues (Goodwin et al., 2014) and pretested in a separate pilot experiment (see below). See Table 1 for an example of a framing that could lead to 4 possible experimental conditions. Full description of the scenarios and conditions is displayed in Supplementary materials S1.

Table 1. Character description in experiment 1. Example of a framing that could lead to 4 conditions.

<p>Larry is a new computer technician at a store. [character description] A customer comes to the store to get her laptop checked out. The laptop gets very hot after only 10 min of work. The laptop is malfunctioning and heats up much more than normal. It is dangerous to use, especially on one's lap. Larry checks with his boss and comes back believing it is very normal for all laptops to heat up during use. Larry returns the laptop to the customer. The customer goes home, and her laptop catches on fire. She suffers painful second-degree burns.</p>		
Character description	High morality	Low morality
High warmth	Larry is friendly and is pleased to speak with customers who are looking for advice. He is honest and mentions the limitations of his products while answering the customers' questions.	Larry is friendly and is pleased to speak with customers who are looking for advice. He is dishonest and omits the limitations of his products while answering the customers' questions.
Low warmth	Larry is unfriendly and is not pleased to speak with customers who are looking for advice. He is honest and mentions the limitations of his products while answering the customers' questions.	Larry is unfriendly and is not pleased to speak with customers who are looking for advice. He is dishonest and omits the limitations of his products while answering the customers' questions.

Note: each framing led to 16 versions

2.1.4 Stimuli validation

In order to determine the perceived warmth and morality associated with each attribute for each framing, a pilot experiment was run on the Prolific platform on 83 participants. Participants were presented with the beginning of 8 short narratives featuring the character description, with the exception that one attribute was used for each framing (while 2 attributes were used in combination in the final experiment). Participants reported whether the perpetrator's character was moral, immoral,

warm or cold immediately following the character description using a multiple-choice questionnaire. We selected 4 of the 8 pretested items for the final experiment. For all selected items, the perpetrator's character was judged "moral" for attributes referring to high morality (honest, trustworthy), "immoral" for attributes referring to low morality (dishonest, untrustworthy), "warm" for attributes referring to high warmth (funny, friendly) and "cold" for attributes referring to low warmth (boring, unfriendly). Additionally, the character was judged (1) neither warm nor cold for attributes referring to morality, and (2) neither moral nor immoral for attributes referring to warmth.

2.1.5 Thinking and reasoning measures

We assessed participants' thinking and reasoning style using a self-report questionnaire and a performance test. We used a short version of the Actively Open-minded Thinking questionnaire (AOT) (Baron et al., 2015) which asks participants to report on a 5-point likert scale (ranging from 1, Strongly Disagree, to 5, Strongly Agree) how much they agree with 8 statements such as "Changing your mind is a sign of weakness" (Cronbach's $\alpha = 0.69$). Participants also completed the Cognitive Reflection Test (CRT), which includes short problems which all have an appealing but incorrect response that participants have to inhibit in order to give the correct response (for example: "If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets?"). We used the 3 original items (Frederick, 2005) as well as 4 additional items (Thomson & Oppenheimer, 2016) (Cronbach's $\alpha = 0.70$). Scores at the AOT and CRT were rescaled and averaged, leading to a composite reasoning score ranging from 0 to 1, with greater scores indicating a more deliberative thinking style and lower scores indicating a more intuitive thinking style.

2.1.6. Procedure

Participants were presented with 1 item per condition for a total of 4 items. Immediately following an item, participants' moral judgments were assessed on four outcome measures using a 7-point Visual analog scale, in the following order: (1) how acceptable the agent's behavior is (from "not at all acceptable" to "very acceptable"), (2) how much blame the agent deserves (from "not at all" to "very much"), (3) how much punishment the agent deserves (from "not at all" to "very much"), and (4) how

much the victim should be compensated (from “not at all” to “very much”). Item presentation was pseudo-randomized. Items were defined by condition (morality by warmth combination), framing (for example, the context in which the perpetrator and the victim interact, such as the perpetrator making a sandwich for the victim), and attributes (2 possible attributes for each level of warmth and morality). The association between framing, condition and attributes varied between subjects (pseudo-randomization), leading to several combinations. For example, a participant was presented with the “sandwich” framing mentioned above under the “high morality– low warmth” condition with the perpetrator described as honest and unfriendly, whereas another participant was presented with the “sandwich” framing under the “low morality– low warmth” condition with the perpetrator described as untrustworthy and unfriendly. Additionally, item order was fully randomized within scenarios, such that a participant could start with the « sandwich » framing and end with the « jellyfish » framing and another participant could start with the « laptop » framing and end with the « sandwich » framing. Finally, half of the participants started the survey with the moral judgment task while the others started with the thinking and reasoning questionnaires. The effect of task order is described in Supplementary results S1.

2.1.7. Data analysis

To determine whether the perpetrator’s warmth and morality modulated moral judgment of accidental transgressions, we used linear mixed models (Baayen et al., 2008) with moral evaluation as outcome variable (acceptability, punishment, blame, compensation), and morality and warmth as fixed factors. We used random intercepts for item and subject in all 4 models. Using the lme4 R package (Bates et al., 2015), the full model was: $\text{moral evaluation} \sim (\text{morality} * \text{warmth} + (1 | \text{subj}) + (1 | \text{item}))$. Post-hoc pairwise comparisons were performed with the Tukey adjustment implemented in the lsmeans R package. In exploratory preregistered analyses, the composite reasoning score was used as an additional fixed factor in a supplementary mixed model. The model was: $\text{moral evaluation} \sim (\text{morality} * \text{warmth} * \text{reasoning} + (1 | \text{subj}) + (1 | \text{item}))$.

2.2. Results

2.2.1. Effects of warmth and morality on moral judgment :

Acceptability: Both warmth and morality influenced acceptability ratings. The perpetrator's behavior was rated as less acceptable in case of low warmth relative to high warmth ($b = -0.42$, $SE = 0.12$, $t = -3.40$, $p < 0.001$), and in case of low morality relative to high morality ($b = -0.92$, $SE = 0.12$, $t = -7.38$, $p < 0.001$). The interaction between warmth and morality reached significance ($b = 0.36$, $SE = 0.18$, $t = 2.01$, $p = 0.044$). While warmth had no significant effect on acceptability ratings of low-morality perpetrators ($b = 0.064$, $t\text{-ratio} = 0.51$, $p = 0.96$), the behavior of a high-morality perpetrator was rated as more acceptable if the perpetrator was warm as compared to cold ($b = 0.42$, $t\text{-ratio} = 3.4$, $p = 0.0038$).

Punishment: Judgments of punishment were sensitive to the perpetrator's character. Participants tended to punish more harshly low-warmth perpetrators relative to high-warmth perpetrators ($b = 0.23$, $SE = 0.13$, $t = 1.81$, $p = 0.071$). Participants also judged that low-morality perpetrators deserved more punishment than high-morality perpetrators ($b = 0.66$, $SE = 0.13$, $t = 5.25$, $p < 0.001$). The interaction between warmth and morality was not significant ($b = -0.16$, $SE = 0.18$, $t = -0.90$, $p = 0.37$).

Blame: Blame judgments were not influenced by the perpetrator's warmth ($b = 0.16$, $SE = 0.13$, $t = 1.27$, $p = 0.20$) but were influenced by the perpetrator's morality, with low-morality perpetrators judged as more blameworthy than high-morality perpetrators ($b = 0.56$, $SE = 0.13$, $t = 4.31$, $p < 0.001$). The interaction between warmth and morality was not significant ($b = -0.17$, $SE = 0.19$, $t = -0.91$, $p = 0.36$).

Compensation: When determining how much the victim of the accident should be compensated, the perpetrator's warmth had no significant effect ($b = 0.0016$, $SE = 0.12$, $t = 0.013$, $p = 0.99$), but participants tended to attribute more compensation to the victim when the perpetrator's morality was

low relative to high ($b = 0.24$, $SE = 0.12$, $t = 1.92$, $p = 0.055$). The interaction between the perpetrator's warmth and the perpetrator's morality was not significant ($b = 0.095$, $SE = 0.18$, $t = 0.54$, $p = 0.59$).

Figure 1. Effect of the perpetrator's moral character and warmth on moral judgment of accidental harm. Thick horizontal bars indicate the mean of each condition, thin horizontal bars represent the first and third quartiles. Vertical bars indicate the distribution range.

2.2.2. Exploratory preregistered analyses:

In preregistered exploratory analyses, we determined the effect of reasoning style on moral judgment. Reasoning style modulated acceptability ratings ($b = 1.29$, $SE = 0.61$, $t = 2.10$, $p = 0.036$), with higher acceptability in more deliberative reasoners, and tended to interact with warmth ($b = 1.35$, $SE = 0.79$, $t = 1.71$, $p = 0.087$) and morality ($b = 1.33$, $SE = 0.79$, $t = 1.68$, $p = 0.094$). Post-hoc analyses revealed

that more deliberative individuals were more lenient toward perpetrators of both low warmth ($r = 0.22$, $p < 0.001$) and high warmth ($r = 0.16$, $p < 0.001$) as well as perpetrators of low morality ($r = 0.21$, $p < 0.001$) and high morality ($r = 0.18$, $p < 0.001$). Reasoning style did not significantly affect punishment decisions overall ($b = -0.70$, $SE = 0.63$, $t = -1.12$, $p = 0.27$), but tended to interact with morality ($b = -1.41$, $SE = 0.80$, $t = -1.77$, $p = 0.078$). Post-hoc analyses revealed that more deliberative participants attributed less punishment to both low-morality perpetrators ($r = -0.14$, $p < 0.001$) and high-morality perpetrators ($r = -0.11$, $p = 0.0057$). Blame judgments were not influenced by reasoning style ($b = -0.48$, $SE = 0.65$, $t = -0.73$, $p = 0.46$) and reasoning style did not interact with warmth or morality. Finally, reasoning style affected the victim's compensation ($b = -1.44$, $SE = 0.64$, $t = -2.23$, $p = 0.026$) which was higher in more intuitive people but did not interact with warmth or morality.

Figure 2. Effect of reasoning style on moral judgment of the perpetrator as a function of the perpetrator's warmth and morality.

3. Experiment 2 : Effect of the perpetrator's and victim's morality on moral judgment of accidental harm

3.1. Material and method

3.1.1. Sample size rationale

We used G*power software to estimate the minimum sample size for this study. We ran an a-priori power analysis for ANOVA (fixed effects, special, main effects and interaction), with $\alpha = 0.05$, Power = 0.95 (we set the power threshold above what is conventionally used to maximize our chance of detecting an effect). Given that we were interested in both fixed effects and their interaction, we ran the power analysis on the interaction. We set an effect size f of 0.25 (medium effect size) with numerator $df = 4$, and number of groups = 9 (corresponding to the 9 possible combinations of the perpetrator's morality by the victim's morality). The required sample size to observe such effect size under these assumptions was 302 participants.

3.1.2. Participants

We recruited 320 participants aged 18 or older living in the United Kingdom and United States of America. Participants were recruited using the Prolific service. They gave written informed consent to complete an online survey and paid £0.5 upon completion of the survey. Participants who did not complete the survey ($n = 16$) or failed attention checks ($n = 33$) were excluded from analysis. The final sample included 271 participants (179 females, mean age = 25.84, $sd = 7.35$).

3.1.3. Moral judgment task

We used 3 short stories featuring accidental moral transgressions adapted from the literature (Young et al., 2007) and overlapping with the ones used in Experiment 1. The main differences with respect to experiment 1 is the addition of a sentence describing the victim's moral character as well as the use of

a mixed design. The victim's moral character was manipulated within subjects and the perpetrator's moral character was manipulated between subjects. Three levels of morality were used for the perpetrator and the victim : high, low, unknown.

The attributes referring to the moral character were honest, dishonest, trustworthy and untrustworthy. In the « unknown » condition, no sentence described the moral character. Moreover, when the moral character was described for both protagonists, the perpetrator was described as some honest or dishonest, while the victim was described as someone trustworthy or untrustworthy. This allowed us to use the same description of (dis)honest and (un)trustworthy for the two protagonists. See Table 2 for an example of a framing that could lead to 9 possible experimental conditions. Full description of the scenarios and conditions is displayed in Supplementary materials S2.

3.1.4. Questionnaires

As in experiment 1, we used the AOT (Cronbach's $\alpha = 0.63$) and CRT (Cronbach's $\alpha = 0.71$), with the exception that only the original 3-item version of the CRT was included, for the sake of brevity. Similarly to experiment 1, we used a composite score as a proxy for thinking style.

Table 2. Character description in experiment 2. Example of a framing that could lead to 9 conditions.

<p>Paola is taking a class in sculpture. [perpetrator's character description] She is assigned to work with a partner to weld together pieces of metal and her partner is holding the other end of the metal being welded. [victim's character description] The metal being welded is a good conductor of heat so heat travels very fast along the piece of metal. Paola thinks that the metal is a bad conductor and if she welds a piece of metal that her partner is holding the heat will travel down the metal really slow and will not burn her partner's hand. Paola welds the metal, and her partner's hand is burned.</p>			
Character description	High morality victim	Low morality victim	Unknown morality victim
High morality perpetrator	Paola is honest, she gives back to the instructor whatever material she borrows from the class. [...] Paola's partner is trustworthy, he always attends the class when he says so and warns his partner when he is not able to attend.	Paola is honest, she gives back to the instructor whatever material she borrows from the class. [...] Paola's partner is untrustworthy, he does not always inform his partner when he is late or not able to attend the class.	Paola is honest, she gives back to the instructor whatever material she borrows from the class. [...]
Low morality perpetrator	Paola is dishonest, she sometimes takes home some of the material she borrows from the class. [...] Paola's partner is trustworthy, he always attends the class when he says so and warns his partner when he is not able to attend.	Paola is dishonest, she sometimes takes home some of the material she borrows from the class. [...] Paola's partner is untrustworthy, he does not always inform his partner when he is late or not able to attend the class.	Paola is dishonest, she sometimes takes home some of the material she borrows from the class. [...]
Unknown morality perpetrator	[...] Paola's partner is trustworthy, he always attends the class when he says so and warns his partner when he is not able to attend.	[...] Paola's partner is untrustworthy, he does not always inform his partner when he is late or not able to attend the class.	[...]

Note: each framing led to 17 versions (by interverting the perpetrator's and victim's attributes)

3.1.5. Procedure

Half of the participants started the survey with the moral judgment task while the others started with the thinking and reasoning questionnaires. Overall, task order did not influence the results (see Supplementary results S2). In the moral judgment task, participants were presented with 3 items. Immediately following a short narrative, participants' moral judgments were assessed on four outcome measures using a 7-point Visual analog scale, in the following order: (1) how acceptable the agent's behavior is (from "not at all acceptable" to "very acceptable"), (2) how much blame the agent deserves (from "not at all" to "very much"), (3) how much punishment the agent deserves (from "not at all" to "very much"), and (4) how much the victim should be compensated (from "not at all" to "very much"). Item presentation was pseudo-randomized.

First, participants were randomly assigned to one of three groups depending on the perpetrator's morality level (high / low / unknown morality). All participants were presented with 1 item per victim's morality level (high / low / unknown). Second, all participants were presented with the same 3 framings depicting the interaction between the protagonists (such as neighbors going kayaking). Third, the association between framing, the victim's morality level, and the attributes was pseudo-randomized, with the exception that the attribute describing the perpetrator was not repeated for the victim.

We used a total of 18 different scenarios (all possible combinations were not represented). For example, a participant was presented with the "kayak" framing mentioned above under the "honest perpetrator – untrustworthy victim" condition and with the « bike » framing under the « trustworthy perpetrator – dishonest victim », whereas another participant was presented with the same "kayak" framing under the "honest-perpetrator – trustworthy victim" condition and with the « sculpture » framing under the « honest-perpetrator – unknown morality-victim » condition. Finally, item order was fully randomized within scenarios, such that a participant could start with the « kayak » framing and end with the « bike » framing and another participant could start with the « bike » framing and end with the « sculpture » framing.

3.1.6. Data analysis

To determine whether the perpetrator and victim's morality moderated moral judgment of accidental transgressions, we used linear mixed models (Baayen et al., 2008) with moral evaluation as outcome variable (acceptability, punishment, blame, compensation), and perpetrator's morality and victim's morality as fixed factors. We used random intercepts for item and subject for all 4 moral evaluations.

Using the lme4 R package (Bates et al., 2015), the full model was: moral evaluation ~ (perpetrator's morality * victim's morality + (1 | subj) + (1 | item)).

We first determined the significance of the fixed factors using the type III anova with the Satterthwaite's method, as implemented in the lme4 package. Next, we built an additional mixed model for each moral evaluation with "condition" as fixed factor and the "unknown-morality perpetrator – unknown-morality victim" condition as the reference level. We used random intercepts for subjects and items. This additional model enabled us to get an estimate for each morality combination with respect to the reference level.

In exploratory preregistered analyses, we used a « reasoning » composite score (after rescaling and averaging scores at the AOT and CRT, as in Experiment 1) as an additional fixed factor in a supplementary mixed model. The model was: moral evaluation ~ (reasoning*perpetrator's morality * victim's morality + (1 | subj) + (1 | item)).

3.2. Results

3.2.1. *Effects of warmth and morality on moral judgment :*

For judgments of acceptability, punishment, blame and compensation, we first report the significance of each fixed factor (and their interaction) from the type III anova associated with the first series of mixed models. Next, we report the estimates of each morality level with respect to the reference condition (unknown morality of both protagonists) from the second series of mixed models.

Acceptability: The perpetrator's moral character influenced acceptability ratings ($F(2, 270.30) = 16.58, p < 0.001$), but this was not the case for the victim's moral character ($F(2, 544.68) = 0.38, p = 0.68$). The interaction was not significant ($F(4, 544.37) = 0.75, p = 0.56$). As compared to the "unknown-morality perpetrator – unknown-morality victim" condition, acceptability of the perpetrator's behavior was higher for high-morality perpetrators harming a low-morality victim ($b = 0.54, SE = 0.27, t = 1.99, p = 0.048$). In contrast, the behavior of low-morality perpetrators was rated as less acceptable when they harmed a high-morality victim ($b = -0.76, SE = 0.26, t = -2.85, p = 0.0045$), or a low-morality victim ($b = -0.60, SE = 0.29, t = -2.11, p = 0.035$), or even a victim whose moral character was unknown ($b = -0.53, SE = 0.27, t = -1.96, p = 0.050$).

Punishment: Decisions of punishment were significantly influenced by the perpetrator's moral character ($F(2, 270.08) = 12.13, p < 0.001$) and tended to be influenced by the victim's moral character ($F(2, 544.82) = 2.89, p = 0.056$). The interaction was not significant ($F(4, 544.51) = 0.51, p = 0.73$). As compared to the "unknown-morality perpetrator – unknown-morality victim" condition, participants assigned greater punishment to low-morality perpetrators harming a high-morality victim ($b = 0.84, SE = 0.24, t = 3.45, p < 0.001$) or a victim of unknown morality ($b = 0.68, SE = 0.25, t = 2.71, p = 0.0070$).

Blame: Similar to punishment judgments, blame judgments were influenced by the perpetrator's moral character ($F(2, 270.62) = 5.48, p = 0.0047$) and tended to be influenced by the victim's moral character ($F(2, 546.20) = 2.76, p = 0.064$). The interaction was not significant ($F(4, 545.89) = 1.27, p = 0.28$). As compared to the "unknown-morality perpetrator – unknown-morality victim" condition, participants assigned less blame to high-morality perpetrators harming a low-morality victim ($b = -0.62, SE = 0.26, t = -2.36, p = 0.019$) or a victim of unknown morality ($b = -0.57, SE = 0.26, t = -2.19, p = 0.029$). Blame judgments also tended to be less severe towards perpetrators of unknown morality

harming a low-morality victim ($b = -0.42$, $SE = 0.24$, $t = -1.81$, $p = 0.071$), relative to the reference condition.

Compensation: When determining how much the victim of the accident should be compensated, judgments were influenced by the perpetrator's moral character ($F(2, 269.91) = 5.15$, $p = 0.0064$) as well as the victim's moral character ($F(2, 543.09) = 5.60$, $p = 0.0039$). The interaction was not significant ($F(4, 542.78) = 0.46$, $p = 0.76$). With respect to the “unknown-morality perpetrator – unknown-morality victim” reference condition, compensation was reduced for low-morality victims harmed by a high-morality perpetrator ($b = -0.66$, $SE = 0.28$, $t = -2.38$, $p = 0.017$). Compensation was also reduced when a perpetrator of unknown morality harmed a victim of high morality ($b = -0.40$, $SE = 0.23$, $t = -1.75$, $p = 0.081$) or low morality ($b = -0.46$, $SE = 0.23$, $t = -2.00$, $p = 0.046$).

Figure 3. Effect of the moral character on moral judgment of accidental harm. P = perpetrator; V = victim. Thick horizontal bars indicate the mean of each condition, thin horizontal bars represent the first and third quartiles. Vertical bars indicate the distribution range.

3.2.2. Exploratory preregistered analyses:

In preregistered analyses, we determined whether reasoning style modulated the weight of the protagonists' moral character in moral judgments. Reasoning style did not significantly affect judgments of acceptability ($b = 0.62$, $SE = 0.91$, $t = 0.68$, $p = 0.50$), punishment ($b = -1.26$, $SE = 0.84$, $t = -1.49$, $p = 0.14$) or blame ($b = 0.37$, $SE = 0.88$, $t = 0.42$, $p = 0.67$). However, a more deliberative reasoning style was associated with reduced compensation for the victim ($b = -1.87$, $SE = 0.97$, $t = -2.02$, $p = 0.044$). Reasoning style interacted with the perpetrator's and victim's moral character to determine decisions of compensation : when the perpetrator was described as moral, a more intuitive style was associated with greater compensation of a victim of either high morality ($r = -0.22$, $p = 0.041$) or unknown morality ($r = -0.21$, $p = 0.047$). When the perpetrator was described as someone low in morality, a more deliberative style was associated with less compensation of victims of low morality only ($r = -0.19$, $p = 0.098$). In sum, when the protagonists showed the same level of morality, either low or high, compensation was reduced in more deliberative participants.

Figure 4. Effect of reasoning style on moral judgment of the perpetrator as a function of the perpetrator's and victim's moral character.

4. General Discussion

In the present research, we tested whether the moral character of actors involved in fictitious accidental harm scenarios shaped third-party moral judgment. In both experiments, we manipulated the perpetrator's moral character (low morality vs. high morality in experiment 1, and low / high / unknown morality in experiment 2) and asked participants to evaluate acceptability of the perpetrator's behavior, blame and punishment as well as compensation for the victim. Additionally, we orthogonally manipulated the perpetrator's warmth in experiment 1 (high warmth vs. low warmth) and the victim's moral character in experiment 2 (low / high / unknown morality). We found that the moral character of the perpetrator influenced moral judgment in both experiments, and this effect was stronger than the effect of the perpetrator's warmth, or the effect of the victim's moral character. We further found that reasoning style modulated the weight of the perpetrator's moral character in moral judgment.

4.1 The perpetrator's moral character modulates moral judgment

Across experiments, we found that moral judgment was influenced by the perpetrator's morality. Participants judged the perpetrator's behavior as less acceptable, more blameworthy and more punishment-deserving when the perpetrator was described as someone with little morality. The present findings thus align with previous studies showing that people who harmed without the intention to do so were judged as having more responsibility (and more intention to cause harm) when they had morally questionable motives for their action (Alicke, 1992; Knobe, 2003). Thus, the perceived morality behind an action plan may orient the ascription of responsibility to the perpetrator and the inferred intentionality following accidental harm. We acknowledge that this idea is speculative, and we call for caution for such an interpretation insofar as we did not explicitly ask participants to assess the perpetrator's intention (unlike the studies from Knobe and colleagues). In our case, participants indeed had to infer from the narrative that harm was accidental, in keeping with experimental manipulations in previous studies which manipulated intention (Young et al., 2007; Young et al., 2011). The fact that morality as a key dimension of person perception impacts moral

judgment following an accident supports the idea that a person perception approach can be more pregnant in research on moral judgment (Pizarro and Tannenbaum, 2011) and is also consistent with the idea that third parties evaluate the agents and events before making blame judgments (Malle, 2014). Additionally, this result can also be interpreted in light of the two-process model of moral judgment (Cushman, 2008), since the perpetrator's moral character may weigh in the intent-based process and ultimately lead to harsher judgment of perpetrators.

Interestingly, in experiment 2, the attribution of low morality to the perpetrator had a stronger impact on moral judgment than the attribution of high morality to the perpetrator. The fact that negative information about someone has more weight than positive information (i.e., a negativity bias) has been observed in the person perception literature (Rozin & Royzman, 2001). Research showed that a perceiver attributes more weight to information and behavior that do not conform to the norm (which are thus unexpected). The unusual nature of this information is therefore interpreted by people as more informative about the person who is evaluated (Jones & McGillis, 1976; Skowronski & Carlston, 1989). This negativity bias might explain why low morality perpetrators are judged more harshly, while high morality perpetrators do not necessarily benefit from more lenient judgments relative to perpetrators of unknown morality.

Importantly, the perpetrator's morality was more important than the perpetrator's warmth in determining moral judgment in experiment 1. Our study is thus consistent with the lines of work showing the primacy of information about morality over information about warmth when forming impressions about others (Martijn et al., 1992; Brambilla et al., 2011; Goodwin et al., 2014), and extends this idea to the context of moral judgment of accidental harm. Given that the weight of morality in forming judgments about others may vary between contexts (Brambilla et al., 2011), and given that morality gives information about people's helpful or harmful intentions toward others (Wojciske, 1998), it is therefore not surprising that morality is the most relevant character trait when it comes to judging someone who harmed others, even accidentally.

4.2 Effect of the victim's moral character on moral judgment

In addition to the perpetrator's moral character, the victim's moral character influenced moral judgments, although to a lesser extent. Previous research has evidenced the influence of the victim's perceived morality on third-party judgment of the perpetrator, but this was documented for sexual assault cases (Campbell et al. 2015) instead of accidental harm. For instance, prosecutors often label victims as good or bad (Frohman, 1991) in sexual assault cases and considerations about the victim's morality (morality of their prior acts, or false claim) influence prosecutions when the victim and defender know each other (Beichner & Spohn, 2012). In experiment 2 displaying only accidental harm scenarios, the victim and perpetrator knew each other (neighbors, classmates). Future research may examine whether the victim's morality contributes to the moral judgment of the perpetrator following accidental harm depending on the relationship between the perpetrator and victim.

What can explain the effect of the victim's morality on moral judgment? While the perpetrator's morality may lead to inferences about the intention to harm the victim, the victim's morality is unlikely to modulate the processing of the perpetrator's intention following the accident. However, in line with the two-process model of moral judgment (Cushman, 2008), the victim's morality may modulate empathy from judges and thus weigh in the outcome-based process. Specifically, participants might have limited empathy for victims of low (relative to high) morality. Relatedly, the effect of the victim's morality may also be related to endorsement of just world views. Belief in a just world refers to people's tendency to consider the world as just, stable, and predictable and to consider that others have the outcome they deserve and that they deserve what they have (Lerner, 1980). Third parties may for instance think that victims with a "bad" moral character deserve their misfortune, as suggested by recent work from Brambilla & Riva (2017) who showed that the misfortune of another triggers more *schadenfreude* (i.e., feeling satisfaction with the pain of others) if it targets people regarded as less moral. Low morality people were also thought to deserve their misfortune more than high morality people (Brambilla & Riva, 2017). Similarly, other studies have found that "good people" deserve the positive outcomes they get while "bad people" deserve the negative outcomes they get (Callan et al., 2006) and victims of "bad" fate are believed to deserve their

misfortune more in case of severe negative outcome than in case of mild negative outcome (Chaturapanich & Chaiwutikornwanich, 2015). Although the contribution of individual differences in belief in a just world to moral judgment is not always consistent across studies (e.g., see Chaturapanich & Chaiwutikornwanich, 2015; Correia et al., 2001, 2003), we can speculate that third-parties who endorse just world views to a greater extent may be more influenced by the victim's morality, and specifically be more lenient toward a perpetrator who accidentally harmed a victim of low morality. Future studies may directly test this prediction.

In relation to the studies about harm deservingness of low morality victims, we comment on three observations made in experiment 2 that highlight differences between distinct moral judgments. First, when high-morality perpetrators caused harm to low-morality victims, the perpetrator's behavior was rated as more acceptable as compared to the reference condition. This was not the case when high-morality perpetrators harmed a victim of high or unknown morality. In parallel, the behavior of low-morality perpetrators was rated as less acceptable regardless of the victim's morality. Second, we found a negativity bias for the victim's morality on blame and compensation judgments. That is, we observed a stronger influence of the low-morality victim level on moral judgment as compared to the high-morality victim level. It is unclear why the negativity bias was observed on blame judgments but not on punishment. According to the two-process model, acceptability is related to the perpetrator's intention while punishment and blame are related to the intention and the outcome. We might therefore have expected a weaker influence of the victim's moral character on acceptability, and a stronger influence on blame, punishment and compensation. Future research may test whether the victim's moral character consistently affects specific moral evaluations of the perpetrator's behavior. Third, the effect of the victim's moral character was the strongest for judgments of compensation. Low morality victims were overall judged to deserve less compensation than victims of high or unknown morality. It has been proposed that when harm is accidental, as in our study, compensation is more important than when harm is intentional, in which case third parties are more willing to punish the perpetrators (Darley & Pittman, 2003). Additionally, among the moral evaluations we used (acceptability, blame, punishment, compensation), compensation might involve more consideration

about the victim because it directly involves an evaluation of what the victim deserves, while blame and punishment involve an evaluation of what the perpetrator deserves. This may explain why the victim's moral character affected mainly decisions of compensation.

4.3 Reasoning style and moral judgment

The present study shows that moral judgment was modulated by reasoning style, although the effect of reasoning style was stronger in experiment 1. In experiment 1, more intuitive reasoners were overall harsher toward the perpetrator than more deliberative ones, a result replicating previous studies (Schwartz et al., 2021b, Patil & Trémolière, 2021). Additionally, more intuitive reasoners were more influenced by the perpetrator's character traits in experiment 1 when determining acceptability and punishment, relative to more deliberative reasoners. This finding is consistent with the idea that more deliberative reasoners will focus mostly on the intention and be less sensitive to contextual moderators of moral judgment, like the agent's moral character. In a recent line of research, we found that more deliberative individuals were less influenced by other contextual moderators like economic resources of agents (Schwartz et al., 2021c) and harm severity (Schwartz et al., 2021b) than more intuitive individuals when judging the perpetrator of accidental harm. Altogether, these results suggest that the moral character (and warmth) of perpetrators affects intentionality processing in intuitive reasoners, but not in deliberative reasoners.

The effect of reasoning style was consistent across experiments for judgments of compensation, in the sense that more intuitive individuals attributed greater compensation to the victim. This result might also be explained in light of the two-process model of moral judgment, which states the outcome-based process is fast and more sensitive to emotional factors. It is possible that evaluation of the victim's outcome had more weight in the moral judgments of more intuitive reasoners, thus leading to higher compensation for the harm caused to the victim. We should however note that compensation for the harm inflicted might take different forms, whose relevance may be highly variable depending on the harm caused and the victim's identity (Darley & Pittman, 2003).

Since we did not manipulate the nature of compensation, we should interpret with caution the effect of reasoning style on determining compensation.

Conclusion

The present study shows that individuals take others' character traits, especially morality, into account when judging someone involved in accidental harm. The moral character of the perpetrator seems to influence third-party moral judgment more strongly than the victim's moral character, and more strongly in individuals with more intuitive reasoning dispositions. These results open the door to a reflection on the criteria that govern the evaluation of moral transgressions, and how different people weigh them differently at the time of making moral judgments.

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Supplementary Material

S1. Items used in experiment 1

Framing	Attribute	Narrative
Laptop		Claudio is a new computer technician at a store. [character description]. A customer comes to the store to get her laptop checked out. The laptop gets very hot after only 10 min of work. The laptop is malfunctioning and heats up much more than normal. It is dangerous to use, especially on one's lap. Claudio checks with his boss and comes back believing it is very normal for all laptops to heat up during use. Claudio returns the laptop to the customer. The customer goes home, and her laptop catches on fire. She suffers painful second-degree burns.
	Friendly	He is friendly and is pleased to speak with customers who are looking for advice.
	Unfriendly	He is unfriendly and is not pleased to speak with customers who are looking for advice.
	Funny	He is funny and often makes customers laugh.
	Boring	He is boring and rarely makes customers laugh.
	Honest	He is honest and mentions the limitations of his products while answering the customers' questions.
	Dishonest	He is dishonest and omits the limitations of his products while answering the customers' questions.
	Trustworthy	He is trustworthy and carefully follows the instructions of the store.
	Untrustworthy	He is untrustworthy and does not always follow the instructions of the store.
Popcorn		Matteo is babysitting at his cousin's house. [character description]. They're eating popcorn. Suddenly they hear a loud beeping noise coming from the kitchen. Matteo's cousin gets up to investigate. The beeping noise is from a carbon monoxide detector in the kitchen. Deadly carbon monoxide is escaping from the furnace under the kitchen. The kitchen is now dangerous. Matteo thinks that the noise is the smoke detector as they had just burned a bag of popcorn. He thinks going to the kitchen to turn off the beeping device is a good idea. Matteo watches quietly while his cousin goes into the kitchen. His

	cousin goes into the kitchen and, while fidgeting with the device, passes out from carbon monoxide inhalation.	
	Friendly	Matteo is friendly and likes interacting with his cousin.
	Unfriendly	Matteo is unfriendly and does not interact much with his cousin.
	Funny	Matteo is funny and always finds games he can play with his cousin.
	Boring	Matteo is boring and he is not keen on playing with his cousin.
	Honest	Matteo is honest and tells his family when he can and when he cannot take care of his cousin.
	Dishonest	Matteo is dishonest and does not always say frankly when he can and when he cannot take care of his cousin.
	Trustworthy	Matteo is trustworthy and can be relied on to pick up his cousin at school as planned.
	untrustworthy	Matteo is untrustworthy and regularly forgets to pick up his cousin at school.
Jellyfish	Ilaria and her neighbor are kayaking in a part of the ocean with lots of jellyfish. [character description]. Ilaria's neighbor asks her if she should go for a swim. It is not safe to swim in the ocean, because the jellyfish sting and their stings are really painful. Because Ilaria read information that said the ocean's jellyfish are harmless, she believes that it is quite safe to swim in the ocean. Ilaria tells her neighbor to go for a swim. Her neighbor does and gets stung by jellyfish. His hand starts swelling and he experiences a lot of pain due to the sting. He needs medical care immediately to avoid complications.	
	Friendly	Ilaria is friendly and she is pleased to have her neighbor join her for today.
	Unfriendly	Ilaria is unfriendly and she does not interact much with her neighbor today.
	Funny	Ilaria is funny and often has hilarious stories to tell.
	Boring	Ilaria is boring and never tells funny stories.
	Honest	Ilaria is honest and frankly tells people whether it is best to stop given the weather conditions.
	Dishonest	Ilaria is dishonest and does not frankly tell people whether it is best to stop given the weather conditions.

	Trustworthy	Ilaria is trustworthy and she always brings the right equipment with her.
	Untrustworthy	Ilaria is untrustworthy and she does not always bring the right equipment with her.
Bike	Christina's bike has just come back from the repair shop. [character description] Christina's classmate wants to borrow her bike to go biking. The brakes had not been working. The brakes on Christina's bike still aren't working at all, so the bike is dangerous to ride. The people at the repair shop told Christina that the brakes are fully fixed now and gave her a demo to explain how they were fixed, so she believes the bike is safe. Christina lends the bike to her classmate. Her classmate has a nasty accident because she can't brake while biking on a country road and fractures her ribs.	
	Friendly	Christina is friendly, she is always nice to her classmates.
	Unfriendly	Christina is unfriendly, she is not always nice to her classmates.
	Funny	Christina is funny, she like chatting and having fun with her classmates.
	Boring	Christina is boring, she does not like chatting and having fun with her classmates.
	Honest	Christina is honest, she does not like to lie to her classmates.
	dishonest	Christina is dishonest, she often lies to her classmates.
	Trustworthy	Christina is trustworthy, her classmates can rely on her when they have issues.
	Untrustworthy	Christina is untrustworthy, her classmates cannot rely on her when they have issues.

S2. Items used in experiment 2

Framing	Attribute	Narrative
Jellyfish		Ilaria and her neighbor are kayaking in a part of the ocean with lots of jellyfish. [perpetrator's character description] Ilaria's neighbor asks her if she should go for a swim. [victim's character description] It is not safe to swim in the ocean, because the jellyfish sting and their stings are really painful. Because Ilaria read information that said the ocean's jellyfish are harmless, she believes that it is quite safe to swim in the ocean. Ilaria tells her neighbor to go for a swim. Her neighbor does and gets stung by jellyfish. His hand starts swelling and he experiences a lot of pain due to the sting. He needs medical care immediately to avoid complications.
	Honest	[Ilaria / The neighbor] is honest and does not lie about her/his ability to exercise outdoor.
	Dishonest	[Ilaria / The neighbor] is dishonest and lies about her/his ability to exercise outdoor.
	Trustworthy	[Ilaria / The neighbor] is trustworthy and she/he always brings the right equipment with her/him.
	Untrustworthy	[Ilaria / The neighbor] is untrustworthy and she/he does not always bring the right equipment with her/him.
Sculpture		Paola is taking a class in sculpture. [perpetrator's character description] She is assigned to work with a partner to weld together pieces of metal and her partner is holding the other end of the metal being welded. [victim's character description] The metal being welded is a good conductor of heat so heat travels very fast along the piece of metal. Paola thinks that the metal is a bad conductor and if she welds a piece of metal that her partner is holding the heat will travel down the metal really slow and will not burn her partner's hand. Paola welds the metal, and her partner's hand is burned.
	Honest	[Paola / Paola's partner] is honest, she/he gives back to the instructor whatever material she/he borrows from the class.
	Dishonest	[Paola / Paola's partner] is dishonest, she/he sometimes takes home some of the material she/he borrows from the class.

	Trustworthy	[Paola / Paola's partner] is trustworthy, she/he always attends the class when she/he says so and warns her/his partner when she/he is not able to attend.
	Untrustworthy	[Paola / Paola's partner] is untrustworthy, she/he does not always inform her/his partner when she/he is late or not able to attend the class.
Bike	Christina's bike has just come back from the repair shop. [perpetrator's character description] Christina's classmate wants to borrow her bike to go biking. [victim's character description] The brakes had not been working. The brakes on Christina's bike still aren't working at all, so the bike is dangerous to ride. The people at the repair shop told Christina that the brakes are fully fixed now and gave her a demo to explain how they were fixed, so she believes the bike is safe. Christina lends the bike to her classmate. Her classmate has a nasty accident because she can't brake while biking on a country road and fractures her ribs.	
	Honest	[Christina / The classmate] is honest, she does not like to lie to her friends.
	Dishonest	[Christina / The classmate] is dishonest, she often lies to her friends.
	Trustworthy	[Christina / The classmate] is trustworthy, her friends can rely on her when they have issues.
	Untrustworthy	[Christina / The classmate] is untrustworthy, her friends cannot rely on her when they have issues.

Supplementary results

To determine whether task order (i.e., completing the reasoning measures before the moral judgment task) affected the moral evaluations of the perpetrator's behavior in experiments 1 and 2, we ran linear mixed models for each moral evaluation with task order as an additional fixed factor.

S1. Effect of task order in experiment 1

In experiment 1, the full model was: moral evaluation $\sim$ task order * warmth * morality + (1|item) + (1|subject). The reference level for the factor task order was “moral judgment task first”.

The main effect of task order was not significant for any moral evaluation (acceptability: $b = 0.26$, $SE = 0.20$, $t = 1.31$, $p = 0.19$; blame: $b = -0.013$, $SE = 0.02$, $t = -0.062$, $p = 0.95$; punishment: $b = -0.06$, $SE = 0.20$, $t = -0.34$, $p = 0.75$; compensation: $b = -0.25$, $SE = 0.20$, $t = -1.27$, $p = 0.21$).

However, the interaction between task order and the moral character of the perpetrator tended toward significance or reached significance on all moral evaluations (acceptability: $b = -0.45$, $SE = 0.25$, $t = -1.77$, $p = 0.076$; blame: $b = 0.44$, $SE = 0.26$, $t = 1.66$, $p = 0.098$; punishment: $b = 0.58$, $SE = 0.25$, $t = 2.33$, $p = 0.020$; compensation: $b = 0.44$, $SE = 0.25$, $t = 1.79$, $p = 0.074$).

Post-hoc pairwise comparisons revealed :

(1) significance difference in acceptability ratings between the high-morality and low-morality conditions in people starting with the reasoning measures ($t.ratio = 3.81$, $p < 0.001$) as well as in people starting with the moral judgment task ($t.ratio = 8.03$, $p < 0.001$);

(2) a significant difference in blame judgments between the high-morality and low-morality conditions in people starting with the reasoning measures ($t.ratio = -2.97$, $p = 0.016$) as well as people starting with the moral judgment task ($t.ratio = -4.76$, $p < 0.001$);

(3) a significant difference in punishment judgments between the high-morality and low-morality conditions in people starting with the reasoning measures ($t.ratio = -3.09$, $p = 0.011$) as well as people starting with the moral judgment task ($t.ratio = -6.42$, $p < 0.001$);

(4) a significant difference in compensation for the victim between the high-morality and low-morality conditions in people starting with the moral judgment task ($t.ratio = -2.84$, $p = 0.024$), but not in people starting with the reasoning measures ($t.ratio = -1.93$, $p = 0.22$).

Supplementary Figure 1. Interaction between task order and morality for all moral evaluations

(experiment 1). Thick horizontal bars represent the mean estimate. Thin horizontal bars represent the first and third quartiles.

S2. Effect of task order in experiment 2

In experiment 2, the full model was: moral evaluation $\sim$ task order * perpetrator's morality * victim's morality + (1|item) + (1|subject).

The main effect of task order was not significant on any moral evaluation. Task order interacted with the moral character of the perpetrator for blame judgments only ($b = -1.05$, $SE = 0.52$, $t = -2.03$, $p = 0.043$). Post-hoc pairwise contrasts revealed this interaction was due to the difference in blame attributed to high-morality perpetrators relative to low-morality perpetrators in people starting with the reasoning measures ($t_{ratio} = -2.90$, $p = 0.046$), but not in people starting with the moral judgment task ($t_{ratio} = -1.57$, $p = 0.62$).