

## **Jurors Use Mental State Information To Assess Breach in Negligence Cases**

Francesco Margoni<sup>1,2</sup>, Teneille R. Brown<sup>3</sup>

<sup>1</sup> Department of Psychology, University of Oslo

<sup>2</sup> Department of Social Studies, University of Stavanger

<sup>3</sup> SJ Quinney College of Law, Center for Law and Biomedical Sciences, University Of Utah

### **Author Note**

Francesco Margoni ORCID ID 0000-0002-8109-228X

Teneille Brown ORCID ID 0000-0002-8826-438X

We have no known conflict of interest to disclose.

Correspondence concerning this article should be addressed to Francesco Margoni,  
University of Oslo, Forskningsveien 3A, 0373 Oslo, Norway,  
francesco.margoni@psykologi.uio.no or to Teneille Brown, University of Utah, 383 South  
University Street, Salt Lake City, UT 84112, USA, Teneille.Brown@law.utah.edu

**Abstract (314)**

To prove guilt, jurors in many countries must find that the criminal defendant acted with a particular mental state. However, this amateur form of mindreading is not supposed to occur in civil negligence trials. Instead, jurors should decide whether the defendant was negligent by looking only at his actions, and whether they were objectively reasonable under the circumstances. Even so, across four pre-registered studies (N=782), we showed that jurors do not focus on actions alone. US mock jurors spontaneously rely on mental state information when evaluating negligence cases. In Study 1, jurors were given three negligence cases to judge, and were asked to evaluate whether a reasonably careful person would have foreseen the risk (foresight) and whether the defendant acted unreasonably (negligence). Across conditions, we also varied the extent and content of additional information about defendant's subjective mental state: jurors were provided with evidence that the defendant either knew the risk of a harm was high or was low, or were not provided with such information. Foresight and negligence scores increased when mock jurors were told the defendant knew of a high risk, and negligence scores decreased when the defendant knew of a low risk, compared to when no background mental state information was provided. In Study 2, we replicated the finding by using mild (as opposed to severe) harm cases. In Study 3, we tested an intervention aimed at reducing jurors' reliance on mental states which consisted in raising jurors' awareness of potential hindsight bias in their evaluations. The intervention reduced mock juror reliance on mental states when assessing foresight when the defendant was described as knowing of a high risk, an effect replicated in Study 4. This research demonstrates that jurors rely on mental states to assess breach, regardless of what the legal doctrine says.

*Keywords:* law, foresight, negligence, mental states, jury decision-making

### **Jurors Use Mental State Information To Assess Breach in Negligence Cases**

Jurors in the US and many other countries must infer the defendant's subjective mental states ("mens rea") to decide whether his actions make him guilty of a crime. In civil negligence, however, this amateur form of mindreading is not supposed to occur (Kionka, 2020). Instead, jurors are expected to evaluate whether the defendant was negligent by attending only to "whether the defendant has deviated from the required standard of reasonable care, not his mental state at the time of the conduct." (*Fischer v. City of Sioux Falls*, 2018). While some judges have acknowledged that foresight may hinge on the defendant's knowledge (*Streifel v. Bulkley*, 2020) or perception (*Bursiel v. Bos. & M.R.R.*, 1920), negligence doctrine states unequivocally that breach can and should be assessed by looking only at the defendant's *outward conduct* (Lytton, 1997; see also Goudkamp, 2004). While scholars once debated whether negligence consisted of a state of mind or a type of conduct, for the last century treatises, textbooks and scholars agree that there is no mentalizing in negligence (Brown, 2022).

At the same time, the primary test for three of the four required elements of negligence (duty, breach, and proximate cause) asks whether a reasonably careful person in the defendant's situation *should have foreseen the risk of harm*. Foreseeability is understood by psychologists to be an epistemic construct that incorporates mental states such as prior knowledge, perception, evaluation and probability calculations (e.g., Alicke et al., 2011; Engelmann & Waldmann, 2022; Kirfel & Lagnado, 2021; Malle et al., 2014; Margoni & Surian, 2021; Martin & Cushman, 2016; Monroe & Malle, 2019; Nobes & Martin, 2022). And yet, negligence doctrine holds fast to the idea that jurors can assess foreseeability without knowing anything about what the particular defendant knew. This creates a bit of a paradox: jurors are not supposed to engage in mindreading. However, they are given a test for duty, breach, and proximate cause – the foreseeability test – that psychologists would argue requires it. The

disconnect between the legal and psychological constructs motivates the central question of this article, which is: *how do jurors actually assess foresight?*

Negligence scholars do not have a good answer to this question. Law students and attorneys struggle with operationalizing the foreseeability test. Legal foresight has been called a ‘vexing morass’ (Cardi, 2005), ‘a malleable standard’ (*Wilson v. Moore Freightservice*, 2015), and even the ‘dark matter of tort’ (VerSteeg, 2011). Indeed, some have recommended that negligence doctrine jettison reliance on foreseeability because it is no better defined than ‘strawberry shortcake’ (VerSteeg, 2011).

These pessimistic statements are concerning. Every year billions of dollars in negligence damages hinges on the ability of jurors to distinguish between foreseeable and unforeseeable harm (U.S. Chamber of Commerce Institute for Legal Reform, Costs and Compensation of the U.S. Tort System, 2018). If they cannot do this, it undermines the legitimacy and fairness of negligence trials. To make legal foresight less malleable, and negligence trials more fair, legal scholars must imbue the construct with greater precision and validity. We argue this can be done by tapping into the psychology of foresight and studying whether mental state information might be helpful to jurors when assessing breach.

Here, across four pre-registered studies, we sought to answer whether mock jurors do indeed rely on mental state information when assessing negligence in civil cases. In Study 1, US participants were asked to assume the role of a juror to evaluate three cases of negligence (modeled after real cases) where a plaintiff sued a defendant for causing harm. Participants were provided with instructions similar to those given to juries in real trials, which spelled out the elements of negligence that the plaintiff must prove. Our study focused on the element of breach. We therefore asked participants to evaluate whether a reasonably careful person in the defendant’s situation would have foreseen the risk of harm and whether the defendant behaved unreasonably. Importantly, participants were explicitly instructed that reasonableness is an

objective standard and that foresight and negligence should not be assessed by inquiring into the defendant's subjective mental states. Instead, they were told to focus only on whether the defendant's outward conduct conformed to what a reasonably careful person would have done in that situation.

To assess mock jurors' reliance on the defendant's mental states, across four conditions we varied the content mock jurors received about defendant's a priori knowledge of the risk that materialized. In two conditions, before making their evaluations, participants received additional evidence that either the defendant knew that the risk of an accident was high (high-risk condition) or knew that the risk was low (low-risk condition). Across studies, when participants were provided with the actor's subjective knowledge, it was not of a type that could be considered "common knowledge." That is to say it would be unreasonable for participants to assume that the general population also had the subjective knowledge the actor was said to possess. In the other two control conditions, participants were instead either provided with no such additional mental state information (no-prior-information condition) or they received the cases to judge but were not requested to assume the role of mock jurors, and were not told that the conduct resulted in litigation (baseline condition).

The main predictions were that, compared to jurors in the no-prior-information condition, those in the high-risk condition would attribute greater negligence to defendants as they would deem the risk more foreseeable. Conversely, we predicted those in the low-risk condition would attribute less negligence and foresight of the risks in light of the mental state information. These findings would suggest that individuals who serve as jurors in real negligence trials, despite being instructed to focus only on outward conduct and objective standards of reasonableness, may instead spontaneously rely on mental state information.

In Study 2 we sought to replicate and extend the findings of Study 1 to mild (as opposed to severe) negligence harms. Thus, instead of reading about cases where the harm was severe

as in Study 1 (e.g., the plaintiff broke his neck and became paraplegic), participants were asked to judge a milder case (i.e., the plaintiff broke his foot and had to use crutches for six weeks). Predictions were the same as in Study 1. Replicating the results would suggest that the effects are robust and generalize to scenarios where there is less moral outrage over the harm.

Next, having found evidence in both studies that jurors in the high-risk condition do indeed judge the defendant more negligent and the risk more foreseeable compared to participants in the other conditions, we wanted to test whether the reliance on mental state information can be decreased by means of a simple intervention we developed. Study 3 aimed to do that. Participants in low- and high-risk conditions were divided in two groups, and in one of them participants received an additional ‘intervention text’ to make them aware that judgments and foresight evaluations are often susceptible to a number of cognitive biases, including thinking that people we are judging would have known at the time of the conduct what we know now, in hindsight (see ‘curse of knowledge’ and ‘hindsight’ biases; e.g., Birch & Bloom, 2004; Kneer & Machery, 2019; Kneer & Skoczen, 2021).

Indeed, one possible mechanism through which jurors’ negligence evaluations increased after having read that the defendant’s knew that the risks were high, was that jurors spontaneously infer that because defendants knew about the general risks in advance, they could have perfectly foreseen the precise consequence that resulted. Thus, the intervention was aimed at reducing participants’ reliance on what is known to have occurred *ex post*, instead focusing their attention on what the defendant could have reasonably known about the risks *ex ante*. We predicted this intervention to decrease both negligence and foresight ratings in high-risk scenarios. Last, Study 4 was an attempt to directly replicate the main findings of Study 3.

### **Study 1**

Across four conditions, participants received three negligence cases and judged to what extent a reasonable person in the actor’s situation would have foreseen the risk of an accident

(foresight) and to what extent the actor was negligent or acted unreasonably (negligence). Secondly, participants also judged to what extent the actor was blameworthy and should have been punished. Finally, they were asked whether they felt they had sufficient information to answer the foresight question and what type of additional information would have helped them to answer. To test whether participants in the role of jurors evaluated negligence by relying on mental state information despite being explicitly instructed not to do so, we varied the extent and content of additional background mental state information the participants received.

In the two focal conditions, mock jurors were told that the defendant knew that the risk of a physical harm or property damage was high (high-risk condition) or low (low-risk condition). In two control conditions, instead, participants were either provided with no such additional background information (no-prior-information condition) or were simply asked to judge the negligence cases without assuming the role of a mock juror (thus, in the baseline condition no information about pending litigation was provided to participants).

The main pre-registered prediction was that mock jurors would rely on defendant's subjective mental state information when assessing both foresight and negligence, despite the doctrine assuming that this does not, and need not, occur. Specifically, we expected that compared to participants in the control conditions, those in the high-risk condition would judge the defendant/actor as more negligent because they would judge that a reasonable person in the actor's situation would have really foreseen the risk of an accident (we further tested this prediction with a mediation analysis), and those in the low-risk condition would instead judge the actor as less negligent.

## **Method**

The raw data of all the studies and the Supplementary Material (SM) are available on the Open Science Framework (OSF, 2022). Study protocol, predictions, exclusion criteria and

analysis plan were pre-registered for each study (Study 1: [https://aspredicted.org/T6K\\_CXL](https://aspredicted.org/T6K_CXL); Study 2: [https://aspredicted.org/JVR\\_48Q](https://aspredicted.org/JVR_48Q); Study 3: [https://aspredicted.org/FZ1\\_83C](https://aspredicted.org/FZ1_83C); Study 4: [https://aspredicted.org/XWZ\\_3D1](https://aspredicted.org/XWZ_3D1)). The research project received approval from the University of Utah IRB (IRB 00137818).

### ***Participants***

Participants were 246 US citizens ( $M_{age}=37.56$  years,  $SD=12.90$ , age range 18-76; 121 female, 120 male, 5 other), recruited through Prolific ([www.prolific.co](http://www.prolific.co)). They had on average 15.47 years of school education, and were jury-eligible. Another 14 participants were excluded because they reported having been convicted of a felony (3) or because they failed to provide the correct answer to the attention check (11). Participants were paid \$3.17 for their participation, and all provided informed consent.

The sample size was determined by an a-priori power analysis for a simple one-way ANOVA comparing four independent groups (conditions: baseline, low-risk, high-risk, no-prior-info). To detect a Cohen's  $f=0.25$  (medium effect) with  $\alpha=.05$  and power=.80, a minimum sample of 180 participants ( $n=45$  per condition) was required. We recruited more participants ( $N=260$ ) as a safeguard measure to protect against the possibility of the unknown true effect being smaller than predicted (Perugini et al., 2014), and to have enough power even after excluding participants that did not meet the inclusion criteria.

### ***Materials and Procedure***

Participants were randomly and equally distributed across four conditions: baseline ( $n=60$ ), no-prior-information ( $n=59$ ), high-risk ( $n=63$ ), low-risk ( $n=64$ ). In each condition, participants were presented with three different negligence cases to evaluate (for the complete battery see the SM): a case of *property damage* (modeled after *Vaughan v. Menlove*, 1837) where a stack of hay owned by John, a farmer, spontaneously ignites and causes part of his neighbor's property to burn; a case of *physical injury* (modeled after *Flood v. Southland Corp*,

1993) where a person gets stabbed by a group of men at a gas station owned by Scott, who knew about the presence of this dangerous group and does nothing; and a case of *physical injury* possibly caused by employees of a *corporation* (modeled after *Jangana v. Nicole Equities LCC*, 2015) where a grocery deliveryman breaks his neck by tripping on some loose carpet while descending the stairs of an apartment that was managed by a corporation (“Samantha Equities, LLC”).

All the participants, except those in the baseline condition, were first informed that they will be asked to assume the role of a juror in three civil cases and received a brief explanation of what a civil case is (e.g., no one will go to jail) (see Role of Juror text in the SM); right after each case, they were presented with relevant background information about the four elements of negligence the plaintiff must prove for the defendant to be found negligent. To focus the mock jurors’ attention on the element of breach, we stated that a judge had already established that the defendant owed a duty of care to the plaintiff and that the defendant’s actions or omissions caused the damage or the harm. Jurors then only had to determine whether the defendant breached this duty, by behaving unreasonably. We briefly informed the participants about the main claims of both parts (i.e., the plaintiff claims the defendant was negligent because it was foreseeable that its/his action could have caused the damage/harm, whereas the defendant claims the opposite, that a damage/harm was not foreseeable).

Next, participants were provided with specific jury instructions (for the full text, see the SM). Here, we instructed participants as real jury members would be instructed at trial. That is, we clarified that they were asked to consider what a *reasonably careful person* would have done under the circumstances described in the case, and whether this person would have foreseen the risk of a damage/harm and would have acted differently than the defendant in the story. Importantly, we clarified that reasonableness is an *objective standard*, meaning that the question for the mock juror was not to assess whether the defendant actually foresaw the risk,

but whether the defendant, as a reasonable person, should have foreseen the risk. Participants were instructed to look only at the defendant's conduct and not at his/its mental states.

Finally, the participants assigned to the high-risk and to the low-risk conditions were presented with additional background information about the defendant's mental states (see the SM). They were provided with evidence that the defendant knew that the risk of a damage/harm was high or low, in the respective conditions.

Participants then had to answer the following two questions on a nine-point scale (1=strongly disagree; 5=neither agree or disagree; 9=strongly agree):

- *Foresight*: A reasonable person in [defendant name's] situation would have foreseen the risk of [property damage/physical injury] to [people like the plaintiff].
- *Negligence*: [Defendant name] was negligent in the way [he/it] behaved, that is, [defendant name] acted unreasonably, or without due care.

Next, participants answered two additional questions with a nine-point scale (1=not at all; 5=somewhat; 9=very much):

- *Blame*: To what extent is [defendant name] morally blameworthy for the way [he/it] behaved?
- *Punishment*: To what extent should [defendant name] be punished for how [he/it] behaved?

An additional set of ancillary questions was also presented to participants (for details see the SM) to gauge whether participants in the no-prior information condition thought they could assess foresight without evidence of the defendant's subjective mental states. Participants were therefore asked to judge to what extent (a) they felt they had sufficient information to answer the foresight question, (b) they thought it would have helped answer the foresight question having more details about the severity of the negative outcomes, the real intentions of the defendant, his/its prior knowledge of the risk and familiarity with similar situations, as well as

his/its ability to perceive and understand the risk, and (c) they thought the scenario, the questions or the jargon used were confusing.

Following the property damage case, participants were presented with a comprehension check about the content of the story. They had to select among four options the one that best captured the facts they just read (see the SM). Across participants, and within each condition, we randomized the order of presentation of the foresight and negligence questions, the order of blame and punishment questions, as well as the order of the three cases.

## Results and Discussion

For each judgment type (foresight, negligence, blame, punishment), we ran a simple one-way ANOVA with condition (baseline, high-risk, low-risk, no-prior-information) as a between-subjects predictor. For all the judgments, we found that condition was a significant predictor,  $F(3,242) \geq 51.31$ ,  $p < .001$  (for the full statistics, see the SM). Next, for each judgment type, we conducted a series of post-hoc comparisons ( $p$ -values were adjusted using the Bonferroni method). In what follows, we will focus on foresight and negligence attributions, but analyses for blame and punishment judgments can be found in the SM (overall, across judgment types, results were similar).

We found that participants in the high-risk condition judged the risk of an accident to be more foreseeable compared to participants in the low-risk condition,  $t(125)=9.95$ ,  $p < .001$ ,  $d=1.71$  ( $M=7.15$ ,  $SD=1.07$ , and  $M=5.01$ ,  $SD=1.42$ , respectively), compared to participants in the no-prior-information condition ( $M=5.36$ ,  $SD=1.17$ ),  $t(120)=8.17$ ,  $p < .001$ ,  $d=1.60$ , and to those in the baseline condition ( $M=4.69$ ,  $SD=1.16$ ),  $t(121)=11.23$ ,  $p < .001$ ,  $d=2.21$  (Figure 1). However, interestingly we did not find a significant difference in foresight attributions between the low-risk and the no-prior-information condition,  $p=.690$ . Though not predicted, we found that participants in the no-prior-information condition attributed *more* foresight than those in the baseline condition,  $t(117)=2.98$ ,  $p=.019$ ,  $d=0.57$ . The same pattern of results was found

when analyzing negligence judgments (baseline:  $M=4.15$ ,  $SD=1.23$ ; high-risk:  $M=7.16$ ,  $SD=1.05$ ; low-risk:  $M=4.54$ ,  $SD=1.39$ ; no-prior-info:  $M=5.13$ ,  $SD=1.06$ ), with the exception that we also found that participants in the low-risk condition, compared to those in the no-prior-information condition, judged the defendant less negligent,  $t(121)=2.74$ ,  $p=.037$ ,  $d=0.48$  (Figure 1).

Next, we focused on the high- and low-risk conditions and further assessed our main research question by investigating if the effect of mental state information on negligence judgments was mediated by participants' foresight attributions. We ran a mediation analysis using 5,000 bootstrapped samples and 95% CI, with condition (high-risk, low-risk) as predictor, foresight attribution as mediator, and negligence attribution as outcome (Figure 2). We found a significant indirect effect of condition to negligence through foresight,  $b=-1.70$ ,  $CI(-2.23,-1.25)$ . The total effect of condition on negligence was reduced but still significant, suggesting a partial mediation of foresight, from  $b=-2.63$ ,  $CI(-3.06,-2.19)$  to  $b=-0.92$ ,  $CI(-1.26,-0.59)$ . Thus, the foresight assessment partially mediated the predictive relationship between condition (high- vs. low-risk) and negligence attribution.

Last, additional analyses revealed that participants in the high- and low-risk conditions reported agreeing more to having had sufficient information to judge the scenarios than participants in baseline and no-prior-information conditions. Participants in these two other conditions also reported that more information about the defendant's prior knowledge of the risk and familiarity with similar situations would have been helpful. The analyses supporting these statements are reported in the SM.

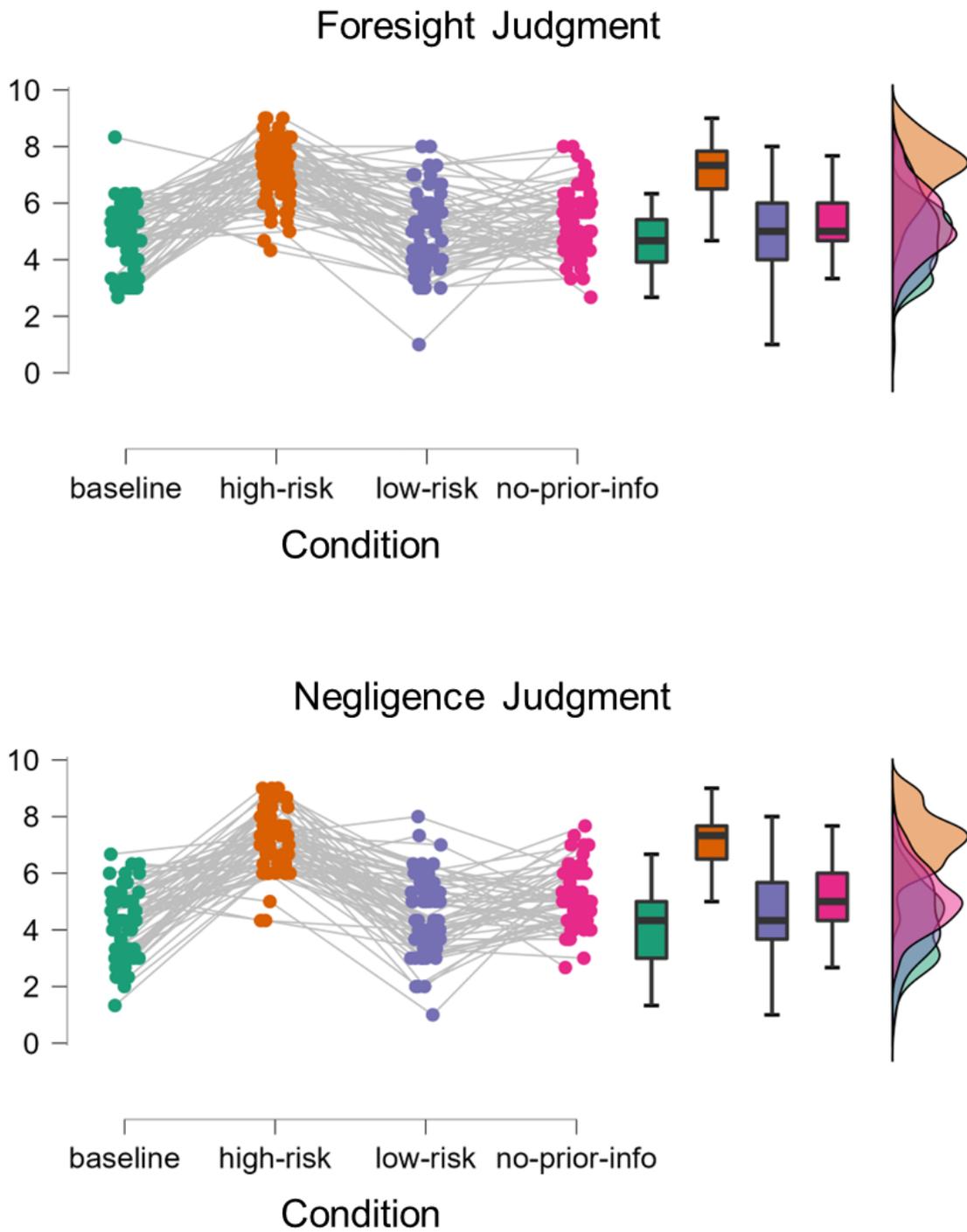
In sum, we found evidence that mock jurors' assessments of negligence and foresight were impacted by the defendant's subjective mental states, despite being instructed to assess reasonable foreseeability and negligence based on an objective review of the defendant's behavior. Foresight and negligence scores were higher when participants were informed that

the defendant had a subjective mental state indicating knowledge of high risk compared to mental state information indicating knowledge of low risk, or when no information of such kind was provided. Moreover, negligence scores were lower in the low-risk condition than in the no-prior-information condition, although foresight scores did not differ between the two conditions. Importantly, we also found that the effect of the additional background information about the defendant's prior knowledge and mental states on negligence attribution was mediated by participants' foresight assessment. Highlighting the preference for jurors to take into account mental state information in judging negligence cases, we found that participants wanted to know more about the defendant's prior knowledge when assessing negligence.

A last noteworthy result was that participants in the no-prior-information condition gave higher scores than those in the baseline condition. This suggests that the mere fact that participants were asked to mock the role of a juror made them to judge more severely. And a possibility here is that when mock jurors are not given any prior information about defendant's risk knowledge, they just nevertheless fill it in. Indeed, prior work on character evidence has shown that mock jurors "fill the gaps" in ways that increase culpability when they are not given any information about character evidence (MacLeod, in prep).

**Figure 1**

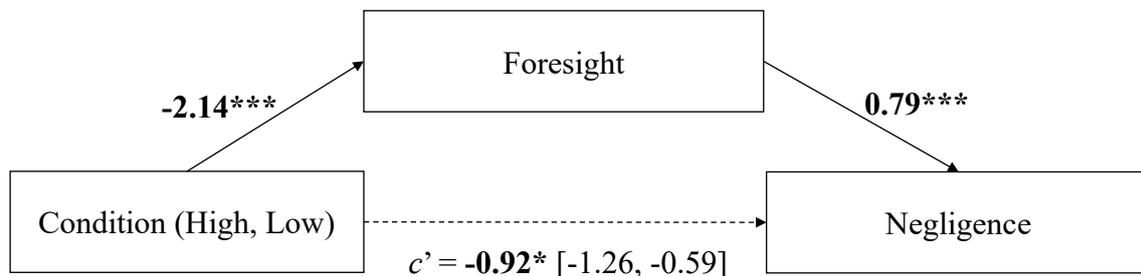
*Foresight and Negligence Judgments in Study 1*



*Note.* For each condition (baseline, high-risk, low-risk, no-prior-information), foresight and negligence scores (top and bottom panel respectively) are displayed with a jitter plot, a box plot and a density plot (from left to right).

**Figure 2**

*Mediation Model Examining the Path from Condition to Foresight to Negligence*



*Note.* Mediation coefficients are unstandardized, 95% confidence intervals are in brackets.

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

## Study 2

In Study 1, we found that mock jurors relied on mental states information when assessing negligence cases. However, participants were asked to judge negligence cases involving severe harm or damage (e.g., an individual breaks his neck and becomes paraplegic; see SM). Would the main effects reported in Study 1 replicate with a mild harm scenario? The aim of Study 2 was to answer this question and test the generalizability of the effects reported so far to cases of mild harm. Indeed, prior work has shown that compared to mock jurors or judges who evaluate mild harm cases, those who evaluate severe harm cases are more sympathetic and biased towards the plaintiff's requests (Bright & Goodman-Delahunty, 2011) and more likely to inflate foreseeability and negligence (Kneer & Bourgeois-Gironde, 2017).

## Method

### *Participants*

Participants were 169 US citizens ( $M_{age}=37.05$  years,  $SD=13.41$ , age range 19-86; 81 female, 85 male, 3 other), recruited through Prolific. None reported having been convicted of

a felony. Participants had on average 15.28 years of school education. One additional participant was excluded because she did not report being a US citizen. Participants were paid \$0.90 for their participation, and all provided informed consent.

The sample size was determined by an a-priori power analysis for a simple one-way ANOVA comparing four groups of participants (as in Study 1). To detect a Cohen's  $f=0.68$  (i.e. the main effect of Study 1) with  $\alpha=.05$  and power=.99, a minimum sample of 56 participants was required. We recruited more participants ( $N=170$ ) to have enough statistical power to detect an even smaller effect  $f=0.40$  (at least 152 participants were required to detect such an effect).

### ***Materials and Procedure***

Participants were randomly assigned to one of the four conditions: baseline ( $n=42$ ), no-prior-information ( $n=43$ ), high-risk ( $n=42$ ), low-risk ( $n=42$ ). Materials and procedures were identical to those of Study 1 with two main exceptions. First, participants were presented with only one negligence case, the physical injury corporate defendant case (the analyses we did to decide which of the cases to select are reported in the SM). Second, this case involved a mild harm. Rather than breaking his neck and becoming paraplegic, in Study 2 the plaintiff simply broke his foot and had to use crutches for six weeks.

### **Results and Discussion**

To assess whether the main results of Study 1 would replicate if the harm was mild, we performed the same analyses of Study 1. For both foresight and negligence, we found that the effect of condition (baseline, high-risk, low-risk, no-prior-information) was significant,  $F(3,165) \geq 4.26$ ,  $p \leq .006$  (full statistics and analyses can be found in the SM). Post-hoc comparisons ( $p$ -values adjusted with the Bonferroni method) revealed that, as in Study 1, both foresight and negligence scores were higher in the high-risk condition ( $M=7.55$ ,  $SD=1.97$ , and  $M=7.91$ ,  $SD=1.66$ , respectively) than in the low-risk condition ( $M=6.05$ ,  $SD=2.19$ , and  $M=5.86$ ,

$SD=1.95$ , respectively),  $t(82) \geq 3.42$ ,  $p \leq .005$ ,  $d \geq 0.75$ , and the baseline condition ( $M=6.41$ ,  $SD=1.95$ , and  $M=6.26$ ,  $SD=2.05$ , respectively),  $t(82) \geq 2.61$ ,  $p \leq .060$ ,  $d \geq 0.57$ , and higher than in the no-prior-information condition for negligence ( $M=6.74$ ,  $SD=1.84$ ),  $t(83)=2.85$ ,  $p=.030$ ,  $d=0.62$ . Similar findings to those of Study 1 were obtained for blame and punishment judgments, and for the analyses on the additional measures about participants' evaluations about whether they felt they had sufficient information to judge (see the SM).

In sum, we showed that the main findings of Study 1 replicate when participants are asked to judge a milder harm case. The results suggest once again that mock jurors took into account the defendant's mental states of prior knowledge in assessing negligence and foresight.

### Study 3

The aim of Study 3 was to test an intervention we designed to reduce mock jurors' reliance on mental state information. Participants were presented with a negligence case to judge (taken from those used in Study 1), and received identical background facts that participants in high-risk and low-risk conditions of Study 1 received. However, half also received the intervention, which consisted of being informed that often our judgments and foresight assessments are susceptible to various biases such as the 'curse of knowledge' (i.e. the tendency to assume that individuals we are judging would have known then what we know now, in hindsight) which is a type of hindsight bias (i.e., the tendency to overestimate the likelihood of an outcome occurring after the outcome is known; Bernstein et al., 2011; Kneer & Machery, 2019; Kneer & Skoczen, 2021; Roese & Vohs, 2012). In keeping with this literature, we hypothesized that the curse of knowledge might lead to the inflation of ex ante foresight ascriptions, and educating mock jurors on this bias might reduce this inflation.

Participants were thus explicitly instructed that jurors "should put themselves in the defendant's shoes before the accident happened, and not after" and assess how a reasonable person would have acted without knowing what they know now, in hindsight. We reasoned

that raising participants' awareness that their foresight and negligence evaluations as well as responsibility attributions are likely to be swayed by such cognitive biases would result in a decrease in foresight and negligence ratings of cases where the defendant was portrayed as knowing that the risk of an accident was high, and perhaps in an increase in these ratings for low-risk cases.

## **Method**

### ***Participants***

Participants were 187 US citizens ( $M_{age}=38.89$  years,  $SD=14.01$ , age range 19-84; 92 female, 90 male, 5 other), recruited through Prolific. Participants had on average 15.55 years of school education, and were jury-eligible. Another 13 participants were excluded because they reported having been convicted of a felony (4), they failed to provide the correct answer to the attention check (9), or because they did not report to be a US citizen (1). Participants were paid \$0.95 for their participation, and all provided informed consent.

The sample size was determined as in Study 1, resulting in a required minimum of 180 participants. However, because the analysis on the intervention on the low-risk scenario was exploratory (see pre-registration), we will focus on analyzing the effect of our intervention on the high-risk scenario. Here, we calculated that our test (independent samples t-test to compare 48 participants in the no-intervention-high-risk condition and 47 in the intervention-high-risk condition) had sufficient power (.80) to detect at least a medium effect  $d=0.51$ .

### ***Materials and Procedure***

Materials and procedures were identical to those used in Study 1 with a few important exceptions. First, participants were presented with only one negligence case, the property damage case. Second, participants were divided into four groups ( $n=47$  in the intervention-high-risk,  $n=45$  in the intervention-low-risk condition,  $n=48$  in the no-intervention-high-risk,  $n=47$  in the no-intervention-low-risk condition). All were asked to assume the role of mock

juror. Third, right before the dependent variable questions, participants in the intervention conditions were presented with an additional ‘intervention text’ where they were made aware that “on average, we are worse at foreseeing the future than we realize [because] when we are judging whether someone should have predicted an outcome, we assume that they would have known then what we know now (with the benefit of hindsight)”; participants were thus warned that jurors “should put themselves in the defendant’s shoes before the accident happened, and not after” (see the SM).

### **Results and Discussion**

The aim of Study 3 was to design and test an intervention to reduce the participants’ spontaneous reliance on mental states found in Studies 1 and 2. Whereas we were predicting an effect of the intervention on foresight scores in the high-risk condition only, we include exploratory analyses on the low-risk scenario. We did not find an effect of the intervention on the low-risk scenario. Participants in the intervention-low-risk condition judged that a reasonable person would have foreseen the risk of damage to a similar extent participants in the no-intervention-low-risk condition ( $M=4.38$ ,  $SD=2.37$ , and  $M=4.43$ ,  $SD=2.34$ , respectively),  $F(1,90)=0.01$ ,  $p=.923$ . Thus, we focused on the high-risk condition, and ran a simple one-way ANOVA on each type of judgment with condition as the predictor (intervention, no-intervention) (full analyses are in the SM). We found that participants in the intervention condition provided lower foresight scores than participants who did not receive the intervention text ( $M=6.02$ ,  $SD=2.40$ , and  $M=6.94$ ,  $SD=1.84$ , respectively),  $F(1,93)=4.37$ ,  $p=.039$ . The same effect however did not generalize to negligence attributions ( $M=6.64$ ,  $SD=2.05$ , and  $M=6.90$ ,  $SD=1.87$ , respectively),  $F(1,93)=0.41$ ,  $p=.524$ .

In sum, the intervention we designed to make jurors aware that hindsight bias can influence their judgments successfully reduced reliance on the defendant’s mental state, at least when jurors received background information suggesting that the defendant was thinking that

the risk of an accident was high. This reduction of about 1 point (from  $M=6.94$  to  $M=6.02$ ) was found for foresight judgment, but did not generalize to negligence assessment. If negligence doctrine continues to discourage jurors' reliance on mental state information, this might be one way to achieve this.

### **Study 4**

In Study 4, we sought to directly replicate the main effect of Study 3.

#### **Method**

##### ***Participants***

Participants were 180 US citizens ( $M_{age}=40.62$  years,  $SD=14.35$ , age range 19-80; 89 female, 90 male, 1 other), recruited through Prolific. Participants had on average 15.55 years of school education, and were eligible as jurors. Another 20 participants were excluded because because they reported having been convicted of a felony (8), they failed to provide the correct answer to the attention check (10), or because they did not report being a US citizen (2). Participants were paid \$0.80 for their participation, and all provided informed consent.

The sample size was determined by an a-priori power analysis for an independent samples t-test comparing two groups (intervention: present, absent). To detect a Cohen's  $d=0.43$  (based on the main finding of Study 3), with  $\alpha=.05$  and  $power=.80$ , a minimum sample of 174 participants was required.

##### ***Materials and Procedure***

Materials and procedure were identical to Study 3 with the exception that participants were only presented with the high-risk scenario ( $n=89$  were assigned to the no-intervention condition, and  $n=91$  to the intervention condition).

#### **Results and Discussion**

To assess whether the main finding of Study 3 would replicate, we conducted a independent samples t-test comparing mean foresight scores in the two groups (intervention,

no-intervention). As in Study 3, participants in the intervention condition gave lower ratings compared to those in the no-intervention condition ( $M=6.31$ ,  $SD=2.10$ , and  $M=6.88$ ,  $SD=1.80$ , respectively),  $t(178)=1.95$ ,  $p=.053$ ,  $d=0.29$ , although the effect was smaller than the one reported in Study 3, which was  $d=0.43$  (for the full set of analyses see the SM). If we pool together data from Studies 3 and 4, we estimate an effect size of  $d=0.34$  ( $M=6.21$ ,  $SD=2.20$ , and  $M=6.90$ ,  $SD=1.80$ , respectively in the intervention and in the no-intervention condition),  $t(273)=2.83$ ,  $p=.005$ .

In sum, results replicated the main finding from Study 3, suggesting that when made aware of the possible influence of the hindsight bias, jurors reduce their reliance on defendant's subjective prior knowledge when evaluating whether a reasonable person in the defendant's situation would have foreseen the risk of damage. We recognize that we cannot say that the result of the intervention leads to assessments that are more or less accurate or fair. With Studies 3 and 4 we merely sought to demonstrate that foresight ascriptions can be manipulated by increasing jurors' vigilance to mental state information and known biases in mindreading.

### **General Discussion**

In the present research, we asked whether jurors in negligence trials, both in their foresight and negligence assessments, spontaneously rely on the defendant's subjective mental states. The answer is yes, they do. Across four pre-registered studies, we provided evidence that (a) when mock jurors were informed that the defendant thought the risk was high, they judged him as more negligent and the risk of a damage/harm as more foreseeable, compared to mock jurors who did not receive such mental state information; (b) they also were more likely to report having sufficient information to assess foresight, compared to participants who did not receive mental state information; and (c) the intervention, by making participants aware of the influence of cognitive biases on judgment, caused a decrease in reliance on mental state information when participants were told the defendant knew that the risk was high. While

reducing reliance on mental state information may or may not be a good thing for responsibility judgments, at present it is something the doctrine demands. Overall, these results suggest that jurors take into account defendant's subjective mental state information when judging negligence cases even when they are explicitly instructed not to do so. They find this information useful when assessing foresight and negligence, although this tendency can be partially reduced by making them aware of the cognitive biases that likely sway their evaluations.

This research has immediate and obvious implications for negligence cases, which make up a large portion of state and federal court dockets. Scholars have argued that foresight is a poorly-defined legal test that leads to unpredictable outcomes (xxx). However, as our mediation analysis showed, foresight appears to provide an intuitive basis for mock jurors to separate negligence from non-negligence. This is relevant as scholars seek to maintain negligence as a form of fault-based liability. Without some concept of fault or unreasonable conduct, liability becomes "strict" meaning that it is only based on causing harms and not on negligence (xxx). To leverage the intuitive power of foresight for negligence assessments, researchers should study how it is operationalized in legal contexts.

We argue that foresight has been poorly understood in negligence doctrine because the law has failed to incorporate the psychology of foresight. Instructing jurors to focus on objective behavior and to ignore the defendant's mental states seems at odds with folk psychology. It also leaves them rudderless to infer mental states however they see fit, which might exacerbate known cognitive biases such as the curse of knowledge.

Indeed, the objectively reasonable foreseeability test invites jurors to superimpose what is known at trial with what they think the defendant *should* have known at the time of the injury. After the fact, with superior information, we can often find negligence if we do not inquire specifically into what the particular defendant knew, realized, or perceived at the time. To be

sure, evidence of hindsight bias is well-documented in legal decision-making (Bright & Goodman-Delahunty, 2011; Neal et al., 2022) and likely leads to defendants being found liable for harms that they could not have prevented and did nothing careless to cause (on mens rea and negligence, see Ginther et al., 2014; Kneer & Bourgeois-Gironde, 2017; Malle & Nelson, 2003). However, hindsight and other cognitive biases cannot be corrected if the mentalizing processes that trigger them are presumed not to occur.

Negligence doctrine would benefit from incorporating the psychology of foresight. Jurors could then be instructed on which mental states are necessary for foresight. Attorneys should provide circumstantial evidence of the defendant's subjective knowledge, perception, and awareness that would either increase or decrease the foreseeability of harm. We argue that only *after* jurors determine that foresight was possible in this case can they then assess whether the defendant's decision to act, based on these mental states, was reasonable.

Unveiling the mental processes underlying foresight and negligence ascriptions will improve jurors' awareness of how biased their inferences can be. The intervention we devised is just a preliminary attempt toward this aim. In order to develop a fully reliable and effective set of instructions to guide jurors in their evaluations, more research on the cognitive biases affecting foresight and negligence attributions must be conducted (Prochownik, 2021; Sommers, 2021). [need conclusion sentence]

### References

- Aikens v. Debow, 541 S.E.2d 576, 588 (2000).
- Alicke, M. D., Rose, D., & Bloom, D. (2011). Causation, norm violation, and culpable control. *The Journal of Philosophy*, 108, 670-696.
- Bernstein, D. M., Erdfelder, E., Meltzoff, A. N., Peria, W., & Loftus, G. R. (2011). Hindsight bias from 3 to 95 years of age. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 37, 378-391.
- Birch, S. A., & Bloom, P. (2004). Understanding children's and adults' limitations in mental state reasoning. *Trends in Cognitive Sciences*, 8, 255-260.
- Bright, D. A., & Goodman-Delahunty, J. (2011). Mock juror decision making in a civil negligence trial: The impact of gruesome evidence, injury severity, and information processing route. *Psychiatry, Psychology and Law*, 18, 439-459.
- Brown, T. R. (2022). *Demystifying mindreading for the law*. Pre-print retrieved from the Wisconsin Law Review Forward, <https://wlr.law.wisc.edu/demystifying-mindreading>
- Brown, T. R. (2022). Minding accidents. *Colorado Law Review*, 94.
- Bursiel v. Bos. & M.R.R., 134 A. 40, 43 (1920).
- Cardi, W. J. (2005). Purging foreseeability. *Vanderbilt Law Review*, 58, 739-808.
- Engelmann, N., & Waldmann, M. R. (2022). How causal structure, causal strength, and foreseeability affect moral judgments. *Cognition*, 226, 105167.
- Fischer v. City of Sioux Falls, 919 N.W.2d 211, 215 (2018).
- Flood v. Southland Corp, 416 Mass. 62, 616 N.E.2d 1068 (1993).
- Ginther, M. R., Shen, F. X., Bonnie, R. J., Hoffman, M. B., Jones, O. D., Marois, R., & Simons, K. W. (2014). The language of mens rea. *Vanderbilt Law Review*, 67, 1327-1372.
- Goudkamp, J. (2004). The spurious relationship between moral blameworthiness and liability for negligence. *Melbourne University Law Review*, 28, 343-374.

Jangana v. Nicole Equities LLC, 127 A.D.3d 458, 8 N.Y.S.3d 46, 47 (2015).

Kionka, E. J. (2020). *Torts in a nutshell*. (7th ed) West Publishing.

Kirfel, L., & Lagnado, D. (2021). *Changing minds – epistemic interventions in causal reasoning*. Pre-print retrieved from <https://doi.org/10.31234/osf.io/db6ms>

Kneer, M., & Bourgeois-Gironde, S. (2017). Mens rea ascription, expertise and outcome effects: Professional judges surveyed. *Cognition*, 169, 139-146.

Kneer, M., & Machery, E. (2019). No luck for moral luck. *Cognition*, 182, 331-348.

Kneer, M., & Skoczen, I. (2021). *Outcome effects, moral luck and the hindsight bias*. Pre-print retrieved at <https://doi.org/10.31234/osf.io/k6fpa>

Lytton, T. D. (1997). Rules and Relationships: The Varieties of Wrongdoing in Tort Law. *Seton Hall Law Review*, 28, 359-366.

Macleod, James, Evidence Law’s Blind Spots” (manuscript on file with the author)

Malle, B. F., Guglielmo, S., & Monroe, A. E. (2014). A theory of blame. *Psychological Inquiry* 25, 147-186.

Malle, B. F., & Nelson, S. E. (2003). Judging mens rea: The tension between folk concepts and legal concepts of intentionality. *Behavioral Sciences & The Law*, 21, 563-580.

Margoni, F., & Surian, L. (2021). Judging accidental harm: Due care and foreseeability of side effects. *Current Psychology*, 1-10.

Martin, J. W., & Cushman, F. (2016). Why we forgive what can’t be controlled. *Cognition*, 147, 133-143.

Monroe, A. E., & Malle, B. F. (2019). People systematically update moral judgments of blame. *Journal of Personality and Social Psychology*, 116, 215-236.

Neal, T., Lienert, P., Denne, E., & Singh, J. P. (2022). A general model of cognitive bias in human judgment and systematic review specific to forensic mental health. *Law and Human Behavior*, 46, 99-120.

- Nobes, G., & Martin, J. W. (2022). They should have known better: The roles of negligence and outcome in moral judgements of accidental actions. *British Journal of Psychology*, *113*, 370-395.
- OSF. (2022). *Jurors use mental state information to assess breach*. Open Science Framework. [https://osf.io/4yzzq8/?view\\_only=ffa037f474ac46e182a7b0c462be42b9](https://osf.io/4yzzq8/?view_only=ffa037f474ac46e182a7b0c462be42b9)
- Perugini, M., Gallucci, M., & Costantini, G. (2014). Safeguard power as a protection against imprecise power estimates. *Perspectives on Psychological Science*, *9*, 319-332.
- Prochownik, K. M. (2021). The experimental philosophy of law: New ways, old questions, and how not to get lost. *Philosophy Compass*, *16*, e12791.
- Roese, N. J., & Vohs, K. D. (2012). Hindsight bias. *Perspectives on Psychological Science*, *7*, 411–426.
- Simons, K. W. (2002). Dimensions of negligence in criminal and tort law. *Theoretical Inquiries in Law*, *3*, 283-288.
- Sommers, R. (2021). Experimental jurisprudence. *Science*, *373*, 394-395.
- Streifel v. Bulkley, 195 Conn. App. 294 (2020).
- United States Chamber of Commerce (2018). *Institute for legal reform’s report on costs and compensation of the U.S. Tort System*. [https://instituteforlegalreform.com/wp-content/uploads/2020/09/Tort\\_costs\\_paper\\_FINAL\\_WEB.pdf](https://instituteforlegalreform.com/wp-content/uploads/2020/09/Tort_costs_paper_FINAL_WEB.pdf)
- Vaughan v. Menlove, 132 Eng. Rep. 490, C.P. (1837).
- VerSteeg, R. (2011). Perspectives on foreseeability in the law of contracts and torts: the relationship between intervening causes and impossibility. *Michigan State Law Review*, *2011*, 1497-1517.
- Wilson v. Moore Freightservice, Inc., No. 4:14-CV-00771, WL 1345261, at \*3 (2015).

### Graveyard

The literature on episodic foresight suggests that jurors cannot assess the foreseeability of harm (or reasonableness of defendant's conduct) without interrogating the defendant's subjective mental states. Of course, jurors do not always need information about the defendant's subjective mental states to determine breach. If someone speeds through a school zone or fires a gun into a crowd, we can impute foresight based on common knowledge of risks. However, in cases where there is no shared understanding of the risks, jurors will struggle to determine foreseeability of harm by looking only at the actor's conduct.

**Supplementary Material**

*The Psychology of Foresight and Negligence Assessment in Court*

1. Scenarios and Questions – Study 1
2. Scenario and Questions – Study 2
3. Scenario and Questions – Study 3
4. Additional Analyses – Study 1
5. Additional Analyses – Study 2
6. Additional Analyses – Study 3
7. Additional Analyses – Study 4

### **Scenarios and Questions – Study 1**

*(the following text 'Role of Juror' was presented in all the conditions with the except of the baseline condition, where participants were directly presented with the scenarios)*

#### **Role of Juror:**

For this study, you are being asked to assume the role of a juror in a civil case. In civil cases the plaintiffs only need to prove their case by a “more likely than not” standard, which is less demanding than the criminal standard of “beyond a reasonable doubt.” Also, no one goes to jail in civil cases. Usually, the plaintiff just gets money if he/she wins.

You will be asked to read a brief set of facts from three civil cases. Each case is based on a real case. You will then answer the questions that follow as if you were a juror in a real trial.

**Property Damage Case**

*(Based on Vaughan v. Menlove)*

***Case facts:***

John is a farmer. He grows alfalfa that he bundles into bales of hay. He stores the hay before selling it to other farmers to feed their livestock. John keeps his bundles in loose stacks on the edge of his property. He inspects the stacks several times a week. Unfortunately, in late September of last year, a stack of his hay spontaneously ignited. The embers then jumped nearly a quarter of a mile onto the property of his neighbor, Nancy. There, the embers hit Nancy's wooden home. Her home became immediately engulfed in flames. The roof and top floor of Nancy's home were destroyed.

*(DVs here for the baseline condition, for all other conditions, continue)*

Nancy is suing John for negligence and seeking money damages to rebuild her home and for her pain and suffering.

***Background legal information:***

For Nancy to win her suit, she needs to prove four things:

- 1) John owed her a duty to take reasonable care in storing his hay
- 2) that he was negligent in doing so, which
- 3) caused the fire, resulting in
- 4) damage to her home.

A judge has already decided that John owed a duty of care to Nancy, and that it was his hay that ignited, causing the fire damage to her house.

As a member of the jury, the only issue you must resolve today is whether John was negligent in the way he stored his hay (element #2 above).

Nancy claims that John was negligent for storing the hay the way he did, so close to her property, because it was foreseeable it could ignite. John claims that it is common for farmers to store hay in the way he did, and it was not foreseeable that it would ignite and cause property damage.

***Instruction to the jury:***

We ask you, the jury, to consider what a reasonably careful person would have done under these circumstances.

If a reasonable person in John’s situation would have foreseen the risk of fire (before the hay ignited) and would have stored the hay differently, then John was negligent for failing to do so. If, however, a reasonable person would not have foreseen this type of risk, then John is not negligent.

Reasonableness is an “objective standard.” This means that we do not ask whether the defendant actually foresaw the risk, but whether he, as a reasonable person, should have foreseen the risk. To decide this, you should look only at John’s conduct.

*(DVs here for no-prior-information condition, for high-risk and low-risk conditions, continue)*

*(only for the high-risk condition)*

***Background facts (please read this carefully)***

If the alfalfa is damp when it is bundled (with a moisture content above 15%), it triggers a chemical reaction that forms flammable gas. If the outside temperature is high enough, the haystacks can then ignite on their own.

John knew about these risks, and he knew that these risks were even higher in his case. Indeed, last August he emailed his brother to say that unfortunately his hay's moisture content was 30%, well above the level that could cause flammable gas to be formed. With this knowledge, he decided to bundle the hay anyway. The temperatures lately had been quite low, and he looked forward to the proceeds from the sales.

*(only for the low-risk condition)*

***Background facts (please read this carefully)***

If the alfalfa is damp when it is bundled (with a moisture content above 15%), it triggers a chemical reaction that forms flammable gas. If the outside temperature is high enough, the haystacks can then ignite on their own.

John knew about these risks, yet he knew that these risks were lower in his case. Last August he emailed his brother to say that luckily his hay's moisture content was under 5%, well below the level that could cause flammable gas to be formed. With this knowledge, he decided to bundle the hay. The temperatures lately had been quite low, and he looked forward to proceeds from the sales.

**Questions (Property Damage Case)**

Please indicate the extent to which you agree with the following statements related to the defendant's conduct. (from 1=strongly disagree to 9=strongly agree)

*(foresight)* A reasonable person in John's situation would have foreseen the risk of property damage to neighbors like Nancy.

*(negligence)* John was negligent in the way he behaved, that is, John acted unreasonably, or without due care.

Now, please also answer the following questions related to punishment and blame. (1=not at all, 5=somewhat, 9=very much)

*(blame)* To what extent is John morally blameworthy for the way he behaved?

*(punishment)* To what extent should John be punished for how he behaved?

Now, please answer the following questions related to whether you felt you had the information you needed. (1=not at all, 5=somewhat, 9=very much)

*(sufficient info)* To what extent do you feel that you had sufficient information to answer the question about whether the defendant should have foreseen the risk?

Please indicate the extent to the following would have helped you answer whether John should have foreseen the risk of property damage. (1=would not have helped at all, 5=would have helped somehow, 10=would have helped very much)

- More details about the severity of the negative outcomes
- More information about John's real intentions
- More information about John's prior knowledge of the risk and familiarity with similar situations
- More information about John's ability to perceive and understand the risk implied in the situation

***Comprehension check:***

Which of the following best captures the facts you just read?

- a) Baling hay is hard work
- b) Nancy's house burned down (*correct one*)
- c) Alfalfa feeds lots of cattle in the United States
- d) There are major problems with fires in the United States

Lastly, do you think the jargon used or, in general, the scenario and the questions were confusing? (1=not at all, 5=somewhat, 9=very much)

**Physical Injury Corporation Case**

*(Based on Jangana v. Nicole Equities LLC)*

***Case Facts:***

A few years ago, Tom took a second job. He delivers groceries to people's homes. One evening after dropping off three bags of groceries to a tenant at 127 Jasper Way, he tripped when descending the stairs to her apartment. Tom broke his neck. He is now a paraplegic from the neck down. The apartment building where he fell is owned by a corporation called "Samantha Equities, LLC." Samantha Equities, LLC owns and manages several large apartment buildings in the area. Video surveillance of the staircase showed that Tom tripped when his shoe caught on some loose carpet, which was not attached well to the stairs. Video footage from a few hours before Tom fell also shows a maintenance man for the property walking right by the same spot on the stairs, but he did not appear to be looking down at the spot where the carpet was loose.

*(DVs here for the baseline condition, for all other conditions, continue)*

Tom is suing Samantha Equities, LLC for negligence. He is seeking money damages to retrofit his home to be wheelchair-friendly and for his physical pain and suffering.

***Background legal information:***

For Tom to win his suit, he needs to prove four things:

- 1) Samantha Equities, LLC owed him a duty to take reasonable care in maintaining the staircase in its building
- 2) that they were negligent in the stair's maintenance, which
- 3) caused Tom to trip, resulting in
- 4) his personal injury.

A judge has already decided that Samantha Equities, LLC owed a duty of care to visitors to maintain the stairs, and that Tom tripped on a staircase at one of their properties, causing him to break his neck.

As a member of the jury, the only issue you must resolve today is whether Samantha Equities, LLC was negligent in its maintenance of the stairs at 127 Jasper Way (element #2 above).

Tom claims that Samantha Equities, LLC was negligent for not fixing the loose carpet, or not warning guests of it, because it was foreseeable someone could trip. Samantha Equities, LLC claims that it was not negligent because the loose carpet was obvious to anyone walking up or down the stairs, and it was not foreseeable that someone would trip.

***Instruction to the jury:***

We ask you, the jury, to consider what a reasonably careful corporation would have done under these circumstances.

Corporations and their employees are held to the same “reasonable person” standard as regular people, and are expected to maintain their property in ways that do not create unreasonable risks. If a reasonable property owner in Samantha Equity, LLC’s situation would have foreseen the risk of someone tripping (before Tom actually tripped), and would have repaired or altered the staircase as a result, then Samantha Equities, LLC was negligent for failing to do so. If, however, a reasonable property owner would not have foreseen this risk, then Samantha Equities, LLC is not negligent.

Reasonableness is an “objective standard.” This means that we do not ask whether the defendant actually foresaw the risk, but whether they, as a reasonable person, should have foreseen the risk. To decide this, you should look only at the defendant’s conduct.

*(DVs here for no-prior-information condition, for high-risk and low-risk conditions, continue)*

*(only for the high-risk condition)*

***Background facts (please read this carefully)***

Tom introduced the testimony of 3 other tenants, who provided copies of emails they sent to Samantha Equities, LLC. These emails demonstrated that Samantha Equities, LLC knew that the carpet on the stairs at 127 Jasper Way had been loose for several months. Rachel, an employee of Samantha Equities, LLC, had responded to at least one of the emails by saying “thanks for letting us know about this” and that she “would have it looked at.” This email was dated two weeks before Tom tripped and broke his neck.

*(only for the low-risk condition)*

***Background facts (please read this carefully)***

Samantha Equities, LLC claims that this was the first they were learning of the loose carpet on the staircase at 127 Jasper Way. While they maintain a 24-hour phone line for their tenants to report maintenance issues, they had not received any calls or notifications about the need for this to be fixed. They say if they had known, they would have promptly fixed it.

**Questions (Physical Injury Corporation Case)**

Please indicate the extent to which you agree with the following statements related to defendant's conduct. (from 1=strongly disagree to 9=strongly agree)

*(foresight)* A reasonable person in Samantha Equities, LCC's situation would have foreseen the risk of physical injury to guests like Tom.

*(negligence)* Samantha Equities, LLC was negligent in the way it behaved, that is, it acted unreasonably, or without due care.

Now, please answer the following questions related to punishment and blame. (1=not at all, 5=somewhat, 9=very much)

*(blame)* To what extent is Samantha Equities, LLC morally blameworthy for the way it behaved?

*(punishment)* To what extent should Samantha Equities, LLC be punished for how it behaved?

Now, please answer the following questions related to whether you felt you had the information you needed. (1=not at all, 5=somewhat, 9=very much)

*(sufficient info)* To what extent do you feel that you had sufficient information to answer the question about whether the defendant should have foreseen the risk of physical injury?

Please indicate the extent to which the following would have helped you answer whether Samantha Equity, LLC should have foreseen the risk of physical injury. (1=would not have helped at all, 5=would have helped somehow, 10=would have helped very much)

- More details about the severity of the negative outcomes
- More information about Samantha Equity, LLC's real intentions
- More information about Samantha Equity, LLC's prior knowledge of the risk and familiarity with similar situations
- More information about Samantha Equity, LLC's ability to perceive and understand the risk implied in the situation

Lastly, do you think the jargon used or, in general, the scenario and the questions were confusing? (1=not at all, 5=somewhat, 9=very much)

## **Physical Injury Case**

*(Based on Flood v. Southland Corp)*

### ***Case Facts:***

Last summer, Dave was driving home from the beach when he stopped for gas. It was late, and he was in an area he did not know well. He noticed a large group of men in their twenties, drinking alcohol and shouting at each other. The credit card reader at the pump wasn't working, so Dave had to go inside to pay. One of the men yelled at Dave to "stop staring" and to "get lost." On his way back outside to his car, Dave was stabbed and seriously injured by one of the men. The owner of the gas station, Scott, came outside and called 911, and Dave was rushed to the hospital where he spent a few days recovering. The person who stabbed Dave was charged with criminal assault.

*(DVs here for the baseline condition, for all other conditions, continue)*

Dave is not suing the man who stabbed him, because the perpetrator is jailed and has no money. Instead, Dave is suing the owner of the gas station, Scott, for negligence. He is seeking money damages to pay for health expenses not covered by insurance, and for his physical pain and suffering.

***Background legal information:***

For Dave to win his suit, he needs to prove four things:

- 1) Scott owed him a duty to take reasonable care in protecting his customers from harm
- 2) that he was negligent in doing so by letting this rowdy group loiter outside of his station, which
- 3) caused Dave to be stabbed, resulting in
- 4) his personal injury.

A judge has already decided that Scott, as owner of the gas station, owed a duty of care to his customers to protect them from imminent harm, and that Dave would not have been injured had the men been forced to leave the gas station.

As a member of the jury, the only issue you must resolve today is whether Scott was negligent in protecting its customers from imminent harm (element #2 above).

Dave claims that Scott was negligent for not forcing the group to leave, because it was foreseeable that one of them could become violent toward a customer. Scott claims that it was not foreseeable that any of them would become violent, so he was not negligent for allowing them to stay at his gas station.

***Instruction to the jury:***

We ask you, the jury, to consider what a reasonable and careful person would have done under these circumstances.

If a reasonable person in Scott’s situation would have foreseen the risk of one of the men becoming violent (before the stabbing occurred), and therefore would have forced the men to stop loitering, then Scott was negligent for failing to do so. If, however, a reasonable person would not have foreseen this type of risk, then Scott is not negligent.

Reasonableness is an “objective standard.” This means that we do not ask whether the defendant actually foresaw the risk, but whether he, as a reasonable person, should have foreseen the risk. To decide this, you should look only at the defendant’s conduct.

*(DVs here for no-prior-information condition, for high-risk and low-risk conditions, continue)*

*(only for the high-risk condition)*

***Background facts (please read this carefully)***

Dave introduced Scott’s own statement to the cops, where he said that he knew the men were drunk, “pretty high” and had been hanging outside of his gas station for about an hour. The gas station had become a bit of a hang-out for kids in the area to drink on the weekends, and the cops had to come break up fights a few times in the past.

*(only for the low-risk condition)*

***Background facts (please read this carefully)***

Scott claims that because of where the group was hanging out, he could not see them from where he was inside of the gas station. He did not know they were drunk or “pretty high,” and could not hear them yelling. There had never been any problem with violence at his gas station.

**Questions (Physical Injury Case)**

Please indicate the extent to which you agree with the following statements related to defendant's conduct. (from 1=strongly disagree to 9=strongly agree)

*(foresight)* A reasonable person in Scott's situation would have foreseen the risk of physical injury.

*(negligence)* Scott (the gas station owner) was negligent in the way he behaved, that is, Scott acted unreasonably, or without due care.

Now, please answer the following questions related to punishment and blame. (1=not at all, 5=somewhat, 9=very much)

*(blame)* To what extent is Scott morally blameworthy for the way he behaved?

*(punishment)* To what extent should Scott be punished for how he behaved?

Now, please answer the following questions related to whether you felt you had the information you needed. (1=not at all, 5=somewhat, 9=very much)

*(sufficient info)* To what extent do you feel that you had sufficient information to answer the question about whether the defendant should have foreseen the risk?

Please indicate the extent to the following would have helped you answer whether Scott should have foreseen the risk of personal injury. (1=would not have helped at all, 5=would have helped somehow, 10=would have helped very much)

- More details about the severity of the negative outcomes
- More information about Scott's real intentions
- More information about Scott's prior knowledge of the risk and familiarity with similar situations
- More information about Scott's ability to perceive and understand the risk implied in the situation

Lastly, do you think the jargon used or, in general, the scenario and the questions were confusing? (1=not at all, 5=somewhat, 9=very much)

**Scenario and Questions – Study 2**

*(the following text 'Role of Juror' was presented in all the conditions with the except of the baseline condition, where participants were directly presented with the scenarios)*

**Role of Juror:**

For this study, you are being asked to assume the role of a juror in a civil case. In civil cases the plaintiffs only need to prove their case by a “more likely than not” standard, which is less demanding than the criminal standard of “beyond a reasonable doubt.” Also, no one goes to jail in civil cases. Usually, the plaintiff just gets money if he/she wins.

You will be asked to read a brief set of facts from a civil case, which is based on a real case.

You will then answer the questions that follow as if you were a juror in a real trial.

**Physical Injury Corporation – Mild Case**

*(Based on Jangana v. Nicole Equities LLC)*

***Case Facts:***

A few years ago, Tom took a second job. He delivers groceries to people's homes. One evening after dropping off three bags of groceries to a tenant at 127 Jasper Way, he tripped when descending the stairs to her apartment. Tom broke his foot and had to use crutches for 6 weeks. The apartment building where he fell is owned by a corporation called "Samantha Equities, LLC." Samantha Equities, LLC owns and manages several large apartment buildings in the area. Video surveillance of the staircase showed that Tom tripped when his shoe caught on some loose carpet, which was not attached well to the stairs. Video footage from a few hours before Tom fell also shows a maintenance man for the property walking right by the same spot on the stairs, but he did not appear to be looking down at the spot where the carpet was loose.

*(DVs here for the baseline condition, for all other conditions, continue)*

Tom is suing Samantha Equities, LLC for negligence. He is seeking money damages to pay for physical therapy that is not covered by his insurance.

***Background legal information:***

For Tom to win his suit, he needs to prove four things:

- 1) Samantha Equities, LLC owed him a duty to take reasonable care in maintaining the staircase in its building
- 2) that they were negligent in the stair's maintenance, which
- 3) caused Tom to trip, resulting in
- 4) his personal injury.

A judge has already decided that Samantha Equities, LLC owed a duty of care to visitors to maintain the stairs, and that Tom tripped on a staircase at one of their properties, causing him to break his foot.

As a member of the jury, the only issue you must resolve today is whether Samantha Equities, LLC was negligent in its maintenance of the stairs at 127 Jasper Way (element #2 above).

Tom claims that Samantha Equities, LLC was negligent for not fixing the loose carpet, or not warning guests of it, because it was foreseeable someone could trip. Samantha Equities, LLC claims that it was not negligent because the loose carpet was obvious to anyone walking up or down the stairs, and it was not foreseeable that someone would trip.

***Instruction to the jury:***

We ask you, the jury, to consider what a reasonably careful corporation would have done under these circumstances.

Corporations and their employees are held to the same “reasonable person” standard as regular people, and are expected to maintain their property in ways that do not create unreasonable risks. If a reasonable property owner in Samantha Equity, LLC’s situation would have foreseen the risk of someone tripping (before Tom actually tripped), and would have repaired or altered the staircase as a result, then Samantha Equities, LLC was negligent for failing to do so. If, however, a reasonable property owner would not have foreseen this risk, then Samantha Equities, LLC is not negligent.

Reasonableness is an “objective standard.” This means that we do not ask whether the defendant actually foresaw the risk, but whether a reasonable person should have foreseen the risk. To decide this, you should look only at the defendant’s conduct.

*(DVs here for no-prior-information condition, for high-risk and low-risk conditions, continue)*

*(only for the high-risk condition)*

***Background facts (please read this carefully)***

Tom introduced the testimony of 3 other tenants, who provided copies of emails they sent to Samantha Equities, LLC. These emails demonstrated that Samantha Equities, LLC knew that the carpet on the stairs at 127 Jasper Way had been loose for several months. Rachel, an employee of Samantha Equities, LLC, had responded to at least one of the emails by saying “thanks for letting us know about this” and that she “would have it looked at.” This email was dated two weeks before Tom tripped and broke his foot.

*(only for the low-risk condition)*

***Background facts (please read this carefully)***

Samantha Equities, LLC claims that this was the first they were learning of the loose carpet on the staircase at 127 Jasper Way. While they maintain a 24-hour phone line for their tenants to report maintenance issues, they had not received any calls or notifications about the need for this to be fixed. They say if they had known, they would have promptly fixed it.

**Questions (Physical Injury Corporation – Mild Case)**

Please indicate the extent to which you agree with the following statements related to defendant's conduct. (from 1=strongly disagree to 9=strongly agree)

*(foresight)* A reasonable person in Samantha Equities, LCC's situation would have foreseen the risk of physical injury to guests like Tom.

*(negligence)* Samantha Equities, LLC was negligent in the way it behaved, that is, it acted unreasonably, or without due care.

Now, please answer the following questions related to punishment and blame. (1=not at all, 5=somewhat, 9=very much)

*(blame)* To what extent is Samantha Equities, LLC morally blameworthy for the way it behaved?

*(punishment)* To what extent should Samantha Equities, LLC be punished for how it behaved?

Now, please answer the following questions related to whether you felt you had the information you needed. (1=not at all, 5=somewhat, 9=very much)

*(sufficient info)* To what extent do you feel that you had sufficient information to answer the question about whether the defendant should have foreseen the risk of physical injury?

Please indicate the extent to which the following would have helped you answer whether Samantha Equity, LLC should have foreseen the risk of physical injury. (1=would not have helped at all, 5=would have helped somehow, 10=would have helped very much)

- More details about the severity of the negative outcomes
- More information about Samantha Equity, LLC's real intentions
- More information about Samantha Equity, LLC's prior knowledge of the risk and familiarity with similar situations
- More information about Samantha Equity, LLC's ability to perceive and understand the risk implied in the situation
- This is an attention check, please reply with a 5

Lastly, do you think the jargon used or, in general, the scenario and the questions were confusing? (1=not at all, 5=somewhat, 9=very much)

**Scenario and Questions – Study 3**

*(the following text ‘Role of Juror’ was presented in all the conditions)*

**Role of Juror:**

For this study, you are being asked to assume the role of a juror in a civil case. In civil cases the plaintiffs only need to prove their case by a “more likely than not” standard, which is less demanding than the criminal standard of “beyond a reasonable doubt.” Also, no one goes to jail in civil cases. Usually, the plaintiff just gets money if he/she wins.

You will be asked to read a brief set of facts from a civil case, which is based on a real case.

You will then answer the questions that follow as if you were a juror in a real trial.

**Property Damage Case**

*(Based on Vaughan v. Menlove)*

***Case Facts:***

John is a farmer. He grows alfalfa that he bundles into bales of hay. He stores the hay before selling it to other farmers to feed their livestock. John keeps his bundles in loose stacks on the edge of his property. He inspects the stacks several times a week. Unfortunately, in late September of last year, a stack of his hay spontaneously ignited. The embers then jumped nearly a quarter of a mile onto the property of his neighbor, Nancy. There, the embers hit Nancy's wooden home. Her home became immediately engulfed in flames. The roof and top floor of Nancy's home were destroyed.

*(for all the conditions, continue)*

Nancy is suing John for negligence and seeking money damages to rebuild her home and for her pain and suffering.

***Background legal information:***

For Nancy to win her suit, she needs to prove four things:

- 1) John owed her a duty to take reasonable care in storing his hay
- 2) that he was negligent in doing so, which
- 3) caused the fire, resulting in
- 4) damage to her home.

A judge has already decided that John owed a duty of care to Nancy, and that it was his hay that ignited, causing the fire damage to her house.

As a member of the jury, the only issue you must resolve today is whether John was negligent in the way he stored his hay (element #2 above).

Nancy claims that John was negligent for storing the hay the way he did, so close to her property, because it was foreseeable it could ignite. John claims that it is common for farmers to store hay in the way he did, and it was not foreseeable that it would ignite and cause property damage.

***Instruction to the jury:***

We ask you, the jury, to consider what a reasonably careful person would have done under these circumstances.

If a reasonable person in John’s situation would have foreseen the risk of fire (before the hay ignited) and would have stored the hay differently, then John was negligent for failing to do so. If, however, a reasonable person would not have foreseen this type of risk, then John is not negligent.

Reasonableness is an “objective standard.” This means that we do not ask whether the defendant actually foresaw the risk, but whether he, as a reasonable person, should have foreseen the risk.

*(for all the conditions, continue)*

*(only for the high-risk condition)*

***Background facts (please read this carefully)***

If the alfalfa is damp when it is bundled (with a moisture content above 15%), it triggers a chemical reaction that forms flammable gas. If the outside temperature is high enough, the haystacks can then ignite on their own.

John knew about these risks, and he knew that these risks were even higher in his case. Indeed, last August he emailed his brother to say that unfortunately his hay's moisture content was 30%, well above the level that could cause flammable gas to be formed. With this knowledge, he decided to bundle the hay anyway. The temperatures lately had been quite low, and he looked forward to the proceeds from the sales.

*(only for the low-risk condition)*

***Background facts (please read this carefully)***

If the alfalfa is damp when it is bundled (with a moisture content above 15%), it triggers a chemical reaction that forms flammable gas. If the outside temperature is high enough, the haystacks can then ignite on their own.

John knew about these risks, yet he knew that these risks were lower in his case. Last August he emailed his brother to say that luckily his hay's moisture content was under 5%, well below the level that could cause flammable gas to be formed. With this knowledge, he decided to bundle the hay. The temperatures lately had been quite low, and he looked forward to proceeds from the sales.

**Questions (Property Damage Case)**

*(only for the intervention conditions)*

Before replying to the following questions, please consider that on average, we are worse at foreseeing the future than we realize. This is in part because of a cognitive bias known as the “curse of knowledge.” It works this way: when we are judging whether someone should have predicted an outcome, we assume that they would have known then what we know now (with the benefit of hindsight).

In cases like the one you just read about, it can lead us to think that accidents were more foreseeable than they truly were. The curse of knowledge predicts that once we know the outcome, it is very difficult to put ourselves in the shoes of the defendant who does not yet know what will happen and has therefore less foresight than we may realize.

When assessing whether the defendant behaved unreasonably, jurors should put themselves in the defendant’s shoes before the accident happened, and not after.

Please indicate the extent to which you agree with the following statements related to the defendant's conduct. (from 1=strongly disagree to 9=strongly agree)

*(foresight)* A reasonable person in John's situation would have foreseen the risk of property damage to neighbors like Nancy.

*(negligence)* John was negligent in the way he behaved, that is, John acted unreasonably, or without due care.

Now, please also answer the following questions related to punishment and blame. (1=not at all, 5=somewhat, 9=very much)

*(blame)* To what extent is John morally blameworthy for the way he behaved?

*(punishment)* To what extent should John be punished for how he behaved?

Now, please answer the following questions related to whether you felt you had the information you needed. (1=not at all, 5=somewhat, 9=very much)

*(sufficient info)* To what extent do you feel that you had sufficient information to answer the question about whether the defendant should have foreseen the risk?

Please indicate the extent to the following would have helped you answer whether John should have foreseen the risk of property damage. (1=would not have helped at all, 5=would have helped somehow, 10=would have helped very much)

- More details about the severity of the negative outcomes
- More information about John's real intentions
- More information about John's prior knowledge of the risk and familiarity with similar situations
- More information about John's ability to perceive and understand the risk implied in the situation

***Comprehension Check:***

Which of the following best captures the facts you just read?

- a) Baling hay is hard work
- b) Nancy's house burned down (*correct one*)
- c) Alfalfa feeds lots of cattle in the United States
- d) There are major problems with fires in the United States

Lastly, do you think the jargon used or, in general, the scenario and the questions were confusing? (1=not at all, 5=somewhat, 9=very much)

**Additional Analyses – Study 1****Effect of Condition and Type of Judgment**

We conducted an ANOVA 4 (Condition: baseline, high-risk, low-risk, no-prior-information) by 4 (Judgment type: foresight, negligence, badness, punishment), which revealed significant main effects of both condition and judgment type, and a significant interaction.

**Within Subjects Effects**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Judgment Type	77.95	3	25.98	77.30	< .001	0.24
Judgment Type * Condition	8.64	9	0.96	2.86	.003	0.03
Residuals	244.03	726	0.34			

*Note.* Type III Sum of Squares

**Between Subjects Effects**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	1086.05	3	362.02	69.70	< .001	0.46
Residuals	1256.85	242	5.20			

*Note.* Type III Sum of Squares

**Effect of Condition on Each Type of Judgment*****Foresight Judgment***

We conducted a simple one-way ANOVA with condition (baseline, high-risk, low-risk, no-prior-information) as a between-subjects predictor, and a series of post-hoc comparisons ( $p$ -values were adjusted using the Bonferroni method).

**ANOVA**

Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2_p$
Condition	226.70	3	75.57	51.31	< .001	0.39
Residuals	356.41	242	1.47			

*Note.* Type III Sum of Squares

**Descriptives**

Condition	Mean	SD	N
Baseline	4.69	1.16	60
High-risk	7.15	1.07	63
Low-risk	5.01	1.41	64
No-prior-info	5.36	1.17	59

**Post Hoc Comparisons**

		Mean Difference	95% CI for Mean Difference		SE	t	Cohen's d	p <sub>bonf</sub>
			Lower	Upper				
baseline	high-risk	-2.46	-3.02	-1.89	0.22	-11.23	-2.21	< .001
	low-risk	-0.32	-0.88	0.25	0.22	-1.45	-0.24	.894
	No-prior-info	-0.66	-1.24	-0.09	0.22	-2.98	-0.57	.019
high-risk	low-risk	2.14	1.59	2.70	0.21	9.95	1.71	< .001
	No-prior-info	1.80	1.23	2.37	0.22	8.17	1.60	< .001
low-risk	No-prior-info	-0.35	-0.91	0.22	0.22	-1.58	-0.26	.690

*Note.* P-value and confidence intervals adjusted for comparing a family of 4 estimates (confidence intervals corrected using the tukey method).

***Negligence Judgment***

We conducted the same one-way ANOVA with condition (baseline, high-risk, low-risk, no-prior-information) as a between-subjects predictor.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	336.94	3	112.31	79.11	< .001	0.49
Residuals	343.56	242	1.42			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
Baseline	4.15	1.23	60
High-risk	7.17	1.05	63
Low-risk	4.54	1.39	64
No-prior-info	5.13	1.06	59

**Post Hoc Comparisons - Condition**

		<b>Mean Difference</b>	<b>95% CI for Mean Difference</b>		<b>SE</b>	<b>t</b>	<b>Cohen's d</b>	<b>p<sub>bonf</sub></b>
			<b>Lower</b>	<b>Upper</b>				
baseline	high-risk	-3.01	-3.57	-2.46	0.215	14.03	-2.64	< .001
	low-risk	-0.39	-0.94	0.17	0.214	-1.81	-0.29	.433
	No-prior-info	-0.98	-1.55	-0.41	0.218	-4.49	-0.85	< .001
high-risk	low-risk	2.63	2.08	3.17	0.211	12.43	2.13	< .001
	No-prior-info	2.03	1.48	2.59	0.216	9.42	1.93	< .001
low-risk	No-prior-info	-0.59	-1.15	-0.04	0.215	-2.76	-0.48	.037

*Note.* P-value and confidence intervals adjusted for comparing a family of 4 estimates (confidence intervals corrected using the tukey method).

**Blame Judgment**

Also for blame judgments, we conducted a simple one-way ANOVA with condition (baseline, high-risk, low-risk, no-prior-information) as a between-subjects predictor.

**ANOVA**

Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2_p$
Condition	285.42	3	95.14	54.47	< .001	0.40
Residuals	422.71	242	1.75			

*Note.* Type III Sum of Squares

**Descriptives**

Condition	Mean	SD	N
Baseline	3.79	1.11	60
High-risk	6.63	1.30	63
Low-risk	4.37	1.58	64
No-prior-info	4.59	1.23	59

**Post Hoc Comparisons**

		Mean Difference	95% CI for Mean Difference		SE	t	Cohen's d	p <sub>bonf</sub>
			Lower	Upper				
baseline	high-risk	-2.84	-3.46	-2.22	0.24	11.92	-2.35	< .001
	low-risk	-0.59	-1.20	0.03	0.24	-2.47	-0.43	.085
	No-prior-info	-0.81	-1.43	-0.18	0.24	-3.32	-0.69	.006
high-risk	low-risk	2.25	1.65	2.86	0.23	9.61	1.56	< .001
	No-prior-info	2.04	1.42	2.65	0.24	8.50	1.61	< .001
low-risk	No-prior-info	-0.22	-0.84	0.40	0.24	-0.92	-0.15	1.000

*Note.* P-value and confidence intervals adjusted for comparing a family of 4 estimates (confidence intervals corrected using the tukey method).

***Punishment Judgment***

We conducted a simple one-way ANOVA with condition (baseline, high-risk, low-risk, no-prior-information) as a between-subjects predictor.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	245.63	3	81.88	52.39	< .001	0.39
Residuals	378.21	242	1.56			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
Baseline	3.94	1.05	60
High-risk	6.57	1.25	63
Low-risk	4.42	1.51	64
No-prior-info	4.74	1.11	59

**Post Hoc Comparisons**

		<b>Mean Difference</b>	<b>95% CI for Mean Difference</b>			<b>t</b>	<b>Cohen's d</b>	<b>p<sub>bonf</sub></b>
			<b>Lower</b>	<b>Upper</b>	<b>SE</b>			
baseline	high-risk	-2.62	-3.21	-2.04	0.23	-11.63	-2.27	< .001
	low-risk	-0.48	-1.06	0.10	0.22	-2.13	-0.36	.206
	No-prior-info	-0.80	-1.39	-0.20	0.23	-3.48	-0.74	.004
high-risk	low-risk	2.14	1.57	2.72	0.22	9.66	1.54	< .001
	No-prior-info	1.83	1.24	2.41	0.23	8.06	1.54	< .001
low-risk	No-prior-info	-0.32	-0.90	0.26	0.23	-1.41	-0.24	.955

*Note.* P-value and confidence intervals adjusted for comparing a family of 4 estimates (confidence intervals corrected using the tukey method).

**Effect of Condition on Ancillary Questions*****Sufficient Information to Judge Foresight?***

We first conducted a simple one-way ANOVA with condition (baseline, high-risk, low-risk, no-prior-information) as a between-subjects predictor on participants' answers to the question whether they had sufficient information to answer the foresight question.

**ANOVA**

Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2_p$
Condition	94.49	3	31.49	15.41	< .001	0.16
Residuals	494.74	242	2.04			

*Note.* Type III Sum of Squares

**Descriptives**

Condition	Mean	SD	N
Baseline	5.48	1.52	60
High-risk	7.07	1.21	63
Low-risk	6.65	1.49	64
No-prior-info	5.90	1.48	59

**Post Hoc Comparisons**

	Mean Difference	95% CI for Mean Difference			t	Cohen's d	p <sub>bonf</sub>
		Lower	Upper	SE			
baseline high-risk	-1.59	-2.25	-0.92	0.26	-6.15	-1.16	< .001
low-risk	-1.17	-1.83	-0.50	0.26	-4.55	-0.78	< .001
No-prior-info	-0.42	-1.10	0.26	0.26	-1.61	-0.28	.656
high-risk low-risk	0.42	-0.24	1.07	0.25	1.65	0.31	.606
No-prior-info	1.16	0.49	1.83	0.26	4.50	0.86	< .001
low-risk No-prior-info	0.75	0.08	1.41	0.26	2.90	0.50	.025

*Note.* P-value and confidence intervals adjusted for comparing a family of 4 estimates (confidence intervals corrected using the tukey method).

*Effect of Condition and Type of Additional Information Desired*

We conducted an ANOVA 4 (Condition: baseline, high-risk, low-risk, no-prior-information) by 4 (Information type: outcome, intent, familiarity, ability), which revealed a significant main effect of information type, and a significant interaction. This analysis was conducted on participants' assessment of whether they thought it would have helped answer the foresight question having more details about the severity of the negative outcomes, the real intentions of the defendant, his/its prior knowledge of the risk and familiarity with similar situations, as well as his/its ability to perceive and understand the risk.

**Within Subjects Effects**

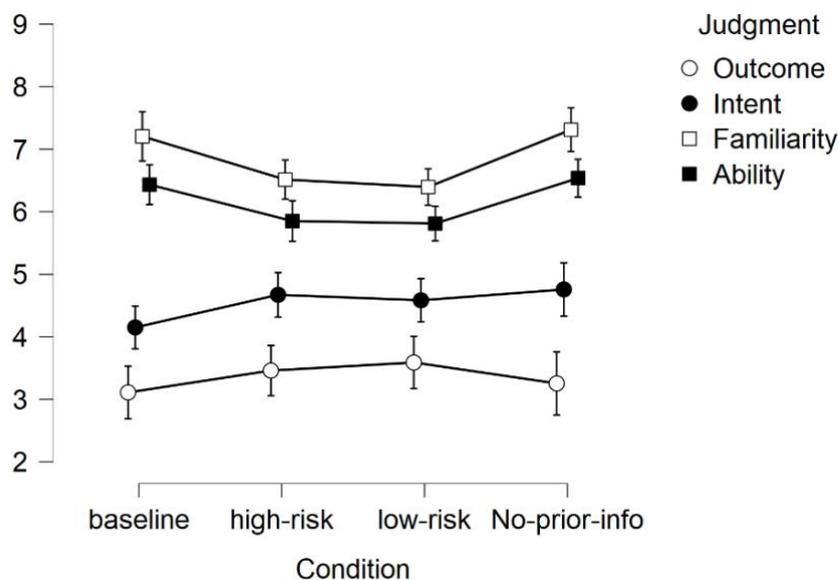
Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2_p$
Information Type	1843.98	3	614.66	300.53	< .001	0.55
Information Type * Condition	68.06	9	7.56	3.70	< .001	0.04
Residuals	1484.86	726	2.04			

Note. Type III Sum of Squares

**Between Subjects Effects**

Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2_p$
Condition	20.47	3	6.82	0.81	.490	0.01
Residuals	2043.38	242	8.44			

Note. Type III Sum of Squares



***More Information about Outcome***

Next, we conducted a simple one-way ANOVA with condition (baseline, high-risk, low-risk, no-prior-information) as a between-subjects predictor on participants' assessments of whether they thought it would have helped answer the foresight question having more details about the severity of the negative outcomes.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	8.389	3	2.80	0.68	.566	0.01
Residuals	998.33	242	4.12			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
Baseline	3.11	2.06	60
High-risk	3.46	2.06	63
Low-risk	3.59	2.12	64
No-prior-info	3.25	1.86	59

***More Information about Intention***

The same analysis was conducted on participants' assessments of whether they thought it would have helped answer the foresight question having more details about the real intention of the actor.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	13.14	3	4.38	1.01	.390	0.01
Residuals	1050.73	242	4.34			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
Baseline	4.15	1.85	60
High-risk	4.67	2.13	63
Low-risk	4.58	2.23	64
No-prior-info	4.76	2.09	59

**More Information about Familiarity**

The same ANOVA was again conducted on participants' assessments of whether they thought it would have helped answer the foresight question having more details about the actor's prior knowledge of the risk and familiarity with similar situations.

**ANOVA**

Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2_p$
Condition	40.45	3	13.48	4.84	<b>.003</b>	0.06
Residuals	674.57	242	2.79			

*Note.* Type III Sum of Squares

**Descriptives**

Condition	Mean	SD	N
Baseline	7.20	1.32	60
High-risk	6.51	1.79	63
Low-risk	6.40	1.88	64
No-prior-info	7.31	1.61	59

**Post Hoc Comparisons**

		Mean Difference	95% CI for Mean Difference		SE	t	Cohen's d	p <sub>bonf</sub>
			Lower	Upper				
baseline	high-risk	0.69	-0.09	1.47	0.30	2.30	0.44	.135
	low-risk	0.81	0.03	1.59	0.30	2.70	0.50	<b>.045</b>
	No-prior-info	-0.11	-0.90	0.69	0.31	-0.35	-0.07	1.000
high-risk	low-risk	0.12	-0.65	0.88	0.30	0.40	0.06	1.000
	No-prior-info	-0.80	-1.58	-0.01	0.30	-2.64	-0.47	<b>.053</b>
low-risk	No-prior-info	-0.92	-1.69	-0.14	0.30	-3.04	-0.52	<b>.016</b>

*Note.* P-value and confidence intervals adjusted for comparing a family of 4 estimates (confidence intervals corrected using the tukey method).

**More Information about Ability**

The same ANOVA was also conducted on participants' assessments of whether they thought it would have helped answer the foresight question having more details about the actor's ability to perceive and understand the risk.

**ANOVA**

Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2_p$
Condition	26.55	3	8.85	2.66	<b>.049</b>	0.03
Residuals	804.61	242	3.32			

*Note.* Type III Sum of Squares

**Descriptives**

Condition	Mean	SD	N
Baseline	6.43	1.49	60
High-risk	5.85	1.97	63
Low-risk	5.81	2.08	64
No-prior-info	6.54	1.66	59

**Post Hoc Comparisons**

		Mean Difference	95% CI for Mean Difference		SE	t	Cohen's d	p <sub>bonf</sub>
			Lower	Upper				
baseline	high-risk	0.58	-0.27	1.43	0.33	1.77	0.33	.469
	low-risk	0.62	-0.23	1.47	0.33	1.89	0.34	.356
	No-prior-info	-0.10	-0.97	0.76	0.33	-0.31	-0.07	1.000
high-risk	low-risk	0.04	-0.80	0.88	0.32	0.12	0.02	1.000
	No-prior-info	-0.68	-1.54	0.17	0.33	-2.07	-0.37	.234
low-risk	No-prior-info	-0.72	-1.58	0.13	0.33	-2.20	-0.38	.172

*Note.* P-value and confidence intervals adjusted for comparing a family of 4 estimates (confidence intervals corrected using the tukey method).

**Jargon**

Last, we ran again a simple one-way ANOVA with condition (baseline, high-risk, low-risk, no-prior-information) as a between-subjects predictor on participants' assessments of whether they thought the scenario, the questions or the jargon used were confusing.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	5.01	3	1.67	1.73	.162	0.02
Residuals	234.06	242	0.97			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
Baseline	1.40	0.71	60
High-risk	1.62	1.16	63
Low-risk	1.42	0.75	64
No-prior-info	1.75	1.21	59

### Mediation Analysis

Before running any mediation analysis, taking into consideration only high- and low-risk conditions, to see whether negligence or blame assessments were mediated by foresight assessment, we checked for multicollinearity among our variables. Results reported here below show that all the variables were highly correlated to each other ( $VIF > 5$ ), with the exception of foresight and negligence. Therefore, in the paper, we report the results of a mediation analysis with negligence as the outcome variable and foresight as the mediator.

#### *Checking for Multicollinearity (Outcome=Negligence)*

##### Model Summary - Negligence

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	RMSE
H <sub>0</sub>	0.00	0.00	0.00	1.80
H <sub>1</sub>	0.95	0.89	0.89	0.59

##### ANOVA

Model		Sum of Squares	df	Mean Square	F	p
H <sub>1</sub>	Regression	365.57	4	91.39	258.50	< .001
	Residual	43.13	122	0.35		
	Total	408.70	126			

*Note.* The intercept model is omitted, as no meaningful information can be shown.

##### Coefficients

Model		Unstandardized	Standard Error	Standardized t	p	Collinearity Statistics		
						Tolerance	VIF	
H <sub>0</sub>	(Intercept)	5.84	0.16	36.54	< .001			
H <sub>1</sub>	(Intercept)	2.06	0.43	4.80	< .001			
	Condition	-0.77	0.14	-0.21	-5.48	< .001	0.56	1.78
	Foresee	0.36	0.07	0.33	5.09	< .001	0.21	4.80
	Blame	0.08	0.08	0.09	1.10	.274	0.14	<b>7.00</b>
	Punish	0.42	0.08	0.41	5.04	< .001	0.13	<b>7.56</b>

*Checking for Multicollinearity (Outcome=Blame)***Model Summary - Blame**

<b>Model</b>	<b>R</b>	<b>R<sup>2</sup></b>	<b>Adjusted R<sup>2</sup></b>	<b>RMSE</b>
H <sub>0</sub>	0.00	0.00	0.00	1.83
H <sub>1</sub>	0.93	0.86	0.85	0.70

**ANOVA**

<b>Model</b>		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>
H <sub>1</sub>	Regression	363.58	4	90.89	185.13	< .001
	Residual	59.90	122	0.49		
	Total	423.48	126			

*Note.* The intercept model is omitted, as no meaningful information can be shown.

**Coefficients**

<b>Model</b>		<b>Unstandardized</b>	<b>Standard Error</b>	<b>Standardized t</b>	<b>p</b>	<b>Collinearity Statistics</b>		
						<b>Tolerance</b>	<b>VIF</b>	
H <sub>0</sub>	(Intercept)	5.49	0.16	33.77	< .001			
H <sub>1</sub>	(Intercept)	-5.72e -4	0.55	-0.01	.999			
	Condition	-0.07	0.18	-0.02	-0.38	.703	0.45	2.22
	Foresee	0.20	0.09	0.18	2.22	.028	0.18	<b>5.60</b>
	Negligence	0.12	0.11	0.11	1.10	.274	0.11	<b>9.38</b>
	Punish	0.68	0.09	0.65	7.65	< .001	0.16	<b>6.17</b>

### Additional Analyses – Study 2

#### Preliminary Analyses to Select Scenario for Study 2

Before conducting Study 2, we ran analyses on each of the three negligence cases used in Study 1 to select the one that worked best (we ran a simple one-way ANOVA on negligence ratings with 4 conditions as the predictor). On the basis of these analyses, we selected the physical injury corporation case as it was the only one where negligence ratings in the no-prior-information condition differed significantly from both the ratings in the high-risk condition and the ratings in the low-risk condition, resulting in a clear pattern. Results are here below.

#### *Property Damage Case (John) - Negligence*

##### ANOVA

Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2$	$\omega^2$
Condition	602.53	3	200.84	49.65	< .001	0.38	0.37
Residuals	979.00	242	4.04				

*Note.* Type III Sum of Squares

##### Descriptives

	Condition	Mean	SD	N
Baseline		3.38	2.03	60
High-risk		7.24	1.57	63
Low-risk		3.75	2.34	64
No-prior-info		3.90	2.02	59

##### Post Hoc Comparisons

		Mean Difference	SE	t	p bonf	p holm
baseline	high-risk	-3.85	0.36	-10.62	< .001	< .001
	low-risk	-0.37	0.36	-1.01	1.000	.623
	No-prior-info	-0.51	0.37	-1.40	.983	.492
high-risk	low-risk	3.49	0.36	9.77	< .001	< .001
	No-prior-info	3.34	0.36	9.16	< .001	< .001
low-risk	No-prior-info	-0.15	0.36	-0.41	1.000	.683

*Note.* P-value adjusted for comparing a family of 4

*Physical Injury Corporation Case (Samantha Equities, LLC) – Negligence***ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2</math></b>	<b><math>\omega^2</math></b>
Condition	150.44	3	50.15	16.67	< .001	0.17	0.16
Residuals	727.90	242	3.01				

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
Baseline	6.67	1.75	60
High-risk	8.27	1.23	63
Low-risk	6.22	2.16	64
No-prior-info	7.34	1.65	59

**Post Hoc Comparisons**

		<b>Mean Difference</b>	<b>SE</b>	<b>t</b>	<b>p<sub>bonf</sub></b>	<b>p<sub>holm</sub></b>
baseline	high-risk	-1.60	0.31	-5.12	< .001	< .001
	low-risk	0.45	0.31	1.44	.912	.152
	No-prior-info	-0.67	0.32	-2.11	.213	.071
high-risk	low-risk	2.05	0.31	6.66	< .001	< .001
	No-prior-info	0.93	0.31	2.96	.020	.010
low-risk	No-prior-info	-1.12	0.31	-3.58	.003	.002

*Note.* P-value adjusted for comparing a family of 4

*Physical Injury Case (Scott) – Negligence***ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2</math></b>	<b><math>\omega^2</math></b>
Condition	410.34	3	136.78	28.49	< .001	0.26	0.25
Residuals	1161.75	242	4.80				

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
Baseline	2.40	1.74	60
High-risk	5.98	2.21	63
Low-risk	3.64	2.37	64
No-prior-info	4.15	2.37	59

**Post Hoc Comparisons**

		<b>Mean Difference</b>	<b>SE</b>	<b>t</b>	<b>p bonf</b>	<b>p holm</b>
baseline	high-risk	-3.58	0.39	-9.07	< .001	< .001
	low-risk	-1.24	0.39	-3.15	.011	.004
	No-prior-info	-1.75	0.40	-4.36	< .001	< .001
high-risk	low-risk	2.34	0.39	6.03	< .001	< .001
	No-prior-info	1.83	0.40	4.61	< .001	< .001
low-risk	No-prior-info	-0.51	0.39	-1.29	1.000	.197

*Note.* P-value adjusted for comparing a family of 4

### Effect of Condition and Type of Judgment

As in Study 1, we ran an ANOVA 4 (Condition: baseline, high-risk, low-risk, no-prior-information) by 4 (Judgment type: foresight, negligence, badness, punishment), which revealed significant main effects of both condition and judgment type, and a significant interaction.

#### Within Subjects Effects

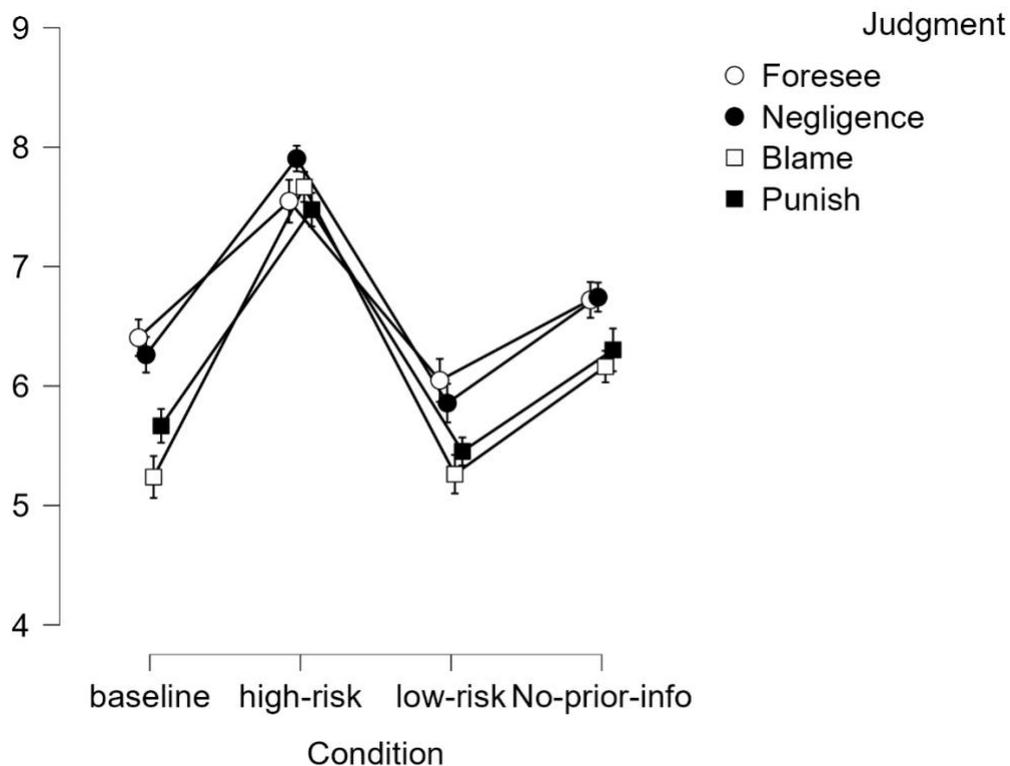
Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2_p$
Judgment Type	49.67	3	16.56	17.44	< .001	0.10
Judgment Type * Condition	19.27	9	2.14	2.25	.018	0.04
Residuals	470.09	495	0.95			

Note. Type III Sum of Squares

#### Between Subjects Effects

Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2_p$
Condition	399.41	3	133.14	10.49	< .001	0.16
Residuals	2094.27	165	12.69			

Note. Type III Sum of Squares



**Effect of Condition on Each Type of Judgment*****Foresight Judgment***

We conducted a simple one-way ANOVA with condition (baseline, high-risk, low-risk, no-prior-information) as a between-subjects predictor, and a series of post-hoc comparisons.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	51.67	3	17.22	4.26	<b>.006</b>	0.07
Residuals	667.08	165	4.04			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
Baseline	6.40	1.95	42
High-risk	7.55	1.97	42
Low-risk	6.05	2.19	42
No-prior-info	6.72	1.93	43

**Post Hoc Comparisons**

		<b>Mean Difference</b>	<b>SE</b>	<b>t</b>	<b>p<sub>bonf</sub></b>
baseline	(high-risk)	-1.14	0.44	-2.60	<b>.060</b>
	(low-risk)	0.36	0.44	0.81	1.000
	(No-prior-info)	-0.32	0.44	-0.72	1.000
(high-risk)	(low-risk)	1.50	0.44	3.42	<b>.005</b>
	(No-prior-info)	0.83	0.44	1.89	.359
(low-risk)	(No-prior-info)	-0.67	0.44	-1.54	.748

*Note.* P-value adjusted for comparing a family of 4

***Negligence Judgment***

We conducted the same one-way ANOVA with condition as a between-subjects predictor, and a series of post-hoc comparisons, on negligence judgments.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	98.93	3	32.98	9.33	< .001	0.14
Residuals	583.07	165	3.53			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
Baseline	6.26	2.05	42
High-risk	7.90	1.66	42
Low-risk	5.86	1.94	42
No-prior-info	6.74	1.84	43

**Post Hoc Comparisons**

		<b>Mean Difference</b>	<b>SE</b>	<b>t</b>	<b>p<sub>bonf</sub></b>
baseline	(high-risk)	-1.64	0.41	-4.00	< .001
	(low-risk)	0.40	0.41	0.99	1.000
	(No-prior-info)	-0.48	0.41	-1.18	1.000
(high-risk)	(low-risk)	2.05	0.41	4.99	< .001
	(No-prior-info)	1.16	0.41	2.85	.030
(low-risk)	(No-prior-info)	-0.89	0.41	-2.17	.186

*Note.* P-value adjusted for comparing a family of 4

**Blame Judgment**

We conducted a simple one-way ANOVA with condition as a between-subjects predictor also on blame judgments.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	163.91	3	54.64	12.40	< .001	0.18
Residuals	726.93	165	4.41			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
Baseline	5.24	2.23	42
High-risk	7.67	1.87	42
Low-risk	5.26	2.25	42
No-prior-info	6.16	2.02	43

**Post Hoc Comparisons**

		<b>Mean Difference</b>	<b>SE</b>	<b>t</b>	<b>p<sub>bonf</sub></b>
baseline	(high-risk)	-2.43	0.46	-5.30	< .001
	(low-risk)	-0.02	0.46	-0.05	1.000
	(No-prior-info)	-0.92	0.45	-2.03	.263
(high-risk)	(low-risk)	2.40	0.46	5.25	< .001
	(No-prior-info)	1.50	0.45	3.30	.007
(low-risk)	(No-prior-info)	-0.90	0.45	-1.98	.297

*Note.* P-value adjusted for comparing a family of 4

***Punishment Judgment***

Last, we conducted a simple one-way ANOVA with condition as a between-subjects predictor on punishment judgments.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	104.17	3	34.72	9.76	< .001	0.15
Residuals	587.28	165	3.56			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
Baseline	5.67	1.97	42
High-risk	7.48	1.84	42
Low-risk	5.45	2.01	42
No-prior-info	6.30	1.71	43

**Post Hoc Comparisons**

		<b>Mean Difference</b>	<b>SE</b>	<b>t</b>	<b>p<sub>bonf</sub></b>
baseline	(high-risk)	-1.81	0.41	-4.39	< .001
	(low-risk)	0.21	0.41	0.52	1.000
	(No-prior-info)	-0.64	0.41	-1.55	.734
(high-risk)	(low-risk)	2.02	0.41	4.92	< .001
	(No-prior-info)	1.17	0.41	2.87	.028
(low-risk)	(No-prior-info)	-0.85	0.41	-2.08	.236

*Note.* P-value adjusted for comparing a family of 4

**Effect of Condition on Ancillary Questions*****Sufficient Information to Judge Foresight?***

As in Study 1, we started with a simple one-way ANOVA with condition (baseline, high-risk, low-risk, no-prior-information) as a between-subjects predictor on participants' answers to the question whether they had sufficient information to answer the foresight question.

**ANOVA**

Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2_p$
Condition	102.39	3	34.13	8.73	< .001	0.14
Residuals	644.86	165	3.91			

*Note.* Type III Sum of Squares

**Descriptives**

Condition	Mean	SD	N
Baseline	5.21	2.05	42
High-risk	7.40	1.94	42
Low-risk	6.31	2.04	42
No-prior-info	6.53	1.87	43

**Post Hoc Comparisons**

		Mean Difference	95% CI for Mean Difference		SE	t	p <sub>bonf</sub>
			Lower	Upper			
baseline	(high-risk)	-2.19	-3.31	-1.07	0.43	-5.08	< .001
	(low-risk)	-1.09	-2.21	0.02	0.43	-2.54	.072
	(No-prior-info)	-1.32	-2.43	-0.21	0.43	-3.08	.015
(high-risk)	(low-risk)	1.09	-0.02	2.21	0.43	2.54	.072
	(No-prior-info)	0.87	-0.24	1.98	0.43	2.03	.265
(low-risk)	(No-prior-info)	-0.22	-1.34	0.89	0.43	-0.52	1.000

*Note.* P-value and confidence intervals adjusted for comparing a family of 4 estimates (confidence intervals corrected using the tukey method).

*Effect of Condition and Type of Additional Information Desired*

As in Study 1, we conducted an ANOVA 4 (Condition: baseline, high-risk, low-risk, no-prior-information) by 4 (Information type: outcome, intent, familiarity, ability), which revealed only a significant main effect of information type.

**Within Subjects Effects**

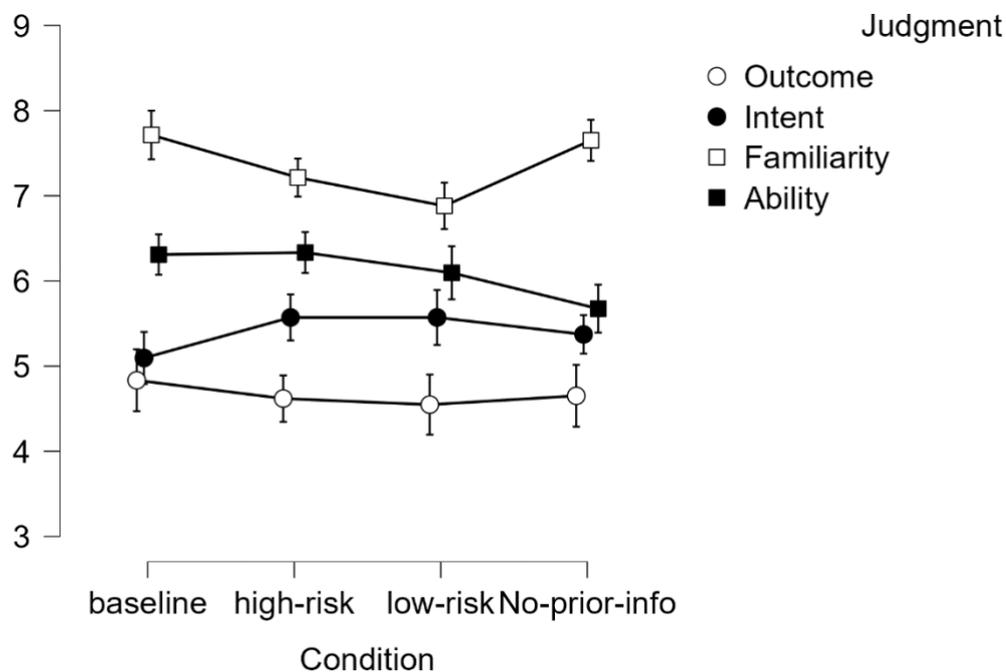
Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2_p$
Information Type	670.02	3	223.34	63.26	< .001	0.28
Information Type * Condition	34.96	9	3.88	1.10	.361	0.02
Residuals	1747.48	495	3.53			

Note. Type III Sum of Squares

**Between Subjects Effects**

Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2_p$
Condition	4.66	3	1.55	0.15	.926	< 0.01
Residuals	1651.85	165	10.01			

Note. Type III Sum of Squares



**Jargon**

Last, we ran a simple one-way ANOVA with condition (baseline, high-risk, low-risk, no-prior-information) as a between-subjects predictor on participants' assessments of whether they thought the scenario, the questions or the jargon used were confusing.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	7.90	3	2.63	1.84	.142	0.03
Residuals	236.10	165	1.43			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
Baseline	1.86	1.46	42
High-risk	1.45	0.86	42
Low-risk	2.05	1.32	42
No-prior-info	1.72	1.05	43

**Additional Analyses – Study 3****Descriptives**

Here we start by providing some descriptives (these are foresight scores). In what follow in the next page, instead, we assess the effect of the intervention we designed on participants' judgments in high-risk and low-risk conditions, separately. This is because whereas an effect was predicted on foresight scores in the high-risk condition, analyses on the low-risk condition were pre-registered as exploratory. The aim of the intervention was to make participants aware of the fact that “on average, we are worse at foreseeing the future than we realize [because] when we are judging whether someone should have predicted an outcome, we assume that they would have known then what we know now (with the benefit of hindsight)”.

**Descriptives – Foresight**

<b>Condition_Intervention</b>	<b>Condition_Risk</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
No-intervention	High	6.94	1.84	48
	Low	4.43	2.34	47
Intervention	High	6.02	2.40	47
	Low	4.38	2.37	45

**Effect of Intervention on Each Type of Judgment in High-Risk Scenarios*****Foresight Judgment***

We conducted a simple one-way ANOVA with condition (intervention, no-intervention) as a between-subjects predictor on foresight judgments.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>P</b>	<b><math>\eta^2_p</math></b>
Condition	19.93	1	19.93	4.37	<b>.039</b>	0.04
Residuals	423.79	93	4.56			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
No-intervention-high	6.94	1.84	48
Intervention-high	6.02	2.40	47

***Negligence Judgment***

The same analysis was conducted on negligence judgments.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	1.57	1	1.57	0.41	.524	< 0.01
Residuals	357.33	93	3.84			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
No-intervention-high	6.90	1.87	48
Intervention-high	6.64	2.05	47

***Blame Judgment***

The same ANOVA was again conducted on blame judgments.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	7.12	1	7.12	1.51	.223	0.02
Residuals	438.88	93	4.72			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
No-intervention-high	6.27	2.19	48
Intervention-high	5.72	2.15	47

***Punishment Judgment***

Last, the ANOVA was conducted on punishment judgments.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	5.10	1	5.10	1.31	.256	0.01
Residuals	362.85	93	3.90			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
No-intervention-high	6.21	1.86	48
Intervention-high	5.74	2.09	47

**Effect of Intervention on Each Type of Judgment in Low-Risk Scenarios*****Foresight Judgment***

As for the High-risk scenarios, here too we conducted a simple one-way ANOVA with condition (intervention, no-intervention) as a between-subjects factor, but no effect was found.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	0.05	1	0.05	0.01	.923	< 0.01
Residuals	498.07	90	5.53			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
No-intervention-low	4.43	2.34	47
Intervention-low	4.38	2.37	45

***Negligence Judgment***

Another simple one-way ANOVA with condition (intervention, no-intervention) as a between-subjects factor was conducted on negligence judgments.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>P</b>	<b><math>\eta^2_p</math></b>
Condition	5.12	1	5.12	0.89	.347	0.01
Residuals	514.75	90	5.72			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
No-intervention-low	3.62	2.24	47
Intervention-low	4.09	2.54	45

***Blame Judgment***

The same ANOVA was again conducted on blame judgments.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	0.76	1	0.76	0.14	.704	< 0.01
Residuals	470.46	90	5.23			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
No-intervention-low	3.91	2.38	47
Intervention-low	3.73	2.18	45

***Punishment Judgment***

Last, the ANOVA was conducted on punishment judgments, once more revealing no effect of the intervention on low-risk scenarios.

**ANOVA**

<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
Condition	1.55	1	1.55	0.33	.567	< 0.01
Residuals	424.40	90	4.72			

*Note.* Type III Sum of Squares

**Descriptives**

<b>Condition</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
No-intervention-low	3.85	2.23	47
Intervention-low	4.11	2.11	45

**Additional Analyses – Study 4****Descriptives and T-Test Assessing the Effect of Intervention on Each Type of Judgment**

Here below we provide the descriptives and results of a series of t-test comparing conditions (intervention, no intervention) across all the measures (foresight, negligence, ecc).

**Independent Samples T-Test**

	<b>t</b>	<b>Df</b>	<b>P</b>	<b>Cohen's d</b>
Foresight	1.95	178	<b>.053</b>	0.29
Negligence	1.61	178	.108	0.24
Blame	1.78	178	.076	0.27
Punishment	2.16	178	<b>.032</b>	0.32
Sufficient-info-to-assess-foresight	0.85	178	.396	0.13
Help-outcome	0.49	178	.627	0.07
Help-intent	-1.15	178	.251	-0.17
Help-familiarity	-1.04	178	.299	-0.15
Help-ability	-1.00	178	.320	-0.15
Jargon	-0.85	177	.398	-0.13

**Descriptives**

	<b>Group</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>SE</b>
Foresight	No-intervention-high	89	6.88	1.79	0.19
	Intervention-high	91	6.31	2.10	0.22
Negligence	No-intervention-high	89	6.83	1.86	0.20
	Intervention-high	91	6.37	1.94	0.20
Blame	No-intervention-high	89	6.29	2.19	0.23
	Intervention-high	91	5.72	2.08	0.22
Punishment	No-intervention-high	89	6.17	2.01	0.21
	Intervention-high	91	5.55	1.83	0.19
Suff-info-to-judge	No-intervention-high	89	6.66	1.96	0.21
	Intervention-high	91	6.42	1.90	0.20
Help-outcome	No-intervention-high	89	4.44	2.16	0.23
	Intervention-high	91	4.27	2.33	0.24
Help-intent	No-intervention-high	89	5.28	2.28	0.24
	Intervention-high	91	5.68	2.38	0.25
Help-familiarity	No-intervention-high	89	7.08	2.12	0.22
	Intervention-high	91	7.37	1.65	0.17
Help-ability	No-intervention-high	89	6.67	1.76	0.19
	Intervention-high	91	6.93	1.73	0.18
Jargon	No-intervention-high	89	1.85	1.31	0.14
	Intervention-high	90	2.02	1.35	0.14