

Intent, Harm, and the Law: Examining the Intersection of Varied Intent and Outcome Severity on Legal Judgments

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Objective: This research examined how people reason about intended and unintended harms commonly adjudicated in the U.S. legal system, exploring the impact of a causal actor's intent and resultant harm severity on individuals' legally relevant judgments. **Hypotheses:** We hypothesized that participants would reliably differentiate between variations in unintended harm, with blame, guilt, liability, and punishment judgments increasing across a continuum of harm moving from accidental to negligent to reckless to intentional. We also hypothesized that harm severity would impact criminal guilt and civil liability judgments in some ways that the legal system intends and others that it does not. **Method:** Across eight experiments ($N = 4,085$; four reported only in additional online materials: <https://osf.io/fxzms>), participants read about someone causing physical harm or damage to property. Intent (negligent, reckless, and intentional) and harm severity (no harm/damage to serious harm/damage) were manipulated. Participants completed measures related to blame, guilt, liability, and punishment. **Results:** People reliably differentiated between harm-causing behaviors that spanned a full theoretical spectrum of intentionality (η_p^2 ranged from .04 to .46). Outcome severity (η_p^2 ranged from <.01 to .24) impacted individuals' legally relevant judgments in ways that mostly aligned with the law and infrequently moderated the impact of intent (interaction η_p^2 ranged from <.01 to .10). **Conclusion:** Our studies suggest considerable convergence between folk and legal psychology when examining the impact of a causal actor's intent on criminal and civil judgments and indicate that harm severity can sometimes play a role in the process.

Public Significance Statement

Since ordinary people play an important role as jurors in the American legal system, their understanding of legal concepts should resemble those outlined by laws. This research suggests that there is reasonable correspondence between how laypeople understand legal concepts involving unintended harm (such as negligence and recklessness) and the law, as shown by their legally relevant decisions. Yet, outcome severity can impact these judgments in ways that are both aligned and misaligned with legal doctrine.

Keywords: intentionality, negligence, outcome severity, recklessness

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When bad things happen, such as people or property being harmed, people pay attention (e.g., Baumeister et al., 2001). They attribute causal explanations for the bad outcome and the person(s) who caused it (Heider, 1958; Malle et al., 2014), and these causal attributions

affect perceivers' thoughts, feelings, and actions (Weiner et al., 1997). Yet, beyond causes, other information help people to make sense of bad outcomes and actions. Decades of research indicate that people naturally form judgments regarding the causal actor's *intent*

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 The data are available at <https://osf.io/gmzqj/>.

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(e.g., Alicke, 2000; Reeder, 2009; Weiner, 1995). For example, even when perceivers determine that an actor's actions caused a notable outcome, they may determine that the actor did not intend the outcome (i.e., that the harm was accidental or not directly intended). Perceptions regarding intent are primarily responsible for determining what, if any, moral responsibility and blame-worthiness should be accorded to the causally involved actor (e.g., Alicke, 2000; Cushman, 2008; Lagnado & Channon, 2008).

Understanding how perceivers determine culpability for unintended harm has clear implications for the legal system. Indeed, within criminal contexts, a person can typically not be found guilty of a crime without evidence that they intended to commit the criminal act (e.g., Foster & Rohan, 1946; Giffin & Lombrozo, 2016). However, there are also important differences between intentional acts where the actor's *goal* was to cause harm versus intentional acts where the actor (a) unreasonably failed to consider the harm the act might cause (i.e., negligence) or (b) understood that harm might occur, but acted anyway, for another reason (i.e., recklessness). These varying degrees of intentionality are reflected in the criminal legal system as evidenced in the Model Penal Code (MPC; American Law Institute, 1962), which defines differences between crimes based on an actor's mental state at the time of the offense (i.e., purposefully, knowingly, recklessly, and negligently).

Although individuals can be held legally responsible and sometimes punished (e.g., through the imposition of punitive damages) for intended or unintended harms in the U.S. civil tort system, most cases in the civil realm deal with some degree of *unintended* harm. The focus on unintended harm is evidenced in the fact that negligence cases make up most civil tort trials (Abraham, 2001; National Center for State Courts [NCSC], 2015) and *intentional* tort cases made up only 2.07% of state tort trials across the United States in 2023 (NCSC, 2025). Thus, scholars have sought theoretical explanations and empirical evidence for the extent to which intent-based legal distinctions align with folk psychology and lay reasoning. For instance, research suggests both similarities and differences among how people evaluate intended and unintended harm; both are viewed negatively and seen as punishable, but the role of key mental states such as an actor's foreknowledge or desire vary across levels of intent (e.g., Flick et al., 2024; Laurent et al., 2016; Nuñez et al., 2014). That is, foreknowledge is assumed to be present in the minds of both reckless and intentional actors, but desire and specific intent to harm is absent in recklessness (Flick et al., 2024). In contrast, desire to harm is not a feature of negligence and negligent actors generally do not foresee that they will cause harm, but this absence of foreknowledge is seen as unreasonable (Nuñez et al., 2014). Additional research indicates that laypersons can spontaneously and reliably distinguish between some variations in actor intent (e.g., intentional compared to negligent states of mind), but that they struggle with others (e.g., knowing compared to reckless states of mind; Shen et al., 2011), which has clear implications for criminal and civil decision-making in the U.S. legal system.

Although our review thus far has focused on causality and intentionality, other factors are important for evaluations of actors whose actions cause harm. For instance, perceivers' judgments can be impacted by knowledge about the severity of a negative outcome associated with the causal actors' action or inaction. A phenomenon commonly referred to as outcome bias suggests that outcome severity impacts perceivers' judgments about the focal

actor's actions (e.g., Feigenson et al., 1997; Kneer & Skoczeń, 2023; Robbennolt, 2000). Outcome bias is particularly relevant in the tort context when a jurors' liability judgments (which should be based on the focal actor's actions, not the severity of outcomes) are impacted by knowledge of the outcome caused by those actions (e.g., Bornstein, 1998; Greene et al., 1999; Kamin & Rachlinski, 1995). Similar findings have been noted for criminal guilt judgments (Beatty & Fondacaro, 2018).

The present studies further explore the influence of these two constructs—an actor's varied intent (i.e., an actor's mental state) and the severity of negative outcomes—on lay judgments of blame, punishment, criminal guilt, and civil liability. We explore these judgments in situations where someone's actions cause harmful outcomes of the type that are frequently adjudicated in the U.S. criminal and civil legal systems (e.g., those resulting from negligence, recklessness, or intentional harm). Further, we add to a limited body of work (e.g., Darley & Huff, 1990; Shen et al., 2011) that examines how outcome severity might influence the impact that an actor's state of mind has on legally relevant judgments.

Legal Distinctions of Varied Intent: Negligence and Recklessness

Across jurisdictions, laws define acts that are committed with greater intent as reckless and acts committed with lesser intent as negligent (with some nuances across criminal and civil conceptualizations; for a discussion, see Simons, 2002). As a result, the law tends to blame and punish reckless acts to a greater extent than negligent acts, though both are deemed blameworthy and punishable under the law (e.g., Greenberg, 2024; Shen et al., 2011). From a legal perspective, arguably the most (but not only) defining feature separating negligence from recklessness is the level of awareness the causal actor had while acting (Greenberg, 2024). Negligence reflects a situation in which a reasonable person knew or *should* have been aware of a potential for harm/risk in an action, whereas recklessness is defined by a causal actor who *is* aware of a substantial potential harm/risk and still acts (e.g., American Law Institute, 1962, 1965). For instance, the MPC (American Law Institute, 1962, p. 32) defines recklessness as a "conscious disregard of a substantial and unjustifiable risk," whereas negligence is when an actor "should be aware of a substantial and unjustifiable risk" (p. 32) without the requirement that they were aware of it. Thus, recklessness represents a state of deliberate indifference (Stark, 2016) falling somewhere between negligence and intentionality and has been described as "a form of *mens rea* that amounts to less than intention but more than negligence" (Law & Martin, 2014, para. 1). Yet, some legal scholars believe that recklessness remains ill-defined, particularly in a civil tort context (e.g., Rapp, 2008; Viscusi, 2004).

The U.S. legal system reflects nuances between negligence and recklessness within the criminal legal codes and civil tort laws. However, an empirical question concerns the extent to which lay understanding of these concepts is similar to a legal conceptualization. Initial work by social and legal psychologists suggests that laypeople also make distinctions between negligent and reckless harms, with defining features related to knowledge and disregard of risk, similar to legal conceptualizations (e.g., Flick et al., 2024; Laurent et al., 2016; Nuñez et al., 2014).

Folk Understanding of Intentionality and Varied Intent in the U.S. Legal System

Psychologically, intentionality is a critical component in understanding when and why people blame others for the harm they have caused (e.g., Alicke, 2000; Malle et al., 2014; Reeder, 2009). However, Malle and Knobe (1997) found that folk attributions of intentionality involve attribution of underlying mental states such as beliefs, desires, awareness, intention, and skill. Belief concerns a person's expectation that their action will cause a particular outcome; desire regards the person wanting that outcome to occur; awareness references the person being conscious of their actions, while acting; intention is about purposely acting in order to bring about the desired outcome; and skill is about having sufficient ability to cause the outcome by acting (see also work by Malle et al., 2014; Malle & Holbrook, 2012; Malle & Nelson, 2003). Subsequent work has broadened understanding further, for example, characterizing *knowledge* (i.e., that particular actions might or likely will bring about a particular type of outcome) as being necessary for a specific belief to form (Nuñez et al., 2014).

Understanding intentionality is also vital for the legal system, given that individuals ascribe more blame, responsibility, and punishment to an actor when they perceive that actor's actions as more intentional (e.g., Darley & Pittman, 2003; Malle & Nelson, 2003; Nobes et al., 2009). That is, increased blame and responsibility for a defendant can lead to more severe charges or longer prison sentences. Increased intentionality, responsibility, and blame in civil court can also lead to higher compensatory damage awards (even when compensatory awards should legally be based on the plaintiff's injuries and not on the defendant's actions or varied intent) or punitive damages (i.e., damage awards intended to punish a defendant; e.g., Darley & Huff, 1990; Mueller et al., 2012).

Critically, though, not all harms are intended. Therefore, it is important to understand the extent to which laypersons attend to variations in intent and alter their blame and punishment judgments accordingly. Seminal work by Shen et al. (2011) was the first large-scale effort to explore this question. Shen et al. examined whether laypersons could distinguish between the four guilty mental states described in the MPC (American Law Institute, 1962)—purposeful, knowing, reckless, and negligent. Each participant rated 30 brief hypothetical vignettes in which a focal actor engaged in similar behaviors but where intent was systematically varied according to MPC categories (with the addition of a blameless condition). The authors concluded that laypersons generally blamed and punished the actor in line with MPC guidelines, reliably distinguishing between purposeful, negligent, and blameless states of mind. However, participants struggled to reliably distinguish between knowing and reckless states of mind.

Other work (e.g., Beatty & Fondacaro, 2018; Severance et al., 1992) also suggests individuals have difficulty distinguishing between certain culpable mental states. For instance, some evidence suggests that when laypersons incorrectly classify an actor's intent in a legal context, they tend to attribute greater intent (i.e., a *guiltier mens rea*) than was present at the time. In one study, participants erroneously classified negligent and reckless acts as purposeful 66% of the time (Beatty & Fondacaro, 2018). Other work indicates that a focal actor possessing even a small amount of knowledge that harm *could* occur is enough for individuals to conclude that the actor intended the outcome (Mueller et al., 2012). Indeed, Ginther et al. (2018) found

that a nontrivial proportion of participants (between 28% and 36%) ascribed greater intent (e.g., classifying a negligent actor as reckless, or a reckless actor as knowing) to actors than was present in their hypothetical harm-causing scenarios. Notably, Ginther et al. (2014) also indicated that even when correct mental state classification occurred, individuals tended not to assign significantly different punishments to reckless and knowing actors. In other words, folk classification of actions varying in intent in criminal guilt and civil liability contexts tends to err on the side of assigning greater rather than less culpability to a focal actor.

Yet, despite these findings, recent work suggests that individuals do reliably distinguish between varied intent-based mental states, particularly negligence, recklessness, and intentionality. Flick et al. (2024) found that people consistently evaluate recklessness more negatively than negligence, but less negatively than intentional harm. Taken together, these mixed findings suggest more research is needed on the topic of how laypeople distinguish between and attribute responsibility to various mental states of a focal actor whose actions cause harm, and how these mental states correspond to legal concepts that outline how transgressors should be held accountable for their actions or inactions as a function of intent.

Outcome Severity

Though people can be held accountable for unintended harm in the U.S. legal system, verdicts in these cases should not be impacted by the *extent* of harm caused by a defendant's action or inaction. The U.S. tort system specifies the conditions that need to be met for a plaintiff (i.e., an individual harmed by an actor's actions) to successfully sue an actor (i.e., the defendant). The plaintiff must show that the defendant failed to act with a level of reasonable care that an ordinary prudent individual would under the same circumstances, and that failure to act in such a way was the cause of the plaintiff's alleged injuries (American Law Institute, 1965). Jurors who serve in these civil trials (e.g., negligence or recklessness cases) must first determine liability. Then, if the defendant is found liable, they must determine damages. Tort law requires factfinders' decisions to be based on specific—and distinct—information. Determinations of liability should be based on a defendant's specific actions or failures to act. A defendant's degree of intentionality is accounted for in the type of tort being pursued, and the plaintiff must resultantly prove to jurors that the defendant acted with that specific accompanying state of mind (e.g., intentionally, recklessly, or negligently). Alternatively, compensatory damage awards should not be influenced by the defendant's actions (as they have already been found liable for such), but by the extent of the plaintiff's injuries (Kalven, 1958).

Yet, ambiguity exists regarding the specific criteria that should guide jurors' decisions to punish the defendant via punitive damages (Marrero, 2017). Historically, punitive damage awards served multiple objectives, such as compensation for attorney fees and preservation of peace (Ellis, 1982). However, in modern case law, punitive damages serve two main purposes: (a) to punish the defendant for egregious conduct and (b) to act as a deterrent for future similar acts by the defendant or others (e.g., Cather et al., 1996; Galanter & Luban, 1993). Legal doctrine indicates that punitive damage awards may be influenced by the extent of a plaintiff's injuries (e.g., American Law Institute, 1965; Owen, 1994). However, some legal theorists contend these awards should not vary by the

magnitude of plaintiff harm but should be based solely on the heinousness of the defendant's actions, given that the primary goal of punitive damage awards is to instill punishment (e.g., Galanter & Luban, 1993). Ambiguity surrounding the purpose of punitive damages leaves open the possibility that variations in a focal actor's intent and outcome severity might both play roles in individuals' punitive damage awards.

The same notions apply to criminal juror decision making. Outcome severity will likely influence the type of crime for which a defendant is prosecuted (Robbennolt, 2000). For instance, inflicting bodily harm on a victim by physical force could lead to a charge of assault, but the same actions could lead to a murder charge if those actions led to the victim's death. Thus, though outcome severity should not impact jurors' judgments of criminal guilt or responsibility, injury severity can legally impact punishments imposed (usually by a judge) for a specified charge (e.g., U.S. Sentencing Commission, 2023).

Yet, some research indicates jurors' judgments can be biased by knowledge of outcome information (e.g., Hugh & Dekker, 2009; LaBine & LaBine, 1996), such that when a plaintiff sustains a more (vs. less) serious injury, jurors are more likely to find the defendant liable or negligent for their actions (e.g., Bornstein, 1998; Greene et al., 1999; Robbennolt, 2000). A similar finding of attention to outcome information is found in person perception research more broadly, in that individuals ascribe greater responsibility to causal actors when their (in)actions result in greater versus less harm (e.g., Kneer & Skoczeń, 2023). Outcome bias is frequently attributed to hindsight bias, which suggests that when perceivers know the outcome that was caused by an actor, they believe that outcome was more foreseeable by the actor (Fischhoff, 1975). As perceived foreseeability increases, attributions of blame and responsibility increase (e.g., Lagnado & Channon, 2008).

Outcome bias has commonly been studied by examining how legal judgments are influenced by knowledge of physical injuries. However, Vallano and McQuiston (2018) also examined the influence of *psychological* injuries on mock jurors' decisions, finding that a plaintiff's level of emotional distress significantly predicted mock jurors' liability decisions in the same direction as physical injury. Moving beyond physical or psychological harm, a limited body of work suggests outcome bias can occur in cases of monetary property damage as well (e.g., Darley & Huff, 1990; Desmet et al., 2011; Shen et al., 2011).

The Current Research

Across eight experiments (including four pilot experiments reported in the additional online materials: <https://osf.io/fxzms>), this research expands on previous literature related to classification and evaluation of intentional and unintentional harms that are relevant to the U.S. legal system. We examine this question by measuring legally relevant decisions of blame, general punishment, and sentencing decisions, as well as criminal guilt, civil liability, and imposition of damages. We compare evaluations of negligence to those of recklessness and situations where actions were clearly intended to cause harm. Combined with data from four pilot experiments that included conditions where actors should not be held liable at all (i.e., because their actions/inactions are not causally linked to the harmful outcomes), we were therefore able to probe a full theoretical continuum

of intentionality. We also examine the extent to which outcome severity impacts these judgments, and whether the influence of an actor's mental state on subsequent judgments is contextualized by the severity of the harmful outcome. Last, we investigate these questions in contexts involving both physical harm and monetary costs (i.e., property damage), as this latter context is underexplored.

Guided by past research (e.g., Flick et al., 2024; Shen et al., 2011), our primary hypotheses regard the effect of varied intent on judgments. We anticipated (a) that people would differentiate negligence, recklessness, and intentional harm when classifying cases (as well as differentiating these from accidents in pilot experiments), (b) that blame would increase in a stepwise fashion from negligence to recklessness to intentional harm, and (c) that general punishment, sentencing decisions, and punitive damages would also typically increase in a stepwise fashion from situations where harm was negligent, to reckless, to intentional.

Our hypotheses regarding outcome severity and interactions of severity with intent were less clear for most variables, given a lack of previous research. However, we did anticipate that outcome severity might impact punishment judgments, as actions and outcomes are both theoretically relevant to the extent to which people will seek punishment for actors who cause harm. Further, we expected that outcome severity would significantly impact civil liability determinations and criminal guilt judgments, given previous empirical evidence of outcome bias (e.g., Kneer & Skoczeń, 2023; Mazzocco et al., 2004).

See the additional online materials (<https://osf.io/fxzms>) for verbatim wording of manipulations and measures, as well as data (and code), for all experiments, hosted in the Open Science Framework website and accessible at <https://osf.io/gmqzj/>.

Experiments 1a and 1b

Experiments 1a and 1b examined the effects of varied intent and outcome severity on participants' legally relevant judgments across two different contexts that solely involved monetary harm via damage to property. Across both experiments, it was explicitly mentioned that no one was physically harmed. In Experiment 1a, a car crash was the outcome of an actor's negligence, recklessness, or intentional attempt to cause harm. In Experiment 1b, a forest fire resulted from the same levels of intent. Outcome severity was manipulated using three levels of monetary costs (low costs, moderate costs, and high costs). In the additional online material P (<https://osf.io/fxzms>), we provide evidence that these severity levels were perceived as differing in severity.

Method

Participants

Respectively in Experiments 1a and 1b, participants were 451 and 452 people recruited from Prolific who had a 60% or higher approval rating, reside in the United States, and speak English fluently or as a first language. Our goal was to recruit approximately 50 participants per cell in the two-way factorial design. After removing four (Experiment 1a) and two (Experiment 1b) participants who indicated that they were not U.S. citizens, final sample sizes were, respectively, 447 and 450. Demographic information about the samples in all experiments is provided in Table 1. Table 2 details sample sizes within all conditions of all experiments.

Table 1
Demographic Information for All Experiments

Demographic information	Experiment 1a	Experiment 1b	Experiment 2a	Experiment 2b
	<i>N</i> = 451	<i>N</i> = 452	<i>N</i> = 453	<i>N</i> = 447
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
Age	41.98 (13.72)	41.56 (13.11)	41.93 (13.42)	43.32 (13.51)
Political ideology	3.35 (1.77)	3.30 (1.73)	3.26 (1.75)	3.33 (1.80)
Demographic information	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Gender				
Female	206 (45.7)	223 (49.3)	222 (49.0)	237 (53.0)
Male	235 (52.1)	223 (49.3)	228 (50.3)	205 (45.9)
Other/prefer not to disclose	10 (2.2)	6 (1.3)	3 (0.7)	5 (1.1)
Race/ethnicity				
White/European American	299 (66.3)	309 (68.4)	308 (68.0)	300 (67.1)
Black/African American	57 (12.6)	60 (13.3)	56 (12.4)	59 (13.2)
Hispanic/Latino(a)	21 (4.7)	33 (7.3)	28 (6.2)	31 (6.9)
Asian/Pacific Islander	43 (9.5)	29 (6.4)	40 (8.8)	36 (8.1)
Native American/Alaska Native	3 (0.7)	4 (0.9)	1 (0.2)	3 (0.7)
Mixed and other racial/ethnic categories	28 (6.2)	17 (3.8)	20 (4.4)	18 (4.0)
Education				
High school degree or less	65 (14.4)	73 (16.1)	61 (13.5)	75 (16.8)
Some college or associate's degree	139 (30.9)	148 (42.7)	130 (28.7)	131 (29.3)
Bachelor's degree	187 (41.5)	162 (35.8)	195 (43.0)	187 (41.8)
Postgraduate degree	60 (13.3)	69 (15.3)	67 (14.8)	54 (12.2)
U.S. citizenship	447 (99.1)	450 (99.6)	452 (99.8)	443 (99.1)
Ever served on a jury	91 (20.2)	91 (20.1)	92 (20.3)	82 (18.3)

Note. Political ideology was measured on a 7-point scale ranging from 1 = *extremely liberal* to 7 = *extremely conservative*. Demographics include participants who were excluded from analyses because they indicated they were not U.S. citizens (Experiment 1a *n* = 4; Experiment 1b *n* = 2; Experiment 2a *n* = 1, Experiment 2b *n* = 4). The wording of all demographic questions is provided in the additional online material (<https://osf.io/fxzms>). Data that include demographic information are available on request.

With α set at .05, sensitivity analyses showed that these sample sizes, respectively, had 70%, 80%, and 90% power to find omnibus main effects as small as $f = .13$, $.15$, and $.17$ for intent and outcome severity manipulations, as well as $f = .15$, $.16$, and $.19$ for their interaction. Significant omnibus main effects were probed by conducting pairwise comparisons of means. Similarly, significant interactions were probed by exploring pairwise comparisons between levels of intent within levels of outcome severity. For pairwise tests, significance levels were

adjusted for multiple comparisons by using post hoc Tukey's HSD tests and nonparametric tests for ordinal variables.

Materials

Stimuli. Experiments 1a and 2a used a story we refer to as "crash," and Experiments 1b and 2b used a story we label "fire." Both stories were adapted from Flick et al. (2024). In Experiments

Table 2
Sample Sizes Within All Experimental Conditions of All Experiments

Outcome condition	Intent condition				Outcome condition	Intent condition			
	Negligent	Reckless	Intentional	Total		Negligent	Reckless	Intentional	Total
	Experiment 1a ("Crash")					Experiment 2a ("Crash")			
Minor costs	49	50	48	147	Minor harm	50	51	51	152
Moderate costs	49	50	49	148	Severe harm	49	50	50	149
Substantial costs	51	51	50	152	Death	51	49	51	151
Total	149	151	147	447	Total	150	150	152	452
	Experiment 1b ("Fire")					Experiment 2b ("Fire")			
Minor costs	48	50	51	149	Minor harm	51	48	51	150
Moderate costs	51	51	50	152	Severe harm	50	49	47	146
Substantial costs	49	50	50	149	Death	50	48	49	147
Total	148	151	151	450	Total	151	145	147	443

Note. Analyses were based on these sample sizes, which excludes participants who indicated that they were not U.S. citizens.

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1a and 2a, the causal actor (“AJ”) was described as a mechanic and brake specialist. In Experiments 1b and 2b, AJ was described as an office worker who decided to go camping alone to save money on a vacation, although he had not camped before. Next, a description was provided of a particularly difficult brake job AJ was performing (Experiments 1a and 2a) or a description of AJ setting up camp was given, with details related to severe forest fire conditions (Experiments 1b and 2b). As part of these descriptions, participants were randomly assigned into one of three intent conditions: negligent, reckless, or intentional. In each condition, AJ’s inaction (negligent and reckless conditions) or action (intentional conditions) caused the negative outcomes that followed (i.e., a car crash in Experiments 1a and 2a; a forest fire in Experiments 1b and 2b). This was followed by further information related to the intent manipulation.

Specifically, in the negligent, reckless, and intentional conditions of Experiment 1a and 2a (car crash), AJ failed to install a clip over a bolt, leading to an eventual brake failure and a car crash. In the negligent condition, AJ saw that a clip he was supposed to install fell into a drain. After taking a coffee break because he was tired, he forgot to retrieve and install the clip, although he had every intention of installing it. AJ therefore did not realize the mistake and did not foresee that the brake might fail. In the reckless condition, the clip fell into the drain, but AJ decided not to retrieve it because he felt frustrated and knew that retrieving the clip would be difficult. He realized this might later cause an accident but disregarded this risk. That is, his goal was not to cause an accident but to avoid work. In the intentional condition, AJ wanted to cause an accident and deliberately threw the clip into the drain.

In the negligent and reckless conditions of Experiments 1b and 2b, AJ failed to fully extinguish a campfire before leaving the woods during very dry weather conditions. In the negligent condition, AJ did not realize that leaving a few small embers burning might lead to a fire because the winds were calm. In the reckless condition, AJ did not feel like doing any further work to extinguish the fire, although he knew that this might lead to a forest fire. That is, he was not trying to cause a fire but simply trying to avoid further work. In the intentional condition, AJ tossed additional wood on the fire before leaving, also deliberately tossing a burning stick into the brush to ignite a fire.

On the last page of the story, outcomes were described. In both experiments, it was explicitly mentioned that no one was physically injured. In Experiment 1a, the victim’s car was “slightly damaged, requiring fairly inexpensive and minor repairs . . . repairs cost less than \$500” (low costs outcome), “damaged substantially, requiring major repairs (over \$6,000)” (moderate costs outcome), or “completely totaled with no hope for repair, requiring the customer to purchase a new car at a cost of over \$20,000” (high costs outcome). In Experiment 1b, there was “little damage” to the woods, and a new ranger station sustained minor damage that “cost less than \$500 to repair” (low costs outcome), “damage” to the woods and “moderate damage that cost more than \$10,000 to repair” to the ranger station (moderate costs outcome), or “substantial damage” to the woods, with the ranger station “completely burned down,” where rebuilding cost over \$50,000 (high costs outcome). Throughout, we use the word “outcome” to refer to the car crash or the fire. However, the actual outcomes (i.e., “car crash” and “forest fire”) were always presented in text.

Measures. Items were presented to participants in the order described here. Following logic and methods outlined in Flick et al. (2024), participants first responded to a question we are labeling “actor intent.” Participants were asked to select one of two options they believed best described AJ’s involvement in the outcome. Option 1 (negligence/recklessness) was that the outcome was a result of AJ’s negligence and/or recklessness and was therefore to some extent AJ’s fault. Option 2 was that AJ intentionally acted in order to bring about the outcomes that resulted. Only those participants who responded “negligent/reckless” were asked a follow-up question: “AJ’s behavior was” (1 = *negligent, but not reckless [i.e., he acted negligently, but not recklessly]*, 7 = *reckless [i.e., he acted recklessly]*). See additional online material C (<https://osf.io/fxzms>; subsection Justification for Categorical Actor Intent and Negligence vs. Recklessness Questions) for an explanation of why we believe these measures are justified.

Two items asked about blame (Experiment 1a $r = .92$; Experiment 1b $r = .87$): “The [outcome] was AJ’s fault” and “AJ is to blame for the [outcome]” (1 = *I completely disagree*, 7 = *I completely agree*).

After additional instruction (see Procedure section, below), items concerning criminal guilt and punishment and civil liability and punishment were presented to participants. The presentation order of criminal and civil dependent measures was counterbalanced across participants. Two items assessed criminal guilt (Experiment 1a $r = .94$; Experiment 1b $r = .93$). One question asked how likely participants would be to return a verdict that AJ was guilty of a crime and should therefore receive some manner of punishment (1 = *not at all likely to say AJ was guilty of a crime*, 7 = *extremely likely to say AJ was guilty of a crime*). The second asked participants’ agreement (1 = *completely disagree*, 7 = *completely agree*) with the statement, “I believe that AJ was guilty of a crime that should result in their being punished to some extent by the law.”

Two questions asked about criminal punishment. The first (“general punishment”) asked participants what punishment they would assign to AJ if they were the judge in a case where AJ had been found guilty (1 = *the absolute minimum that would be allowed by law*, 7 = *the absolute maximum that would be allowed by law*). The second (“sentence”) asked participants to select one of seven punishments they thought AJ should receive. Response options were as follows: 1 = *fines or community service but no prison time*, 2 = *1–6 months in prison*, 3 = *6 months to 2 years in prison*, 4 = *between 2 and 5 years in prison*, 5 = *between 5 and 10 years in prison*, 6 = *between 10 and 25 years in prison*, and 7 = *life in prison*.

Two questions asked about liability (Experiment 1a $r = .84$, Experiment 1b $r = .80$). One asked how likely it would be for them to find AJ liable if they were a juror in a civil case where AJ was the defendant (1 = *not at all likely*, 7 = *extremely likely*). The second asked for agreement (same agreement scale as above) with the statement, “I believe that AJ was liable and should therefore pay at least some damages to the plaintiff.”

Two questions asked about punitive damages that AJ should pay. The first (“general punitive”) asked to what extent, and beyond any compensatory damages, AJ should have to pay punitive damages as punishment (1 = *no punitive damages*, 7 = *substantial/maximum punitive damages*). The second (“punitive amount”) asked participants to select a dollar amount that AJ should pay (1 = *from \$0 to \$1,000*, 2 = *from \$1,001 to \$5,000*, 3 = *from \$5,001 to \$10,000*,

4 = from \$10,001 to \$25,000, 5 = from \$25,001 to \$50,000, 6 = from \$50,001 to \$100,000, 7 = more than \$100,000).

One additional item related to compensation was also included in all experiments, but due to conceptual ambiguity about what was being compensated (e.g., monetary costs incurred by the victim vs. other damages such as legal fees or for emotional distress), this variable is not discussed further in text. However, analyses of this measure are described in the additional online material L (<https://osf.io/fxzms>).

Procedure

Both experiments used a fully between-participants 3 (intent: negligent, reckless, intentional) × 3 (outcome severity: low costs, moderate costs, high costs) design with random assignment to conditions, aimed at maintaining equal cell sizes. Procedures were identical across all experiments, including Experiments 2a and 2b. Participants completed the self-paced online studies on their own devices, and the average completion time was approximately 5 min. After consenting to participate, participants read a brief set of instructions, followed by the first two of seven sections of a story about a target person named “AJ.” In the first two sections, a few irrelevant details about AJ were presented (e.g., that he has a few close friends but a larger network he stays in touch with on social media; that he is currently single). Next, participants responded to an attention/comprehension check question that asked them to identify a statement about AJ that was true among a set of distractors. If participants responded incorrectly, they could opt out of the study or choose to continue by reading the same information again and responding to a different attention check question. If participants continued but responded incorrectly to this second question, they were not allowed to proceed or to complete the study (i.e., they were told they could not continue and directed to a landing page asking them to return the survey on Prolific). Since participants who failed or opted out of the studies never completed any measures, they are not discussed further. Participants that responded correctly to the first or second (i.e., if they missed the first, but continued) check question were then presented with key details of the story, in five parts. After reading details of the story, participants were instructed that they would be asked a series of questions related to guilt, culpability, and the extent to which AJ should have to “make up” for what happened. Participants were then told that a person who is involved in an event such as those they had read about might end up in criminal or civil court and were provided with a brief description of each type of proceeding. Specifically, participants were told that (a) in a criminal trial, a jury determines guilt or innocence but that a judge generally determines punishment and (b) in a civil proceeding, a case is brought by a plaintiff to determine if the defendant is liable for the outcome, what costs the defendant should pay to compensate victims for losses their actions may have caused, and to determine whether the defendant should have to pay additional funds (i.e., punitive damages) to discourage them or others from behaving similarly in the future. They were further told that juries make all of these civil determinations.

Next, participants answered dependent measures as described in the Measures section. For criminal items, participants were instructed to imagine they were a juror in a criminal case against AJ and responded to two items about guilt. Participants were then asked to disregard how they responded to the questions about guilt and to imagine they were a judge in a criminal case where AJ had been found

guilty by a trial. Two questions about punishment followed. For civil case items, participants were given a brief definition of liability in the context of a civil court of law and responded to two liability items. Participants were then asked to imagine they were a juror in a civil case that was assessing costs and damages that AJ would pay. After responding to a question about compensatory costs (described in the additional online material L: <https://osf.io/fxzms>), two questions asked about punitive damages that AJ should pay.

Results

To simplify presentation of results and allow for easier comparison, we organize them by dependent measure, presenting analyses for Experiments 1a and 1b side by side. Except where noted, data were analyzed using 3 (intent: negligent, reckless, intentional) × 3 (costs: low costs, moderate costs, high costs) analyses of variance (ANOVAs). Significant omnibus main effects were followed by pairwise post hoc Tukey’s HSD tests. For intent conditions, we compared the negligent condition against the reckless condition and the reckless condition against the intentional condition. For outcome severity conditions, we compared low costs against moderate costs and moderate costs against high costs. Interactions, when present, were decomposed using pairwise post hoc tests (Tukey’s HSD) of intent within levels of outcome severity. For the sentence and punitive amount variables in all experiments (i.e., Experiments 1a, 1b, 2a, and 2b), which are ordinal, we conducted two types of tests. One was ANOVA, as above. The other tests were generalized linear models using an ordinal logistic link function, followed with post hoc pairwise Bonferroni-corrected Dunn’s tests. The results of the generalized linear model tests are reported in additional online material O (<https://osf.io/fxzms>).

Actor Intent

We report frequencies of actor intent as a function of intent condition for all experiments in Table 3. To examine the effects

Table 3
Frequencies of Selections on the Categorical Actor Intent Variable Within Levels of Intent Condition in All Experiments

Categorical actor intent	Intent condition			Total
	Negligent	Reckless	Intentional	
Experiment 1a (“Crash”)				
Negligent and/or reckless	149	148	56	353
Intentional	0	3	91	94
Total	149	151	147	447
Experiment 1b (“Fire”)				
Negligent and/or reckless	146	148	14	308
Intentional	2	3	137	142
Total	148	151	151	450
Experiment 2a (“Crash”)				
Negligent and/or reckless	150	149	56	355
Intentional	0	1	96	97
Total	150	150	152	452
Experiment 2b (“Fire”)				
Negligent and/or reckless	151	142	13	306
Intentional	0	3	134	137
Total	151	145	147	443

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of intent, outcome severity, and their interaction on actor intent, we initially conducted logistic regression analyses using backward elimination. Because the main effect of outcome was never significant in any experiment, nor was the Intent \times Outcome interaction, we report chi-square analyses in the main text and report these other models in additional online material M (<https://osf.io/fxzms>).

Chi-square analyses found a significant association between manipulated intent and actor intent in Experiment 1a: $\chi^2(2, N = 447) = 220.55, p < .001, \phi = .70$, and Experiment 1b, $\chi^2(2, N = 450) = 368.44, p < .001, \phi = .91$. Overall, most people in the negligent and reckless conditions selected “negligent and/or reckless” (see Table 3). Notably, although few participants in the intentional condition of Experiment 1b selected “negligent and/or reckless” on actor intent, a sizable minority of participants selected

this option in Experiment 1a. We speculate about why this might be the case in the Discussion section.

Negligence Versus Recklessness

We present inferential statistics for all dependent measures in Table 4 and report *M/SD* and post hoc pairwise comparisons (for significant omnibus effects) in Table 5. Because a sizable minority of participants in the intentional condition of Experiment 1a selected “negligent and/or reckless” on the actor intent variable (and thus, completed the negligence vs. recklessness follow-up item), we include that condition in our analysis of Experiment 1a, although analyses excluding that condition led to the same result (see Table 4). In Experiment 1b, we only include the negligent and reckless conditions.

Table 4
Inferential Statistics and Effect Sizes for Omnibus Effects in Experiments 1a (“Crash”) and 1b (“Fire”)

Omnibus effect								
Experimental condition Intent	Experiment 1a (“Crash”)			Experimental condition Intent	Experiment 1b (“Fire”)			
	<i>F</i> (2, 438)	<i>p</i>	η_p^2		<i>F</i> (2, 441)	<i>p</i>	η_p^2	
<i>F</i> (2, 344) negligence versus recklessness ^a	85.79	<.001	.33	<i>F</i> (1, 288) negligence versus recklessness ^b	117.86	<.001	.29	
<i>F</i> (1, 291) negligence versus recklessness ^b	106.98	<.001	.27	Blame	49.48	<.001	.18	
Blame	7.95	<.001	.04	Guilt	94.48	<.001	.30	
Guilt	90.76	<.001	.29	Liability	23.88	<.001	.10	
Liability	12.51	<.001	.05	General punishment	184.03	<.001	.46	
General punishment	100.82	<.001	.32	General punitive	101.94	<.001	.32	
General punitive	70.81	<.001	.24	Sentence	126.31	<.001	.36	
Sentence	79.24	<.001	.27	Punitive amount	55.33	<.001	.20	
Punitive amount	50.42	<.001	.19					
Outcome severity	<i>F</i> (2, 438)	<i>p</i>	η_p^2	Outcome severity	<i>F</i> (2, 441)	<i>p</i>	η_p^2	
<i>F</i> (2, 344) negligence versus recklessness ^a	0.79	.46	.01	<i>F</i> (1, 288) negligence versus recklessness ^b	3.25	.04	.02	
<i>F</i> (1, 291) negligence versus recklessness ^b	0.45	.64	<.01	Blame	1.07	.34	.01	
Blame	2.25	.11	.01	Guilt	0.34	.71	<.01	
Guilt	0.47	.62	<.01	Liability	0.32	.72	<.01	
Liability	2.45	.09	.01	General punishment	2.06	.13	.01	
General punishment	0.97	.38	<.01	General punitive	0.10	.90	<.01	
General punitive	3.00	.051	.01	Sentence	3.47	.03	.02	
Sentence	11.32	<.001	.05	Punitive amount	25.69	<.001	.10	
Punitive amount	40.27	<.001	.16					
Intent \times Outcome	<i>F</i> (4, 438)	<i>p</i>	η_p^2	Intent \times Outcome	<i>F</i> (4, 441)	<i>p</i>	η_p^2	
<i>F</i> (2, 344) negligence versus recklessness ^a	1.96	.10	.02	<i>F</i> (1, 288) negligence versus recklessness ^b	1.87	.16	.01	
<i>F</i> (1, 291) negligence versus recklessness ^b	1.99	.14	.01	Blame	2.05	.09	.02	
Blame	0.73	.73	.01	Guilt	0.73	.57	.01	
Guilt	0.72	.58	.01	Liability	0.60	.67	.01	
Liability	1.05	.38	.01	General punishment	0.57	.68	.01	
General punishment	2.21	.07	.02	General punitive	0.05	<.99	<.01	
General punitive	0.23	.92	<.01	Sentence	1.18	.32	.01	
Sentence	3.87	.004	.03	Punitive amount	0.52	.72	.01	
Punitive amount	1.46	.21	.01					

Note. The negligence versus recklessness variable was only presented to participants who responded, “negligent and/or reckless” on the actor intent variable, so degrees of freedom differ from other tests. In the table, we report the results from analysis of variance tests on sentence and punitive amount, although these variables are ordinal. However, we also examined the factorial design using generalized linear models with a logistic link function. Using this method in Experiment 1a, the main effects of intent ($p < .001$) and outcome severity ($p = .007$) on sentence remained significant, but the interaction was not significant ($p = .16$). For punitive amount, significance was the same using either method (intent $p < .001$, outcome severity $p < .001$, interaction $p = .32$). In Experiment 1b, significance was the same using either method for sentence (intent $p < .001$, outcome severity $p = .04$, interaction $p = .19$) and punitive amount (intent $p < .001$, outcome severity $p < .001$, interaction $p = .55$).

^aInclusion of participants from all conditions. ^bParticipants in the negligent and reckless conditions were included.

Table 5

Main Effects Means and Standard Deviations, and Pairwise Effect Sizes (With 95% CIs) for Significant Omnibus Effects in Experiments 1a (“Crash”) and 1b (“Fire”)

Experiment 1a (“Crash”)	Intent condition			Pairwise comparison					
	N	R	I	N versus R			R versus I		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>d</i>	<i>p</i>	95% CI	<i>d</i>	<i>p</i>	95% CI
Negligence versus recklessness	2.50 (1.68)	4.73 (2.03)	5.70 (1.64)	1.23	<.001	[0.92, 1.53]	0.52	.003	[0.14, 0.90]
Blame	6.07 (1.25)	6.33 (1.01)	6.54 (0.76)	0.25	.07	[−0.02, 0.53]	0.25	.07	[−0.02, 0.53]
Guilt	3.88 (2.13)	5.38 (1.57)	6.45 (1.03)	0.92	<.001	[0.63, 1.20]	0.64	<.001	[0.36, 0.93]
Liability	6.17 (1.18)	6.57 (0.74)	6.68 (0.73)	0.43	<.001	[0.15, 0.71]	0.12	.55	[−0.16, 0.40]
General punishment	2.79 (1.64)	4.26 (1.46)	5.23 (1.39)	0.99	<.001	[0.70, 1.28]	0.65	<.001	[0.36, 0.93]
General punitive	3.44 (1.88)	4.83 (1.66)	5.69 (1.36)	0.85	<.001	[0.56, 1.13]	0.52	<.001	[0.24, 0.80]
Sentence	1.23 (0.69)	1.64 (1.08)	2.82 (1.55)	0.36	.005	[0.09, 0.64]	1.05	<.001	[0.76, 1.34]
Punitive amount	2.33 (1.45)	3.29 (1.63)	3.99 (1.57)	0.68	<.001	[0.40, 0.96]	0.48	<.001	[0.20, 0.77]

Experiment 1a (“Crash”)	Outcome severity condition			Pairwise comparison					
	LC	MC	HC	LC versus MC			MC versus HC		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>d</i>	<i>p</i>	95% CI	<i>d</i>	<i>p</i>	95% CI
Negligence versus recklessness	3.98 (2.29)	3.84 (2.16)	4.00 (2.24)	—	—	—	—	—	—
Blame	6.45 (0.82)	6.24 (1.07)	6.24 (1.19)	—	—	—	—	—	—
Guilt	5.31 (1.94)	5.14 (1.97)	5.25 (1.93)	—	—	—	—	—	—
Liability	6.69 (0.76)	6.47 (0.87)	6.36 (1.11)	—	—	—	—	—	—
General punishment	3.96 (1.68)	4.11 (1.82)	4.19 (1.90)	—	—	—	—	—	—
General punitive	4.53 (1.83)	4.49 (2.03)	4.91 (1.78)	—	—	—	—	—	—
Sentence	1.57 (1.03)	1.90 (1.31)	2.18 (1.55)	0.29	.04	[0.01, 0.57]	0.26	.06	[−0.02, 0.54]
Punitive amount	2.48 (1.44)	3.13 (1.55)	3.96 (1.73)	0.68	<.001	[0.40, 0.96]	0.48	<.001	[0.20, 0.77]

Experiment 1b (“Fire”)	Intent condition			Pairwise comparison					
	N	R	I	N versus R			R versus I		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>d</i>	<i>p</i>	95% CI	<i>d</i>	<i>p</i>	95% CI
Negligence versus recklessness	2.82 (1.76)	4.61 (2.07)	—	1.25	<.001	[0.95, 1.56]	—	—	—
Blame	5.65 (1.41)	6.25 (0.97)	6.83 (0.56)	0.58	<.001	[0.30, 0.87]	0.57	<.001	[0.29, 0.85]
Guilt	4.22 (1.94)	5.75 (1.55)	6.60 (0.85)	1.01	<.001	[0.72, 1.30]	0.56	<.001	[0.28, 0.84]
Liability	5.73 (1.40)	6.28 (1.09)	6.65 (0.93)	0.48	<.001	[0.20, 0.76]	0.31	.02	[0.04, 0.59]
General punishment	2.64 (1.34)	4.13 (1.45)	5.66 (1.29)	1.10	<.001	[0.80, 1.39]	1.12	<.001	[0.83, 1.41]
General punitive	2.90 (1.75)	4.19 (1.66)	5.67 (1.60)	0.77	<.001	[0.48, 1.05]	0.88	<.001	[0.60, 1.17]
Sentence	1.21 (0.72)	1.50 (0.93)	3.03 (1.44)	0.28	.046	[0.003, 0.56]	1.43	<.001	[1.13, 1.73]
Punitive amount	2.26 (1.53)	2.91 (1.56)	4.13 (1.84)	0.42	.001	[0.14, 0.70]	0.78	<.001	[0.50, 1.06]

Experiment 1b (“Fire”)	Outcome severity condition			Pairwise comparison					
	LC	MC	HC	LC versus MC			MC versus HC		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>d</i>	<i>p</i>	95% CI	<i>d</i>	<i>p</i>	95% CI
Negligence versus recklessness	3.73 (2.04)	4.35 (2.21)	3.87 (2.24)	0.34	.04	[0.002, 0.69]	0.27	.14	[−0.07, 0.62]
Blame	6.25 (1.15)	6.33 (1.08)	6.16 (1.20)	—	—	—	—	—	—
Guilt	5.60 (1.78)	5.54 (1.77)	5.45 (1.86)	—	—	—	—	—	—
Liability	6.29 (1.10)	6.18 (1.29)	6.19 (1.23)	—	—	—	—	—	—
General punishment	4.01 (1.80)	4.13 (1.83)	4.32 (1.86)	—	—	—	—	—	—
General punitive	4.28 (2.01)	4.20 (2.02)	4.30 (2.02)	—	—	—	—	—	—
Sentence	1.76 (1.25)	1.93 (1.36)	2.07 (1.40)	0.18	.27	[−0.10, 0.46]	0.12	.53	[−0.15, 0.40]
Punitive amount	2.40 (1.65)	3.26 (1.71)	3.66 (1.87)	0.56	<.001	[0.28, 0.84]	0.25	.08	[−0.03, 0.53]

Note. N, R, I, LC, MC, and HC, respectively, refer to negligent, reckless, intentional, low costs, moderate costs, and high costs conditions. *p* values for pairwise comparisons are for Tukey’s HSD post hoc tests. Because means are provided, all pairwise effect sizes are listed as absolute values of Cohen’s *d*. Because the sentence and punitive amount variables are ordinal, post hoc Bonferroni-corrected Dunn’s tests were also examined. With the following exception, the significance of pairwise comparisons was the same for these ordinal variables using either method. In Experiment 1a, neither of the comparisons of outcome severity on sentence were significant. Dashes (—) indicate cells that were not examined because of low cell *n* or comparisons that were not conducted because omnibus effects were not significant. CI = confidence interval.

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Overall, and as expected, participants in the negligent condition of both experiments tended to believe the actor was more negligent (but not reckless) compared to participants in the reckless conditions, who indicated that the actor was more reckless. In Experiment 1a, participants in the intentional condition indicated greater recklessness than those in the reckless condition.

Blame

Analyses of blame provided partial support for hypotheses. In both experiments, the omnibus effect of intent on blame was significant, showing that there were significant differences among the conditions. However, in Experiment 1a, pairwise tests showed that blame increased descriptively but not significantly from the negligent condition to the reckless condition and from the reckless condition to the intentional condition. In Experiment 1b, both pairwise comparisons were significant, showing that blame increased significantly from the negligent to the reckless condition and from the reckless to the intentional condition. No other significant effects emerged in either experiment.

Guilt

In both experiments, participants indicated a greater likelihood of finding the actor guilty when the actor was reckless rather than negligent. Similarly, the likelihood of finding them guilty was higher in the intentional conditions than in the reckless conditions. No other effects were significant.

Liability

In Experiment 1a, liability ratings increased from the negligent to the reckless condition but did not increase significantly further from the reckless to the intentional condition. In Experiment 2b, both comparisons (i.e., negligent vs. reckless and reckless vs. intentional) were significant. Thus, relatively strong support was found for the primary hypothesis. No other effects were significant.

General Punishment

Findings for general punishment provided strong support for hypotheses across both experiments, with the significant increases in punishment from negligent to reckless and from reckless to intentional conditions all being associated with large effect sizes. Outcome severity was not significant nor was the interaction.

General Punitive

As with general punishment, clear support for hypotheses emerged on the general punitive measure across both experiments. Participants thought the actor should pay a substantially higher amount in punitive damages in the reckless conditions than in the negligent conditions and substantially greater damages in the intentional conditions than in the reckless conditions. As with other variables, no other effects were significant.

Sentence

Sentencing increased in theoretically predicted ways in both experiments. That is, it increased from negligent to reckless

conditions and from reckless to intentional conditions in both experiments, with the jump in sentencing much larger from reckless to intentional than from negligent to reckless. Significant omnibus effects also emerged for outcome severity in both experiments. However, the only significant pairwise comparison (of those examined) was between the low and moderate cost conditions of Experiment 1a, with participants assigning longer sentences to AJ when moderate costs occurred compared to low costs. Both omnibus effects for sentence were significant using parametric and nonparametric approaches. However, a significant interaction effect in Experiment 1a using a parametric approach was not significant using a nonparametric approach (see additional online material O: <https://osf.io/fxzms>), and the interaction was not significant using either method in Experiment 1b.

Punitive Amount

Using an ordinal measure of punitive damages (similar to sentence), support was also found for the role of intent on this variable across both experiments using both parametric and nonparametric methods. In addition, all pairwise comparisons were significant in both experiments, with participants indicating that the actor should pay progressively higher damages from negligent to reckless to intentional conditions. The omnibus effect of outcome severity was also significant using both methods. However, although both pairwise comparisons (i.e., of low cost with moderate cost and of moderate cost with high cost) were significant in Experiment 1b using parametric and nonparametric methods (additional online material O: <https://osf.io/fxzms>), the same comparisons were only significant using a parametric approach in Experiment 1a. The interaction was not significant in either experiment.

Discussion

Results were generally aligned with expectations, supporting our prediction that legally relevant judgments and penalties for transgressive actors would increase along a continuum of intentionality. In Experiment 1a, with the exception of both pairwise comparisons (negligent vs. reckless and reckless vs. intentional) for blame and the comparison between reckless and intentional conditions on liability, all pairwise comparisons were significant in the theorized directions, typically associated with large effect sizes. Descriptively, even for those exceptions, means increased linearly from negligent to reckless to intentional conditions. Potentially, the lack of pairwise effects, when found, was due to ceiling effects. In Experiment 1b, support was again found in terms of omnibus effects, and all pairwise tests were significant in the expected direction, most associated with large effect sizes. Across both experiments, significant omnibus effects were also found for outcome severity on individuals' decisions about sentencing and the amount of punitive damages the actor should pay. In Experiment 1a, pairwise comparisons were significant for sentencing, but only using parametric methods, limiting confidence in those findings. However, pairwise comparisons for punitive damage amounts were significant using either method. As costs increased from low to moderate and from moderate to high, individuals believed the actor should pay more punitive damages, which translated on average into \$1,001 and \$5,000 for the low costs condition, \$5,001 to \$10,000 for moderate costs condition, and \$10,001 to \$25,000 for the high costs condition. In Experiment 1b, pairwise comparisons

on sentencing were not significant, but significantly higher punitive damage amounts were given to the actor in the moderate costs condition (about \$5,001 to \$10,000 on average) relative to the low costs condition (about \$1,001 to \$5,000 on average).

One noteworthy finding from Experiment 1a was that although the majority of participants in the intentional condition selected that the actor was intentionally trying to cause a car crash, a sizable minority indicated that he acted negligently and/or recklessly (i.e., not intentionally) on the categorical actor intent measure. This pattern (i.e., a greater number than expected of participants in the intentional condition indicating the actor did not act intentionally) was not replicated in Experiment 1b; instead, almost all participants in the intentional condition of Experiment 1b selected that the actor intentionally tried to cause the forest fire. A speculative but we believe reasonable explanation for this emerges from the causal distance between the actor's action and the resulting outcome, as well as the predictability of the outcome itself. In Experiment 1a, the actor deliberately throws away a needed clip while performing service on a customer's brakes, hoping that this would eventually cause an accident. The following week, the missing clip leads to the brake seizing, causing an accident. Thus, there was a lengthy interval between the action (throwing away the clip) and the outcome (the accident), and the nature of the outcome itself would be exceptionally difficult to predict. For example, counterfactually, the brake might never have seized or might have seized at any earlier or later point, potentially causing an accident (as it did) or merely inconveniencing the driver. In contrast, in Experiment 1b, on a dry and windy day with fire warnings posted, the actor—who wanted to cause a forest fire—intentionally built a large fire before leaving their camping site, also grabbing a dry stick, lighting it on fire, and tossing it into the brush, igniting it. The fire that resulted was thus more closely linked in time to the actor's action and was also a more certain result of that action. The increased causal distance and less predictable nature of the outcome (as compared to Experiment 1b) may have also contributed to some pairwise differences not being significant for blame and liability in Experiment 1a.

Experiments 2a and 2b

Experiments 2a and 2b were essentially replications of Experiments 1a and 1b, except the outcomes in these experiments involved physical harm to a person rather than monetary costs associated with property damage. Similar to Experiments 1a and 1b, we provide evidence in the additional online material P (<https://osf.io/fxzms>) that the three manipulated levels of outcome severity (minor harm, serious harm, and death) are perceived as differing in severity.

Method

Participants

Respectively in Experiments 2a and 2b, participants were 453 and 447 people recruited from Prolific who met the same selection criteria as Experiments 1a and 1b. Our goal was to recruit approximately 50 participants per cell in the two-way factorial designs. After removing one (Experiment 2a) and four (Experiment 2b) participants who indicated that they were not U.S. citizens, final sample sizes were, respectively, 452 and 443. Sensitivity analyses revealed the same levels of sensitivity as in Experiments 1a and 1b.

Measures

Measures were the same as in Experiments 1a and 1b: blame ($r = .92$), guilt ($r = .95$), liability ($r = .80$).

Procedure

Procedures were the same as in Experiments 1a and 1b, but outcome severity was manipulated differently. The design of Experiments 2a and 2b was a 3 (intent: negligent, reckless, intentional) \times 3 (outcome severity: minor harm, serious harm, death) between-subjects design. In the crash story (Experiment 2a), the levels of outcome severity were operationalized as a sprained wrist and slight laceration with bruising, a punctured lung and shattered hip, and death. In the fire story (Experiment 2b), the levels of outcome severity were operationalized as a little smoke inhalation and minor burns, third-degree burns and lung damage, and death.

Results

Actor Intent

See Table 3 for frequencies as a function of intent condition. See additional online material M (<https://osf.io/fxzms>) for a description of results from nonparametric tests. Chi-square analyses found a strong association between actor intent and intent condition: Experiment 1a: $\chi^2(2, N = 452) = 236.27, p < .001, \phi = .72$; Experiment 2b, $\chi^2(2, N = 443) = 373.77, p < .001, \phi = .92$. Most participants in negligent and reckless conditions selected "negligent and/or reckless." As in Experiment 1a, a sizable minority of participants in the intentional condition of Experiment 2a also selected "negligent and/or reckless," although few did so in Experiment 2b.

Negligence Versus Recklessness

Inferential statistics for omnibus effects of remaining dependent measures can be found in Table 6. Table 7 provides *M/SD* and post hoc comparisons for significant omnibus effects. In Experiment 2a, we conducted two analyses. One included those participants who selected "negligent and/or reckless" on the actor intent variable in the intentional condition. The other included only participants in negligent and reckless conditions. In Experiment 2b, we only conducted the latter analysis. Participants in the negligent condition again indicated on average that the actor was negligent, but not reckless, while those in the reckless condition indicated that the actor was reckless. In Experiment 2a, ratings in the intentional condition did not significantly differ from those in the reckless condition.

Blame

The omnibus effect of intent on blame was significant in both experiments. In Experiment 2a, pairwise comparisons revealed that blame increased from the negligent to the reckless condition, and again to the intentional condition. In Experiment 2b, higher blame was assigned in the reckless condition than in the negligent condition, but the comparison between the reckless and intentional conditions was not significant. There was no significant effect of outcome severity in either experiment, but in Experiment 2a only, a significant interaction emerged, associated with a small effect size.

Table 6*Inferential Statistics and Effect Sizes for Omnibus Effects in Experiments 2a ("Crash") and 2b ("Fire")*

Omnibus effect								
Experimental condition Intent	Experiment 2a ("Crash")			Experimental condition Intent	Experiment 2b ("Fire")			
	<i>F</i> (2, 438)	<i>p</i>	η_p^2		<i>F</i> (2, 434)	<i>p</i>	η_p^2	
<i>F</i> (2, 346) negligence versus recklessness ^a	108.10	<.001	.39					
<i>F</i> (1, 293) negligence versus recklessness ^b	166.56	<.001	.36	<i>F</i> (1, 287) negligence versus recklessness ^b	98.24	<.001	.26	
Blame	20.75	<.001	.09	Blame	42.36	<.001	.16	
Guilt	76.22	<.001	.26	Guilt	115.11	<.001	.35	
Liability	19.55	<.001	.08	Liability	45.17	<.001	.17	
General punishment	73.75	<.001	.25	General punishment	119.42	<.001	.36	
General punitive	48.53	<.001	.18	General punitive	103.92	<.001	.32	
Sentence	94.23	<.001	.30	Sentence	118.54	<.001	.35	
Punitive amount	34.26	<.001	.13	Punitive amount	73.43	<.001	.25	
Outcome severity	<i>F</i> (2, 438)	<i>p</i>	η_p^2	Outcome severity	<i>F</i> (2, 434)	<i>p</i>	η_p^2	
<i>F</i> (2, 344) negligence versus recklessness ^a	0.52	.59	<.01					
<i>F</i> (1, 291) negligence versus recklessness ^b	0.12	.89	<.01	<i>F</i> (1, 288) negligence versus recklessness ^b	1.20	.30	.01	
Blame	2.58	.08	.01	Blame	1.13	.33	.01	
Guilt	1.82	.16	.01	Guilt	0.80	.45	<.01	
Liability	4.72	.009	.02	Liability	3.98	.02	.02	
General punishment	3.84	.02	.02	General punishment	12.34	<.001	.05	
General punitive	2.38	.09	.01	General punitive	8.00	<.001	.04	
Sentence	38.96	<.001	.15	Sentence	66.88	<.001	.24	
Punitive amount	34.28	<.001	.13	Punitive amount	45.67	<.001	.17	
Intent × Outcome	<i>F</i> (4, 438)	<i>p</i>	η_p^2	Intent × Outcome	<i>F</i> (4, 434)	<i>p</i>	η_p^2	
<i>F</i> (2, 344) negligence versus recklessness ^a	1.87	.12	.02					
<i>F</i> (1, 291) negligence versus recklessness ^b	3.07	.048	.02	<i>F</i> (1, 288) negligence versus recklessness ^b	1.19	.31	.01	
Blame	2.96	.02	.03	Blame	1.88	.11	.02	
Guilt	0.13	.97	<.01	Guilt	0.44	.78	<.01	
Liability	3.56	.007	.03	Liability	0.46	.77	<.01	
General punishment	0.88	.48	.01	General punishment	0.19	.94	<.01	
General punitive	0.46	.77	<.01	General punitive	0.66	.62	.01	
Sentence	3.08	.02	.03	Sentence	11.70	<.001	.10	
Punitive amount	0.58	.68	.01	Punitive amount	0.81	.52	.01	

Note. The negligence versus recklessness variable was only presented to participants who responded, "negligent and/or reckless" on the actor intent variable, so degrees of freedom differ from other tests. In the table, we report the results from analysis of variance tests on sentence and punitive amount, although these variables are ordinal. However, we also examined the factorial design using generalized linear models with a logistic link function. Using this method in Experiment 2a, significance remained the same using either method for main effects on sentence (intent, $p < .001$; outcome severity, $p < .001$), but the interaction was not significant ($p = .25$). For punitive amount, significance was also the same using either method (intent $p < .001$, outcome severity $p < .001$, interaction $p = .55$). In Experiment 2b, significance was the same using either method for sentence (intent $p < .001$, outcome severity $p < .001$, interaction $p < .001$) and punitive amount (intent $p < .001$, outcome severity $p < .001$, interaction $p = .831$).

^aInclusion of participants from all conditions. ^bParticipants in negligent and reckless conditions were included.

In the minor and serious harm conditions, none of the pairwise intent comparisons were significant using post hoc tests, although aligned with prediction, means descriptively increased across intent conditions in the minor harm and serious harm conditions. In the death condition, significantly greater blame was accorded in the reckless (vs. negligent) condition, but the comparison of reckless and intentional conditions was not significant.

Guilt

Omnibus effects of intent on guilt and all pairwise comparisons were significant in both experiments. Thus, as in Experiments 1a and 1b, people indicated a higher likelihood of finding the actor guilty when they were reckless rather than negligent, and when they intended to cause harm relative to when they were merely reckless about causing it. No other effects were significant in either experiment.

Liability

In both experiments, omnibus effects of intent on liability were significant. Greater liability was assigned in the reckless (vs. negligent) condition; however, comparisons between reckless and intentional conditions were not significant. Significant omnibus effects of outcome severity were also found in both experiments. In Experiment 2a, the comparison between minor harm and serious harm conditions was not significant, but participants assigned greater liability in the death conditions compared to the serious harm conditions. In Experiment 2b, neither of the pairwise comparisons were significant. There was also a significant interaction between intent and outcome severity only in Experiment 2a. In the minor harm and death conditions (but not the serious harm condition), reckless actors were viewed as more liable than negligent actors. In addition, the comparison of reckless and intentional conditions was not significant within any level of outcome severity.

Table 7

Main Effects Means and Standard Deviations, and Pairwise Effect Sizes (With 95% CIs) for Significant Omnibus Effects in Experiments 2a (“Crash”) and 2b (“Fire”)

Experiment 2a (“Crash”)	Intent condition			Pairwise comparison					
	N	R	I	N versus R			R versus I		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>d</i>	<i>p</i>	95% CI	<i>d</i>	<i>p</i>	95% CI
Negligence versus recklessness	2.46 (1.62)	5.05 (1.85)	5.63 (1.85)	1.47	<.001	[1.16, 1.78]	0.33	.09	[-0.05, 0.71]
N versus R ^b within MH	2.12 (1.29)	5.27 (1.69)	—	2.06	<.001	[1.47, 2.64]	—	—	—
N versus R ^b within SH	2.49 (1.71)	5.14 (1.85)	—	1.44	<.001	[0.89, 1.98]	—	—	—
N versus R ^b within D	2.76 (1.77)	4.71 (2.10)	—	1.05	<.001	[0.53, 1.56]	—	—	—
Blame	5.84 (1.21)	6.27 (0.94)	6.58 (0.82)	0.43	<.001	[0.15, 0.71]	0.31	.02	[0.03, 0.59]
Blame within MH	5.87 (1.07)	6.29 (0.77)	6.38 (1.06)	0.43	.08	[-0.05, 0.92]	0.09	.89	[-0.39, 0.57]
Blame within SH	6.20 (1.00)	6.29 (1.06)	6.65 (0.61)	0.09	.89	[-0.39, 0.58]	0.39	.12	[-0.09, 0.88]
Blame within D	5.47 (1.41)	6.24 (0.97)	6.71 (0.71)	0.71	.001	[0.22, 1.21]	0.44	.08	[-0.05, 0.93]
Guilt	4.53 (1.86)	5.84 (1.35)	6.53 (0.90)	0.91	<.001	[0.63, 1.20]	0.49	<.001	[0.21, 0.77]
Liability	6.05 (1.12)	6.53 (0.81)	6.67 (0.74)	0.53	<.001	[0.25, 0.81]	0.16	.36	[-0.12, 0.43]
Liability within MH	6.21 (0.98)	6.64 (0.65)	6.65 (0.70)	0.54	.02	[0.05, 1.03]	0.01	.998	[-0.47, 0.49]
Liability within SH	6.38 (0.86)	6.52 (0.85)	6.66 (0.75)	0.17	.66	[-0.31, 0.66]	0.17	.67	[-0.31, 0.66]
Liability within D	5.59 (1.31)	6.42 (0.92)	6.70 (0.78)	0.82	<.001	[0.32, 1.31]	0.26	.40	[-0.23, 0.75]
General punishment	3.32 (1.62)	4.63 (1.49)	5.38 (1.38)	0.88	<.001	[0.60, 1.17]	0.50	<.001	[0.22, 0.78]
General punitive	4.27 (1.77)	5.28 (1.55)	6.03 (1.32)	0.65	<.001	[0.37, 0.93]	0.48	<.001	[0.20, 0.76]
Sentence	1.61 (1.21)	2.37 (1.51)	3.70 (1.63)	0.58	<.001	[0.29, 0.86]	0.99	<.001	[0.70, 1.27]
Punitive amount	3.55 (1.95)	4.37 (1.92)	5.19 (1.67)	0.48	<.001	[0.20, 0.76]	0.47	<.001	[0.19, 0.75]

Experiment 2a (“Crash”)	Outcome severity condition			Pairwise comparison					
	MH	SH	D	MH versus SH			SH versus D		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>d</i>	<i>p</i>	95% CI	<i>d</i>	<i>p</i>	95% CI
Negligence versus recklessness	4.00 (2.19)	4.04 (2.28)	4.09 (2.23)	—	—	—	—	—	—
Blame	6.18 (1.00)	6.38 (0.93)	6.14 (1.18)	—	—	—	—	—	—
Guilt	5.48 (1.69)	5.79 (1.55)	5.65 (1.69)	—	—	—	—	—	—
Liability	6.50 (0.81)	6.52 (0.82)	6.24 (1.13)	0.02	.98	[-0.25, 0.30]	0.32	.02	[0.04, 0.60]
General punishment	4.22 (1.70)	4.44 (1.63)	4.68 (1.81)	0.15	.38	[-0.13, 0.43]	0.17	.32	[-0.11, 0.44]
General punitive	4.99 (1.73)	5.26 (1.63)	5.36 (1.76)	—	—	—	—	—	—
Sentence	1.92 (1.28)	2.51 (1.52)	3.28 (1.95)	0.44	<.001	[0.16, 0.72]	0.57	<.001	[0.29, 0.86]
Punitive amount	3.53 (1.86)	4.44 (1.71)	5.16 (1.97)	0.53	<.001	[0.25, 0.81]	0.42	<.001	[0.14, 0.70]

Experiment 2b (“Fire”)	Intent condition			Pairwise comparison					
	N	R	I	N versus R			R versus I		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>d</i>	<i>p</i>	95% CI	<i>d</i>	<i>p</i>	95% CI
Negligence versus recklessness	3.24 (2.00)	5.44 (1.80)	—	1.16	<.001	[0.86, 1.46]	—	—	—
Blame	5.75 (1.42)	6.53 (0.87)	6.81 (0.66)	0.76	<.001	[0.47, 1.04]	0.18	.29	[-0.11, 0.45]
Guilt	4.29 (1.94)	6.07 (1.37)	6.73 (0.73)	1.24	<.001	[0.94, 1.53]	0.46	<.001	[0.18, 0.75]
Liability	5.58 (1.54)	6.47 (0.90)	6.74 (0.67)	0.81	<.001	[0.52, 1.09]	0.24	.10	[-0.04, 0.53]
General punishment	3.15 (1.50)	4.71 (1.68)	5.82 (1.40)	1.04	<.001	[0.75, 1.33]	0.74	<.001	[0.45, 1.03]
General punitive	3.57 (1.85)	5.30 (1.64)	6.19 (1.32)	1.08	<.001	[0.79, 1.37]	0.56	<.001	[0.28, 0.85]
Sentence	1.47 (0.94)	2.39 (1.59)	3.75 (1.88)	.072	<.001	[0.43, 1.00]	1.35	<.001	[0.77, 1.35]
Sentence within MH	1.33 (0.79)	1.65 (1.06)	2.86 (1.58)	0.26	.40	[-0.23, 0.75]	1.02	<.001	[0.51, 1.53]
Sentence within SH	1.44 (0.91)	1.80 (1.06)	3.17 (1.57)	0.30	.31	[-0.19, 0.79]	1.14	<.001	[0.62, 1.66]
Sentence within D	1.64 (1.08)	3.73 (1.63)	5.22 (1.57)	1.44	<.001	[0.91, 1.98]	1.03	<.001	[0.52, 1.55]
Punitive amount	2.79 (1.83)	3.88 (1.80)	5.12 (1.82)	0.66	<.001	[0.37, 0.94]	0.75	<.001	[0.46, 1.04]

Experiment 2b (“Fire”)	Outcome severity condition			Pairwise comparison					
	MH	SH	D	MH versus SH			SH versus D		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>d</i>	<i>p</i>	95% CI	<i>d</i>	<i>p</i>	95% CI
Negligence versus recklessness	4.22 (2.26)	4.08 (2.18)	4.61 (2.13)	—	—	—	—	—	—
Blame	6.37 (1.13)	6.26 (1.17)	6.45 (1.08)	—	—	—	—	—	—
Guilt	5.62 (1.79)	5.62 (1.77)	5.80 (1.76)	—	—	—	—	—	—
Liability	6.12 (1.33)	6.20 (1.20)	6.46 (1.07)	0.8	.79	[-0.20, 0.36]	0.24	.10	[-0.04, 0.52]
General punishment	4.18 (1.93)	4.45 (1.76)	5.02 (1.86)	0.19	.22	[-0.09, 0.47]	0.37	.004	[0.09, 0.66]

(table continues)

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Table 7 (continued)

Experiment 2b ("Fire")	Outcome severity condition			Pairwise comparison					
	MH	SH	D	MH versus SH			SH versus D		
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>d</i>	<i>p</i>	95% CI	<i>d</i>	<i>p</i>	95% CI
General punitive	4.66 (2.03)	4.97 (1.87)	5.39 (1.90)	0.21	.17	[-0.07, 0.49]	0.25	.08	[-0.03, 0.54]
Sentence	1.95 (1.36)	2.12 (1.41)	3.52 (2.07)	0.15	.42	[-0.13, 0.43]	1.09	<.001	[0.79, 1.38]
Punitive amount	3.15 (1.83)	3.68 (1.84)	4.94 (2.06)	0.34	.01	[0.06, 0.62]	0.75	<.001	[0.46, 1.04]

Note. N versus R^b is the negligence versus recklessness variable, and only includes participants from negligent and reckless conditions. Variable names followed with "Within" are simple main effects that decompose significant interaction effects. N, R, I, MH, SH, and D, respectively, refer to negligent, reckless, intentional, minor harm, serious harm, and death conditions. *p* values for pairwise comparisons are for Tukey's HSD post hoc tests. Because means are provided, all pairwise effect sizes are listed as absolute values of Cohen's *d*. Because the sentence and punitive amount variables are ordinal, post hoc Bonferroni-corrected Dunn's tests were also examined. No differences emerged in terms of significance using Tukey's HSD versus Bonferroni-corrected Dunn's tests. Dashes (—) indicate cells that were not examined because of low cell *n* or comparisons that were not conducted because omnibus effects were not significant. CI = confidence interval.

General Punishment

General punishment responded to the intent manipulation in both experiments, and all pairwise comparisons were significant in the theorized directions. General punishment also responded to the manipulation of outcome severity in both experiments. However, the only significant comparison was between the reckless and intentional conditions in Experiment 2b, with participants in the intentional (vs. reckless) condition indicating deservingness of greater general punishment. No interactions emerged.

General Punitive

Using a general scale, participants indicated that intentional actors should have to pay more punitive damages than reckless actors and that reckless actors should pay more than negligent actors. These findings were significant across both experiments. In Experiment 2a, outcome severity was not a significant predictor, but in Experiment 2b, it was. However, no significant pairwise differences were found between outcome conditions in this case. Neither interaction was significant.

Sentence

In both experiments, there were significant omnibus effects of intent and outcome severity on sentencing decisions using both parametric and nonparametric (additional online material O: <https://osf.io/fxzms>) methods. Sentencing decisions increased from negligent to reckless to intentional conditions, as hypothesized, with large effect sizes for each comparison. Sentencing also increased steadily from minor harm to serious harm to death conditions in Experiment 2a, but only increased significantly from serious harm to death in Experiment 2b. A significant interaction in Experiment 2a was only observed using parametric methods, so simple main effects were not examined. However, this interaction was significant using both methods in Experiment 2b. Using both parametric and nonparametric methods, sentencing significantly increased from the reckless to the intentional condition within each of the harm conditions. However, it was only within the death condition that sentencing decisions also increased from the negligent to the reckless condition.

Punitive Amount

No interactions emerged in either experiment. However, in both experiments, significant main effects of intent and outcome severity were found using parametric and nonparametric (additional online material O: <https://osf.io/fxzms>) methods. In addition, all pairwise comparisons were significant using both methods in both experiments, showing that participants believed the actor should pay less in punitive damages when (a) they caused harm through their negligence relative to when they disregarded potential harm (reckless), which was also lower relative to when they were trying to cause harm (intentional), and (b) the harm their action or inaction caused led to the person suffering minor injuries relative to when they suffered serious injuries, which was lower than when the person died.

Discussion

Results again indicated support for our primary hypothesis regarding the role of intent on judgments about an actor whose inaction (negligent and reckless conditions) or action (intentional conditions) causes harm. That is, across all legally relevant outcomes in both experiments, participants' responses were significantly higher in reckless conditions than in negligent conditions (e.g., greater guilt, liability, and punishment). With the exception of liability in both experiments and blame in Experiment 2b, responses were also significantly higher in intentional conditions relative to reckless conditions. Again, a combination of potential ceiling effects combined with moderate variability in responses could have caused these discrepancies.

Outcome severity also impacted liability, general punishment, sentencing and punitive amounts in Experiment 2a, and all variables except blame and liability in Experiment 2b. However, pairwise comparisons were only sometimes significant. In Experiment 2a, the minor harm and serious harm conditions only varied significantly for sentence and punitive amount, and the serious harm and death conditions did not vary significant for general punishment, but did for other variables. Likewise, the only significant pairwise difference between minor and serious harm conditions in Experiment 2b was for punitive amount, whereas the only *nonsignificant* pairwise comparisons between serious harm and death conditions were for liability and the general punitive measure. The inconsistent significant pairwise comparisons on punishment outcomes counter our hypothesized results related to the impact of outcome severity on punishment. Possibly, participants reached a ceiling in how high a punishment they

thought the actors should be subjected to when harm was serious, not increasing this further when the person died. Participants might have also not deliberated much on punishments, instead going with gut reactions that were similar across serious harm and death conditions. This could explain the inconsistent stepwise increase across severity levels on general punishment, sentencing, and punitive amount. Without future research using similar designs and measures, it would be difficult to draw any definitive conclusions.

In Experiment 2a, interactions between intent and outcome severity emerged for blame and liability. For blame, pairwise differences between intent conditions were generally not significant *within* outcome severity conditions, although the negligent/reckless comparison was significant within the death condition. Likely, this represents a power issue. For liability, none of the pairwise differences between reckless and intentional conditions were significant within any level of outcome severity, again potentially due to ceiling effects. However, pairwise differences between negligent and reckless conditions were significant within the minor harm and death conditions, but not the serious harm condition. Possibly, the severity of the outcome in this case overwhelmed other information in deciding liability. Importantly, pairwise differences as a function of intent were significant for both of these variables *across* all outcome severity levels, and the effect sizes associated with these interactions were modest, suggesting only minor variations in the effects of intent across outcome severity. In Experiment 2b, the only interaction was for sentencing. The comparison of negligent (on average, fines or community service but no prison time) and reckless conditions (on average, 6 months to 2 years in prison) was only significant in the death condition, which had a very large effect size. However, within each level of outcome severity, people indicated that the actor deserved a substantially higher sentence (i.e., large effect sizes) when intentionally started a forest fire relative to when they started one through their recklessness. Future research might tease out the reasons for these small variations in which pairwise effects were significant.

Finally, Experiments 2a and 2b replicated the pattern found in Experiments 1a and 1b on the categorical actor intent variable. That is, in Experiment 2a only, a sizable minority of people in the intentional condition selected that the actor was negligent and/or reckless rather than that they had intentionally tried to cause the car crash. In the Discussion section of Experiment 1a and 1b, we speculated that choosing to say the actor was negligent and/or reckless in the intentional condition might be due to greater distance between the cause of the outcome and the outcome itself in Experiment 1a, as well as the outcome in Experiment 1a being counterfactually harder to predict by the actor. Given that the same pattern emerged in Experiments 2a and 2b, our confidence in this explanation has increased. However, future work should examine this speculation directly, perhaps by varying both the timing of action and outcome across different relevant contexts and by varying how likely a specific outcome would be as a function of the action.

General Discussion

Across eight experiments (four reported only in the additional online materials: <https://osf.io/fxzms>), we found evidence for theorized variation in evaluations of legally relevant, harm-causing behavior that ranged across a spectrum of intentionality from negligence to recklessness to intentionally caused harm. These findings are in line with

previous social psychological research findings (e.g., Flick et al., 2024; Laurent et al., 2015, 2016), showing that individuals reliably distinguish between acts committed with the goal of causing harm (i.e., intentional), acts committed when harm is not directly intended but is foreknown (i.e., recklessness), and acts committed where the actor unreasonably failed to foresee the consequences of their action (i.e., negligence). These results also align with limited previous legal psychological work that more directly assessed laypersons' ability to differentiate between legal conceptualizations of these constructs (e.g., purposefully, recklessly; Beatty & Fondacaro, 2018; Shen et al., 2011). Thus, our findings suggest that individuals generally differentiate between, and accordingly blame, negligent, reckless, and intentional actors as would be expected under the law. As previously mentioned, one notable divergence seen across all experiments was the tendency for people to categorize intentional actors as negligent/reckless in the car crash scenario. Though we speculated earlier as to a potential reason for this finding, it is important to note that these results differ from previous research suggesting that people tend to err on the side of assigning *greater*, as opposed to lesser, intent to causal actors who cause harm (i.e., assuming they were *more* intentional than they were; e.g., Beatty & Fondacaro, 2018; Mueller et al., 2012). Our speculation thus represents a potential hypothesis that future research might fruitfully explore, alongside an examination of why greater intentionality (rather than lesser) is sometimes assigned.

Beyond participants' classifications of actor intent and blame, we examined the extent to which an actor's state of mind (i.e., level of intent) impacted judgments of criminal guilt, civil liability, and various measures of criminal and civil punishment. Differences in mental states generally impacted all of these outcomes in line with how the law and legal systems intend. Across experiments, as intent increased along the continuum, participants usually assigned greater guilt, liability, and punishment to the causal actor. The significant impact of intent on these legally relevant measures stresses the convergence between our theoretical predictions, lay judgments and the law, and previous research (e.g., Mueller et al., 2012; Shen et al., 2011). One notable exception to this trend was that individuals' liability judgments did not vary across reckless and intentional conditions in Experiments 1a, 2a, and 2b. Arguably, the notion that participants did not assign varying degrees of liability across reckless and intentional actions may still be considered aligned with the how the U.S. legal system functions given the infrequency with which intentional torts are pursued in the civil legal system (NCSC, 2025). That is, people might not have a full understanding of what constitutes "liability" entails. Alternatively, there may be a threshold for how bad an action needs to be before people consider that liability (potentially alongside blame) is "total" or "full," and this might not require intentionality on the part of the actor. Instead, they might think it is enough for an actor to callously disregard a clearly foreseeable risk of harm to another person or their property. Future research should further explore this possibility.

When examining the effects of outcome severity, most findings aligned with the intentions of the U.S. legal systems. Across experiments, significant effects of outcome severity occurred almost exclusively on punishment-related outcomes (i.e., general punishment, sentencing decisions, and punitive damage awards). As outcomes became more severe, participants attributed greater punishment to the causal actor via these mechanisms. Notably, however, outcome severity appeared to matter somewhat more to individuals when

physical harm occurred (compared to monetary costs), which is evidenced by how outcome severity impacted only sentence and punitive damage awards in Experiments 1a and 1b, but impacted additional outcomes in Experiments 2a and 2b (i.e., general punishment and liability). Relatedly, the influence of outcome severity on liability in Experiment 2a provides some evidence of outcome bias, similar to previous work (e.g., Greene et al., 1999). Individuals ascribed more liability to the causal actor when an individual died as a result of their (in)actions, compared to when only serious physical harm occurred. The significant impact of outcome severity on liability judgment is misaligned with what the civil legal system intends.

Of interest, outcome severity consistently impacted individuals' punitive damage award amounts across all experiments. The consistent impact of outcome severity suggests that individuals' punitive damage award decisions align with some legal doctrine indicating that the magnitude of a plaintiff's injuries *should* impact punitive damages (e.g., American Law Institute, 1965; Owen, 1994). However, it is in opposition to the idea that punitive damages should be based solely on defendant action and intent (e.g., Galanter & Luban, 1993).

Finally, beyond finding that varied intent impacted individuals' legally relevant judgments in line with previous research and our theoretical predictions, our design allowed us to explore the potential moderating impact of outcome severity on dependent measures. Overall, the impact of an actor's mental state did not vary consistently as a function of outcome severity for our measured outcomes. In Experiments 1a and 1b, when the only harm that occurred involved property damage, no interactions of intent with outcome severity were found. However, a few interactions did emerge when outcomes involved physical harm (i.e., in Experiments 2a and 2b). In Experiment 2a, interactions were found for both blame and liability. Although this difference between property damage and physical harm scenarios suggests some slight variability in how people used intent information as a function of outcome severity, effect sizes for these interactions were small, and the effects of intent stayed relatively constant across outcome severity conditions. A more notable interaction emerged in Experiment 2b. Here, participants appeared to take outcome severity into account when considering how much the actor's intent should contribute to sentencing. When a person died, the reckless actor received a substantially higher sentence than the negligent actor and a substantially lower sentence than the intentional actor. Although differences between reckless and intentional conditions were also found in the minor and serious harm conditions, differences between the two forms of unintended harm (i.e., negligent and reckless) were not found in these cases. The consistent significant difference between reckless and intentional conditions suggests that laypeople pay particular attention to whether harm was intended or was unintended across levels of harm severity. Yet, when someone has died as a result of an actor's (in)action, distinctions between what type of mental state that was present (i.e., negligent vs. reckless) become important even when harm was not intended. Future research should further test this increased reliance on actor mental state information on participants' sentencing judgments when outcomes are very severe (e.g., death).

Implications

Several important implications for the legal system, law, and legal policy follow from our results. First, from a civil legal standpoint,

lawyers and judges should be aware that individuals' liability decisions can be influenced by the severity of the outcome that occurred. The influence of outcome bias on liability appears to be particularly true when severe physical harm occurs compared to monetary harm, given that participants assigned greater liability to a causal actor whose actions resulted in someone's death. Though the death of an individual should be accounted for in the type of tort being brought, factfinders' liability judgments should not vary as a function of this outcome. It is possible that in legal cases, the use of an altered set of jury instructions that stress the information that should and should not impact liability decisions might help attenuate this bias, particularly in cases where the death of an individual occurs. However, past research suggests jurors often struggle in their comprehension of jury instructions (e.g., Ogloff & Rose, 2005), so this approach might not work. Alternatively, from a settlement perspective, these findings suggest parties sued for actions that lead to especially severe outcomes (e.g., an individual's death) might be particularly incentivized to settle prior to trial.

Second, our findings indicate that under some conditions, a nontrivial number of people may give causal actors the benefit of the doubt and attribute negligent or reckless intent to their actions rather than full intentionality. Attribution of negligence or recklessness to truly intentional actors could impact both the criminal and civil legal systems and make it harder to hold a defendant accountable for intentional acts. We speculated as to why this occurred in the "car crash" scenarios we presented to participants (but not in the "forest fire" scenarios), offering two possible reasons: the length of time between the cause of the outcome and the outcome itself, and the difficulty that the causal actor would have in predicting the occurrence of the outcome as well as its timing and form (if the outcome in fact occurs). Although our scenarios represent very specific contexts that might not commonly occur, one can imagine other circumstances where similar conditions could apply. As examples, a person might strip insulation from a wire or leave an obstruction on a roadway, hoping these actions would (respectively) lead eventually to a fire or an accident. Although these intentional acts would be performed with a goal of causing harm, whether and when that harm might occur could easily vary, as well as the extent of harm that is caused. Future research could tease out whether in situations like this, the timing, certainty, and outcome of actions influence how people categorize these actions. Future research might also investigate the conditions under which people attribute *greater* intent than was present (e.g., Beatty & Fondacaro, 2018) to arrive at a more complete understanding of when and why people attribute greater or lesser intentionality than expected, which could help to refine legal definitions of these concepts.

Third, the finding that outcome severity impacted sentencing decisions across experiments is notable and somewhat concerning given that criminal sentencing decisions should be based on crime severity and defendant culpability, not the consequences (i.e., outcome severity). For example, on the federal level, the two overarching factors that influence punishment and sentencing guidelines are crime severity and a defendant's criminal history (U.S. Sentencing Commission, 2023). However, we note that sentencing guidelines are arguably complex, and outcome severity is relevant to how crime severity is conceptualized (U.S. Sentencing Commission, 2023). Further, an overreliance on outcome severity rather than defendant intent aligns to a greater extent with strict liability crimes or torts, which are commonly considered controversial (e.g., Schwartz, 1991).

Thus, future researchers should examine the influence of outcome severity across numerous contexts and with various legal actors and different outcome measures before concrete suggestions can be made.

Limitations and Future Directions

Though our current work expands on previous research in several ways and produced novel findings, it is not without limitations. The use of Prolific, an online participant recruitment platform, might be considered a limitation. However, the use of online samples is common in social and legal psychology studies, and data from Prolific is of higher quality than data from some other online recruitment platforms (Peer et al., 2022). Further, online platforms provide more diverse samples than college student samples (Buhrmester et al., 2011; Gosling et al., 2004). Nevertheless, future research should replicate these findings in other populations.

Second, given that we did not have a priori hypotheses regarding the interaction between intent and severity on our dependent measures, our samples were not specifically powered for finding those interactions. Future work should examine the replicability of the reported interaction effects. Third, the use of brief written vignettes might be considered a limitation. Although the use of vignettes is common in experimental psycholegal research, using vignettes hinders the ecological validity of our work. Further, while we gave participants a brief description of criminal and civil proceedings/decision making, we did not provide participants with jury instructions or provide them with a specified charge or tort (e.g., negligent homicide). In addition, some of our response options lacked ecological validity in that participants did not make dichotomous guilt or liability decisions as would occur in a courtroom. Future work should study similar questions using more realistic materials such as full trial transcripts based on real-life cases that include more ecologically valid measures.

Fourth, a similar concern about ecological validity might lie in the rarity in which punitive damages are awarded in a civil context. Although we assessed punishment broadly in other ways, we asked participants to assign punitive damages awards, which in real-life cases are rare and typically reserved for egregious defendant conduct. Still, given the lack of research within this context and the interdisciplinary nature of our work, we were curious about the extent to which general punitive, punishment, and sentencing decisions would translate to punitive damage award decisions. In other words, we wanted to explore the extent to which individuals would want to similarly punish causal actors as a function of varied intent and outcome severity in a civil context. Notably, across all conditions, participants chose to award punitive damages to a nontrivial degree with average amounts ranging from \$1,001 to \$50,000. The common imposition of punitive damages suggests people have a desire to punish civil defendants at least to some extent, and potentially to a greater extent than is typically allowed in the legal system. Future research should explore this further, particularly in cases where the use of punitive damage awards would be more common.

Fifth, it may be viewed as a limitation that we did not provide legal definitions of negligence, recklessness, or intentionality to participants. Building on work by Flick et al. (2024) and others, this choice was made because we were interested in the extent to which

people have an intuitive understanding of these legal concepts and make legally relevant judgments according to those intuitive conceptualizations. Nevertheless, we acknowledge that our research methodology lacks ecological validity given that when jurors are tasked with making similar legal decisions in court, they are provided with legal definitions from the judge. Thus, future work should determine whether our findings replicate when mock jurors are provided with legal definitions.

Last, we relied on data from participants who independently evaluated our stimulus materials. That is, the conclusions we draw are based on the evaluations of individual people who presumably did not discuss the issues with others when they completed the studies. However, in legal contexts, lone jurors do not decide cases independent of discussion with others; jury work is a collective enterprise that, although private, presumably involves discussion, collaboration, and compromise. Thus, the present studies do not adequately test whether similar decisions would be made in group contexts (e.g., mock jury studies). Although the use of individual-level judgments is a common limitation to many studies within the domain of legal psychology (Nuñez et al., 2011), it is one that should be addressed in future research on this topic.

Conclusion

Across multiple studies, we found evidence that people reliably differentiate between forms of unintended harm that are commonly seen in the U.S. legal system. Aligning with previous research, these findings provide additional empirical support that people are sensitive to behaviors across a full theoretical continuum of intentionality. We also explored the extent to which outcome severity impacted legal judgments and moderated the influence of differences in intent on these outcomes. Results indicated that individuals make judgments that mostly align with what the legal system intends when judging causal actors whose actions or inactions result in various types and severities of harm.

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