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Doing Wrong Without Creating Harm

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We investigate lay intuitions about the appropriate compensatory and retributive consequences of a wrongdoer putting another in harm's way when harm either does or does not result. Compensation tracked whether the harm actually occurred, though when harm has not yet occurred but might, participants prefer an escrow-like solution in which money will be available to the victim only if the risk matures into actual harm. Retributive sanctions (punitive damages, fines, prison terms) were largely unaffected by whether the harm materialized but were instead sensitive to whether the wrongdoer exhibited negligent or reckless conduct. Thus, subjects clearly differentiated between the retributive nature of punitive sanctions and the compensatory nature of restorative damages. Finally, subjects often assigned liability to the actor even when the risk-causing actions were not negligent—and in this way preferred a strict liability stance more than does the current legal doctrine.

I. INTRODUCTION

When one person negligently brings harm to another, the injured party generally can seek compensation under tort law. But what about cases in which, by another's careless actions, a person is put in the path of harm but by chance no harm ensues? Since no harm results, the actor escapes the obligation of paying compensation that the wrong act would otherwise trigger. This question has long been of interest to philosophers, who examine it as an instance of "moral luck," but it has also arisen with increasing frequency in tort law.

Courts now are presented with cases in which the actions of some entity make it possible, but not certain, that others will come to harm. Consider, for example, a toxic pollutant case. When a company negligently emits toxic chemicals, some people may be immediately harmed, others may be harmed after some delay, and still others who were exposed may not be affected at all. In this article we ask how such a negligent or reckless act

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The data for Study 1 were collected by Time Sharing Experiments for the Social Sciences (TESS), which was in turn supported by an NSF grant. Diana C. Mutz of the University of Pennsylvania and Arthur Lupia of the University of Michigan were the TESS Principal Investigators. The award was to John Darley, Princeton University (Psychology); Joseph Sanders, University of Houston (Law); and Lawrence Solan, Brooklyn Law School for "Moral Luck, Loss of Chance, and Legal Liability" and was awarded in the third special TESS competition, January 2005. Knowledge Networks managed the panel of survey respondents and advised on the questionnaire construction. We thank Anthony Sebok and an anonymous reviewer for comments on earlier versions of this article.

should be punished, how the victim of the harm should be compensated, and what should be done for the person who might be harmed in the future. How to deal now with the possibilities of future harmful consequences is a topic that vexes the legal system.

We examine this question through the lens of lay intuitions; what common people think the law should be. Lay intuitions matter for a number of reasons. Many agree that society's ability to gain compliance with the law relies to some extent on citizens perceiving that the law is a legitimate guide to moral conduct (e.g., Robinson & Darley 2007; Tyler 1992) and people may be less willing to support the justice system if they feel the law is not consistent with their personal moral codes (Mullen & Nadler 2008; Nadler 2005). The problem of community disagreements with legal codes becomes more pointed since it is the role of juries to determine outcomes and damage awards in tort cases. It would be awkward if juries' notions of justice caused them to reach outcomes that were at odds with what the legal system held that the laws required.

We begin in Section II by discussing the current state of tort law concerning inchoate torts and moral luck. In Section III we address the relationship between legal doctrine and moral intuitions, which motivates our studies. Section IV describes our experiments, and Section V discusses the results. Section VI is a brief conclusion, addressing some possible legal consequences of this research, and avenues for future investigation. In particular, we begin to ask how society can—through social insurance or otherwise—provide for the preferences that our subjects display.

II. Inchoate Torts and Moral Luck

The question of how the law should handle potential harm is entangled with moral luck. The moral luck issue arises when two individuals each commit an identically morally culpable action but their identical conduct produces different outcomes, only one of which involves harm to another. The common example in criminal law involves two individuals who, independently of each other, speed through a school zone. One injures a child while the other narrowly does not. In both cases, a risk is imposed, but in only the first does the risk become harm and impose a liability on the negligent individual. The individual, however, is equally negligent in both cases. Why should the person who was lucky escape liability? Schroeder (1990a, 1990b) and Sverdlik (1988) argue that he or she should not. They would impose tort liability for the creation of risk, regardless of whether harm ensues. Other scholars, however, have argued that the focus of tort law on compensation for loss justifies a degree of indifference to the moral culpability of the defendant in the absence of damages (Goldberg & Zipursky 2007; Porat & Stein 2001; Ripstein 1999; Shavell 1984; Simons 1990; Weinrib 1995). Traditionally, this has been the dominant view of the courts. With a few notable exceptions, a successful claim in tort law has to include proof of damages.[1] No harm, no foul. The near-miss driver escapes unscathed, at least in tort. As the old legal maxim puts

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[1]Largely for historical reasons—intentional torts grew out of the old common-law writ of trespass—torts such as assault, battery, and trespass to land do not require that the plaintiff plead and prove harm in order to recover (Christie et al. 2004:20).

it: "Proof of negligence in the air, so to speak, will not do" (Pollack 1920). Or, as a more recent scholar has stated, creating a risk without an ensuing harm is only a half-tort (Fennell 2007).

The rise of toxic torts and improvements in our ability to predict the probabilistic consequences of medical error have begun to punch small holes in this wall of legal doctrine. Current events give us examples: a company makes a tainted food product, which puts those with a weakened immune system who consume the product at risk of respiratory system malfunction. A person inhales second-hand cigarette smoke, increasing her risk of lung cancer. A doctor fails to diagnose a cancer at an early stage, reducing the likelihood of a cure. A doctor removes a wrong kidney, thereby increasing the likelihood that a patient will suffer from renal failure in the future. Most of these are different from the prototypical cases that introduced this article. In these cases, there is an absence of harm *now*. There is, however, an increased potential for harm in the future. The "injury," if there is one, is a reduction in the probability that an individual will live a healthy life going forward.

One way to deal with this situation is to regard the potential future harm as the injury. This loss could then be compensated for by extracting resources from the creator of the risky possibility and transferring those resources to the class of those put at risk. A slightly different approach is to view this as a psychic injury and compensate people for the fear they experience because of the knowledge of this greater risk of future injury. The minority of U.S. jurisdictions that have recognized such claims have done so only when the plaintiff is able to show that because of the defendant's behavior it is now more likely than not, that is, the risk is greater than 50 percent, that the plaintiff will suffer the relevant harm.[2]

In one small area of the law, the misdiagnosis or mistreatment of disease or injury by a physician, the more-likely-than-not rule has been relaxed. In most of these cases, the injured person is not claiming that the defendant caused the harm itself; rather, the claim is that due to some act of the defendant, for example, a late diagnosis of a progressive disease, the plaintiff's chance of recovery has diminished. Perhaps half the states permit partial recovery even when the increased risk is relatively small (Hodson 1987; Noah 2005; Fischer 2001; Stapleton 2005).[3] Note, however, that even in jurisdictions that recognize the loss-of-a-chance cause of action it is almost always the case that the plaintiff has in fact suffered the ultimate injury.[4]

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[2]See Potter v. Firestone Tire & Rubber Co., 863 P.2d. 795 (Cal. 1993). One frequent argument against these alternatives is that unless people who do become ill are allowed to relitigate their case, these solutions are likely to result in undercompensating those who do actually experience the risked event and become ill, and overcompensating those who do not later become ill. See Klein (2002).

[3]When successful, the plaintiff is entitled to some percentage of his or her loss proportionate to the diminution in the chance of recovery absent the defendant's negligence. For example, in the leading case of *Herskovits v. Group Health Co-operative of Puget Sound*, 664 P.2d 474 (Wash. 1983), according to the court the likelihood of the plaintiff's recovery from cancer fell from 39 percent to 25 percent due to a doctor's misdiagnosis. The court held that the plaintiff was not entitled to recover for the entire loss but only for the percentage of loss that reflects a diminution in the likelihood of recovery from 39 to 25 percent. As to what this adjustment should be, see Noah (2005). Goldberg and Zipursky (2002) explain this exception with reference to the difference between the affirmative duty to cure that doctors owe patients and the lesser duty to avoid causing careless harm that we owe strangers generally.

[4]See, e.g., Herskovits v. Group Health Co-op. of Puget Sound, 664 P.2d 474 (Wash. 1983). But see Claudet v. Weyrich, 662 So. 2d 131 (La. App. 1995).

The narrow and qualified nature of these exceptions underlines the fact that tort law remains resistive to allowing compensation in the absence of harm.[5] Put more positively, tort law strongly privileges the values of *corrective* justice—compensating victims only when they suffer an "injury" relatively narrowly defined—while disregarding a tenet of *retributive* justice—equally punishing wrongdoers who commit the same acts.[6]

III. Moral Luck and Moral Intuitions

A recurring question in the study of law is whether legal rules and legal punishments need to reflect our commonsense understandings of what should be sanctioned and, if so, how harshly. Legal rules that stray far from societal norms must rely almost entirely on fear of the criminal sanction for their successful enforcement and thus are often self-defeating (Robinson 2000; Robinson & Darley 1995, 2007; Stuntz 2000; Tyler 1992). Moreover, such laws may create a general loss of respect for the law (Mullen & Nadler 2008; Nadler 2005). In their research on the congruence of criminal sanctions and public perceptions of crime severity, Robinson and Darley find a large degree of overlap. At least with respect to crimes that are malum in se, the public and the criminal code are in substantial agreement. However, there are pockets where this agreement does not always exist, resulting in societal dissatisfaction with the law's lack of moral authority. Some examples include omission liability and statutory rape (Robinson & Darley 1995).

One area where there is a fair degree of tension between legal rules and social norms is that of attempts. This is the case of the shooter who makes every effort to kill his or her victim but through chance, perhaps a gust of wind or a bird, misses the target. The puzzle for the philosopher (Williams 1981; Nagel 1979) is this: the acts and mental states are identical in the two cases. There does not seem to be a defensible reason to sanction the attempt less severely than the completed offense (Feinberg 1995).

As we saw in Section I, the civil law tends to discount cases of potential harm; the focus is on compensation. The criminal law takes a different view. The model penal code offers no discount in punishment for a "completed attempt" as compared to a completed crime (Robinson 2007). On the other hand, the law in non-model-penal-code states offers a discount for uncompleted attempts. This latter view more nearly conforms to social norms (Robinson & Darley 1995). The "lucky" criminal who, largely through circumstances out of his or her control, fails to complete a crime is punished less severely by lay participants. The felon does not escape entirely, but the sanction is reduced. Insofar as it is important for the law to correspond to societal norms, the approach of the non-model-penal-code states is preferable.

The problem of attempted crimes is a rough parallel to that of inchoate torts. When an individual acts badly and puts another person at risk, should compensation be awarded

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[5]See Simons v. Pacor, Inc., 674 A.2d 232 (Pa. 1996).

[6]See Porat and Stein (2001) for discussion of how different treatments of compensating for the imposition of risk correspond to different theories of justice.

even if the aggrieved party never actually suffers a physical injury? As we have seen, the U.S. tort law answer to this question is, generally, "no." There typically is no compensation for "loss of a chance" if injury does not occur. From the literature on attempted crimes, one would predict that lay intuitions would disagree with the law on this point. Instead of imposing no liability, people would assign substantial penalties, even if those penalties were meaningfully less than those imposed in complete torts.

Other work has shown that tension exists between social norms and tort law in the area of jury awards of punitive damages. Although scholars have defended the jury as an institution (Hans 2000; Vidmar & Hans 2007), the Supreme Court has set limits on the award of punitive damages in tort cases, sometimes ruling that the jury has acted outside the boundaries of constitutional limits in imposing high awards (Geistfeld 2008; Sebok 2007). Even absent constitutional arguments, courts, through the award of summary judgment to defendants, and through the process of remitting damage awards, attempt to control what are seen as runaway juries whose moral intuitions are at odds with legal values. Legislatures in many states have enacted laws limiting punitive and compensatory damages.

These tensions between established legal doctrines and juries who are supposed to represent the conscience of the community may be indicative of ideological differences. It may be the case that "runaway juries" are not exceptional in the sense of being different than the population at large but are, instead, accurately reflecting community norms. Those norms simply differ from those of the legal community.

There is very little research on how the law's doctrines for inchoate torts correspond with societal norms. This article reports a series of studies that attempt to fill that gap. We investigate people's judgments about how the legal system should respond when an individual acts badly and puts others at risk with and without ultimately causing harm. Do lay individuals agree with the tort law response, or would they prefer that the tort law sanction such behavior? Do they distinguish between compensatory (mostly civil) and retributive (mostly criminal) sanctions? As is the case in the law as a whole, tort law's moral authority rests in part on convergence with widely shared social norms. If the tort sanctioning system widely diverges from such norms, the legal regime will find it much more difficult to enforce its rules and gain widespread support from the public.[7]

IV. Empirical Studies

The tort law's flirtation with risk-based liability and recovery for pure creation of risk or loss of a chance without harm presents the occasion for exploring how ordinary citizens analyze these cases. Because of the tension between corrective and retributive justice goals, none of the legal outcomes discussed above necessarily corresponds to people's moral intuitions. Here, we present several studies that explore how well current legal doctrine matches the moral judgments of people living in our society.

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[7]Lloyd-Bostock (1983) reminds us that citizen judgments about responsibility and sanctions are themselves influenced by the law and people tend to blame those they think the law will blame.

The studies are organized around scenarios that vary as to whether the victim in a toxic tort case actually suffers physical injury or whether he is merely exposed to an increased probability of suffering harm in the future. In cases where the victim did not suffer an injury, we sometimes vary the probability of suffering a future injury. We also vary the mental state of the wrongdoer, as that directly impacts the moral wrongfulness of the act. Participants are asked how they would respond to the event both in terms of compensating the victim and in sanctioning the wrongdoer.

The first study manipulated both the state of mind of the perpetrator and the type of harm inflicted on the victim. It was conducted using a between-subjects design—each respondent saw only one version of the story. Studies 2–4 were targeted follow-ups intended to clarify and expand on findings from Study 1. For these we employ a within-subjects design, presenting participants with each of the variants simultaneously.

A. Study 1: The Core Scenario

This first study asks subjects to react to a scenario in which fumes released from a factory that manufactures glue cause an increased risk of stroke in people taking certain medication. An individual on that medication is within the area exposed to the fumes. Half the subjects are told that the person exposed actually has a stroke. The other half are told that the possibility of stroke has increased, but that the person exposed has not had a stroke, although the window of elevated risk continues. Below is the portion of the text that all subjects received.

> The Glu-Tight Plastics and Cement Company is owned and run by Henry Pilling. Pilling is an eccentric inventor who once hit it lucky. He invented a glue that has very useful properties for those installing wall-to-wall carpets. Pilling now manufactures the glue through his company. Glu-Tight has been in business for about twenty-five years and is a successful company. Last year, Glu-Tight made about $1 million in profits. It has assets of about $4 million. Given that Pilling is the sole owner, this money is essentially his.
>
> Pilling is very secretive about the formula and process for manufacturing his glue. He insists on mixing the chemicals himself and on regulating other aspects of the process, such as temperature and timing requirements. Pilling regards these as trade secrets and does not want anyone else to know them, not even the employees who work at his plant.
>
> Because Glu-Tight has only one product and distributes it only to a limited set of customers, it was only recently discovered that Glu-Tight's manufacturing process emits a chemical which, when inhaled, is toxic to a small percentage of the population. In particular, people who take Tridoxin, a common medication for high blood pressure, are more likely to suffer a stroke when they inhale the fumes that the factory emits. Although the presence of high concentrations of the chemical does not always cause a stroke, it significantly increases the likelihood that a person on Tridoxin will have a stroke. People who do not take Tridoxin are not at increased risk.
>
> These chemically-induced strokes can occur up to five years from the time the chemicals are inhaled, and sometimes happen as quickly as within one month. After five years, the concentration of the chemical in the blood stream decreases enough so that earlier exposure to the chemical is no longer a factor in the risk of having a stroke.
>
> When a patient does have a stroke as a result of inhaling this chemical, doctors can tell that the chemical was involved because of a particular configuration that shows up in brain scans. If the chemical is not involved, then the configuration does not show up. It is also possible to detect the presence and concentration of the chemical in the blood stream even if a stroke has not occurred.

1. Controlled Variables

a. Agency. The person who created the loss-of-chance event was described as the proprietor of the company that was manufacturing and selling the potentially dangerous product. Other elements of the story make clear that he kept control of the manufacturing process and did not involve his workers in it. We did this because we wanted to avoid creating a situation in which the responsibility for what happened was diffused among several actors. In those situations, we feared that a person's assignment of compensation responsibility to any one actor could be dependent on exactly how much causal responsibility the respondent assigned to that actor. In this story, Pilling, the proprietor, clearly had individualized responsibility for what happened.

b. Causation. Second, in many tort cases it is possible to argue over whether the chain of circumstances triggered by the defendant *actually* caused the harm. We removed this issue from our study by making it conclusive through a brain scan whether the glue factory caused a stroke. Eventually, research will need to address what effects this possible ambiguity will have on judgments, but we concluded that the initial research should examine the simple case in which the cause of the harm, or potential harm, was clearly the loss of chances events.

2. Manipulated Variables

a. Amount of Increase in Risk. It was necessary to give the respondents some specific information about the increase in risk that was inflicted on the person in question. As we discussed above, some courts have used a 50 percent level of increased risk as a threshold for awarding damages.[8] The legal argument for imposing this minimum level is that when the amount of risk falls below 50 percent, it may not be fair to attribute actual injury to the risk at all given the obligation of a plaintiff to prove a case by a preponderance of the evidence. To track whether this particular formula affects respondent intuitions, half the subjects were told that risk increased to more than 50 percent over a five-year period of possible danger, while for others it increased to only about 25 percent.

Those who were told that the risk level was more than 50 percent were told that it had increased from 25 percent to 55 percent. Those who were told that the risk level had increased to less than 50 percent were told that it had increased from 5 percent to 22.5 percent. Thus, one group of subjects learned that the risk had more or less doubled to a level of more probable than not, while the other group learned that it had more than quadrupled, but remained less probable than not. If either factor (overall risk level and increase in risk level) is relevant to people's judgments, we would expect a difference in performance between these two versions of the story.

b. Actual Physical Injury Versus Increased Risk of Physical Injury. Half the participants were told that the victim had a stroke, the other half that he had not yet had a stroke but still might.

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[8]For a case adopting this view, see Kramer v. Lewisville Mem'l Hosp., 858 S.W.2d 397, 399 (Tex. 1993).

The amount and percentage of increase in risk was orthogonal to the manipulation of whether the person at risk had actually suffered a stroke. For subjects told that the stroke had occurred, the information about prior risk was information about what the likelihood of the stroke would *have been* during the entire elevated risk period; for those told no stroke had yet happened, the quantification of risk gave information about what the likelihood was during the elevated risk period.

c. State of Mind. People cause risks of damage to others under various states of mind ranging from deliberate to innocently accidental. A number of earlier psychological studies have shown state of mind strongly affects subjects' judgment of both causation and culpability (see Alicke 1992; Solan & Darley 2001). In tort cases, jurisdictions generally require at least a negligent state of mind for culpability. When a person innocently causes harm, no liability is imposed, but when the harm is caused negligently or worse (recklessly, knowingly, or even willfully), 100 percent of compensation is due.

We predicted that individuals would judge a person who inflicts a harm or loss of chance knowingly to be more culpable than a person who does so only negligently. Therefore, liability would be imposed more often and compensation would be greater for more culpable states of mind. Further, a person who has innocently caused injury to others might be held liable by some respondents under a strict liability standard. If this is the case, then it would be especially interesting to see whether participants would also find culpable a person who innocently puts another at risk when no harm results.

For all these reasons, we varied our scenarios with respect to the state of mind of the person in charge of the manufacturing process. The process manager's conduct was knowing (he knew the fumes would be released, but did not stop the process), negligent (he carelessly allowed the fumes to be released, but would have stopped the process had he been aware of its failure), or innocent (the release was not his fault). Thus, depending on which version a subject heard, the story continued:

Knowing State of Mind

However, last month, a batch of cement was made in a dangerous manner that allowed the chemical to escape into the air with Pilling's knowledge. Pilling had failed to add the neutralizing chemical to the filtering system. When he saw what he had done, he decided not to stop the process, because it would cost a great deal of money finding a way to dispose of the toxic batch legally. This may have required him to shut down the plant for a few days, losing even more money. Instead, he decided just to pretend that the problem didn't occur.

Negligent State of Mind

However, last month, because of a mistake, a batch of Glu-Tight cement was made in a dangerous manner that allowed the chemical to escape into the air. Pilling had failed to add the neutralizing chemical to the filtering system. Pilling would have discovered the potential danger and stopped the process if he had been at the plant, but he had left to take a major customer out for lunch. Pilling had never given any of his employees information that would have allowed someone else to detect the problem. By the time he returned from lunch it was too late.

Innocent State of Mind

However, last month a batch of Glu-Tight cement was made in a dangerous manner that allowed the chemical to escape into the air. Through no fault of Pilling, the machinery used in the plant malfunctioned and did not distribute the buffering chemical, which Pilling had diligently added

to the filtering system. Pilling was a responsible person. Had he known of the danger he would have shut down the process and called environmental authorities to find out how to dispose of the bad batch of glue without putting anyone at risk.

Thus, the study is a 2 (stroke/no-stroke) × 2 (likelihood of stroke) × 3 (perpetrator's state of mind) between-subject design, with subjects receiving one of 12 different versions of the questionnaire.

3. Dependent Variables

The questionnaire began with a series of manipulation checks. Participants were asked whether Kyle had experienced a stroke caused by the chemical, what his level of risk was before and after exposure, and which of several descriptions of Pilling's conduct best fit with his actions. For the last question, they were given five alternatives ranging from "Pilling acted acceptably. Almost no one in the same situation would have considered the risk of the highly unlikely incident that came about" to "it was Pilling's purpose that the chemical be released into the air."

Dependent variables, in addition to manipulation checks, include a range of judgments about the appropriate consequences of the action, including compensation for medical bills, other pecuniary loss and nonpecuniary loss; judgments of culpability; and judgments about criminal punishment for both the company and the person directly responsible for the harm. There are slightly different versions of the questions depending on whether the subject is told that a stroke has occurred.

These questions mix civil and criminal sanctions, and therefore would not all be available to respondents within a single court proceeding. Our objective, however, is to examine how people use principles of both corrective and retributive justice in resolving these cases. We therefore wanted to provide them with clear opportunities to assign both compensation and punishment. Moreover, these questions offer us an opportunity to see whether respondents act on corrective justice instincts when addressing tort remedies and retributive justice instincts when applying criminal sanctions.[9] Our goal was not to simulate a trial but to have respondents tap their intuitive normative response to the vignette. This is also why the studies lacked "jury" instructions.

Punitive damages, while primarily intended to punish, traditionally go to the victim. To disentangle the impulse to compensate the victim from the urge to punish the offender, there was one further measure. After determining how much punitive damages should be assigned, participants were asked what percentage should go to the victim, and what percentage should go to an independent nonprofit or government agency that would use the funds to pay out compensation to victims of accidents who are injured by parties that do not have the assets to compensate them. The description of these agencies given to participants assured them that the agencies were well run.

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[9]Earlier research suggests that jurors are not very good at compartmentalizing compensatory and punitive damages. See Anderson and MacCoun (1999).

4. Method

a. Participants. Participants were 373 (192 male, 183 female) adults recruited online. Their mean age was 46.82 years old.

b. Procedure and Materials. For the first exploration of the loss-of-chance issue, we thought it important to test a reasonably broad sample of citizens and were able to do this because we were granted access to the NSF-sponsored TESS system, which gives the investigator access to a demographically diverse subject population.[10] The study was administered online, allowing for much less control over subject attention.

5. Results

A small percentage of participants failed the stroke manipulation check, saying that Kyle had a stroke when he did not or did not have a stroke when he did. This is not uncommon in online studies as some participants are less attentive in these than would be desirable. This small portion of the sample was removed from data analysis.[11]

a. Manipulation Checks. The state of mind and stroke chance manipulations were successful. Participants in the innocent condition described Pilling's conduct as more innocent than those in the negligent condition, who in turn assigned less guilt than participants in the knowing condition.[12]

Ideally, Pilling should have been rated at 5 in the innocent condition, 4 in the negligent condition, and 2 in the knowing condition. As one can see in footnote 11, participants were therefore assigning Pilling more responsibility in the innocent (mean score = 4.38) and negligent (mean score = 3.65) conditions than was anticipated, and less in the knowing (mean score = 2.55) condition, perhaps indicative of a tendency to avoid extreme judgments.

Turning to the chance of stroke, respondents recognized that Kyle's initial chance of stroke was higher in the appropriate condition.[13] Their assessment of his chance of

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[10]The data for Study 1 were collected by Time Sharing Experiments for the Social Sciences, which was in turn supported by an NSF grant. Diana C. Mutz of the University of Pennsylvania and Arthur Lupia of the University of Michigan were the TESS' Principal Investigators. The award was to John Darley, Princeton University (Psychology); Joseph Sanders, University of Houston (Law); and Lawrence Solan, Brooklyn Law School for "Moral Luck, Loss of Chance, and Legal Liability" and was awarded in the third special TESS competition, January 2005. Knowledge Networks managed the panel of survey respondents and advised on the questionnaire construction.

[11]This left 329 participants (163 male, 166 female) with an average age of 46.96 years old. Not every participant answered every question. All analyses contain all available data.

[12]F (2, 327) = 139.26, $p < 0.001$, $\eta^2 = 0.46$. Innocent condition: $M = 4.38$, $SD = 0.91$; negligent condition: $M = 3.65$, $SD = 0.81$; knowing condition: $M = 2.55$, $SD = 0.72$, $p < 0.001$ for all comparisons.

[13]t (290.89) = −5.55, $p < 0.001$ (mean low probability = 13.51, $SD = 17.69$; mean high probability = 26.26, $SD = 23.22$).

Table 1: Study 1—Percentage of People Holding the Injurer Liable in Each Condition

% Holding Pilling Liable, by Condition	*State of Mind*			
	Knowing	*Negligent*	*Innocent*	*Overall*
No Stroke	81.5	75.9	69.6	75.6
Stroke	100.0	98.2	92.6	98.8
Overall	90.9	87.2	80.9	86.3

stroke after treatment also followed the correct pattern.[14] However, these participant ratings are not in close accord with the numbers given in the experimental instructions themselves.

The stroke chance manipulation had no detectable effects on respondents' judgments of liability or retributive sanctions. Whether the risk went from 5 percent to 22.5 percent or from 25 percent to 55 percent, they assigned the same damages, liabilities, and so forth. This could indicate a lack of mathematical sophistication, or that whatever rule participants are using to compare percentages is equally satisfied by both of these pairings. We do not investigate this variable further in this article, though previous findings from the judgment and decision-making literature (Frederick & Shafir 2005; Kahneman & Tversky 1979) suggest that this could be a complex question worthy of further study.

b. Effects of Manipulations on Responses. Moral outrage was significantly affected only by the perpetrator's state of mind.[15] Both the state of mind and the outcome (stroke or no stroke) significantly affected whether Pilling was liable for any economic damages suffered by Kyle. These results appear in Table 1.[16]

It is worth noting that liability was assigned even by participants in the innocent state of mind condition who selected "Pilling acted acceptably. Almost no one in the same situation would have considered the risk of the highly unlikely incident that came about"

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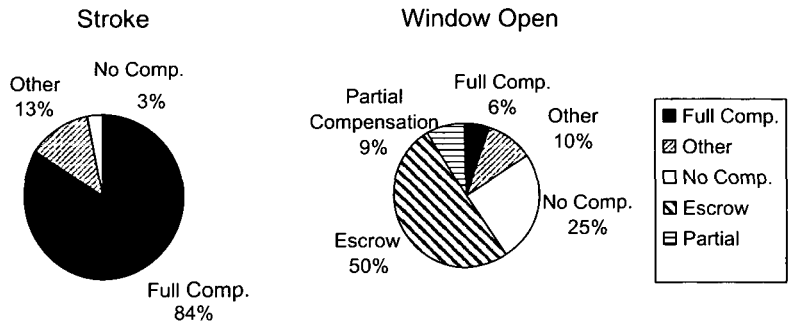
[14] t (322) = −8.05, $p < 0.001$ (mean low probability = 32.2, $SD = 22.62$; mean high probability = 51.13, $SD = 19.41$). Actual risks were 5 percent becoming 22.5 percent after exposure for the low probability condition and 25 percent becoming 55 percent after exposure for the high probability condition.

[15] F (2, 318) = 43.53, $p < 0.001$, $\eta^2 = 0.22$. There was more outrage in the knowing condition ($M = 5.31$) than in the negligent condition ($M = 4.72$; $p = 0.01$), and both showed more outrage than the innocent condition ($M = 3.24$, $p < 0.001$ for both comparisons).

[16] Chi-square analyses were performed on the question asking whether Pilling was liable for harm to Kyle with state of mind as the independent factor. The test of independence was significant: χ^2 (2, $N = 329$) = 5.99, $p < 0.05$. Participants were more likely to find Pilling liable in the knowing condition than in the innocent condition: χ^2 (1, $N = 220$) = 4.54, $p < 0.05$, though neither differed significantly from the negligent condition (see Table 1 for percentages). Participants were also more likely to assign liability if Kyle had a stroke than if he did not: χ^2 (1, $N = 329$) = 31.78, $p < 0.001$. Sixty-seven participants in the innocent condition chose the most exculpatory framing for Pilling's actions, and 74.8 percent of them still held him liable.

Figure 1: Study 1—Degree and method of compensation assigned by harm outcome.



when asked to described his conduct. A full 75 percent of those participants held him liable for damages.

Participants in the no stroke condition assigned liability in an interesting way. While 24.4 percent of subjects assigned no liability, 50.8 percent (two-thirds of those assigning liability) chose the escrow option, ensuring compensation if and only if Kyle later had a stroke. Further, 5.5 percent opted for full compensation, 8.5 percent for some percentage of full, and 10.3 percent for a compensation model of their own design. Participants who were told Kyle had a stroke overwhelmingly assigned liability (97 percent) and usually opted for simple full compensation (83 percent), though some advocated their own mechanisms (13 percent) (see Figure 1). We refer to the condition where the stroke has not yet occurred but still might as "window open." In subsequent studies, we look at participants judgments when the window has closed.

Both the stroke and state of mind manipulations also significantly affected the size of noneconomic—pain and suffering—damages awarded to Kyle. Participants in the stroke condition awarded more noneconomic damages than those in the stroke absent condition.[17] This result is consistent with a corrective justice focus on damages.

With respect to the state of mind manipulation, participants in the innocent condition assigned significantly less damages than those in the knowing condition, though neither differed significantly from the negligent condition.[18]

Punitive damages, fines, and prison terms all involve retributive justice goals. As indicated in Figure 2, the actor's state of mind significantly affected subject judgments on each of these variables. Subjects in the knowing condition assigned more punitive damages, assessed greater fines, and assigned longer prison terms than subjects in the negligent

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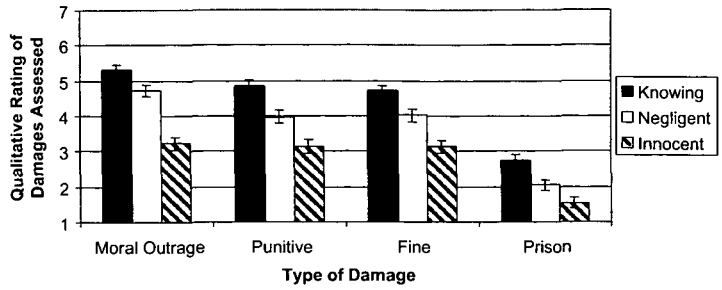
[17] F (1, 316) = 25.14, $p < 0.001$, $\eta^2 = 0.07$. Stroke present ($M = 4.50$, $SD = 1.74$); stroke absent ($M = 3.48$, $SD = 1.71$).

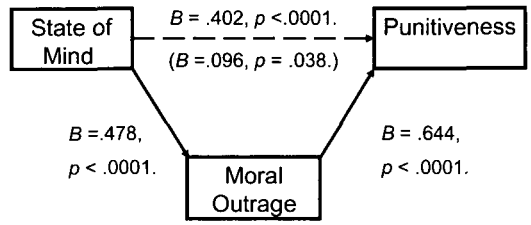
[18] F (2, 316) = 3.92, $p = 0.02$, $\eta^2 = 0.02$. Innocent condition ($M = 3.69$, $SD = 1.80$); negligent condition ($M = 3.94$, $SD = 1.88$); knowing condition ($M = 4.33$, $SD = 1.67$, $p < 0.05$).

Figure 2: Study 1—Damages and moral outrage as a function of state of mind.



NOTE: Error bars represent +1/−1 standard error.

Figure 3: The effect of state of mind on punishment as mediated by moral outrage.



condition. Subjects in the negligent condition, in turn, assigned more damages, fines, and prison terms than subjects in the innocent condition.[19]

Interestingly, this pattern of damages across state of mind conditions was similar to that seen regarding moral outrage. This led us to wonder whether moral outrage mediated the effect of state of mind on punitiveness; that is, whether a change in state of mind from, for example, negligent to knowing produced more punitive assessments by the mechanism of eliciting more moral outrage. As can be seen in Figure 3, this was indeed the case. The direct path of state of mind influencing punitiveness goes from being very strong (standardized beta = 0.402) to being fairly weak (standardized beta = 0.096) when the alternative path that shows state of mind operating through moral outrage is added. Thus it appears to be the case that the relationship between state of mind and punitiveness can largely be explained as a function of change in moral outrage.[20]

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[19]Punitive damages: F (2, 316) = 25.55, $p < 0.001$, $\eta^2 = 0.14$. Innocent condition ($M = 3.14$, $SD = 1.94$); negligent condition ($M = 3.98$, $SD = 1.89$); knowing condition ($M = 4.87$, $SD = 1.56$, $p < 0.001$ for all comparisons).

Size of additional fine: F (2, 315) = 20.74, $p < 0.001$, $\eta^2 = 0.12$. Innocent condition ($M = 3.13$, $SD = 1.94$); negligent condition ($M = 4.02$, $SD = 1.88$, $p < 0.001$); knowing condition ($M = 4.71$, $SD = 1.54$, $p = 0.007$).

Length of prison term: F (2, 315) = 16.87, $p < 0.001$, $\eta^2 = 0.10$. Innocent condition ($M = 1.53$, $SD = 1.18$); negligent condition ($M = 2.05$, $SD = 1.59$, $p = 0.007$); knowing condition ($M = 2.75$, $SD = 1.75$, $p = 0.002$).

[20]Since we had three measures of punitiveness (punitive damages, additional fine, and prison), we made a composite variable from their Z scores (Cronbach's $\alpha = 0.80$). Using this as our dependent measure, we examined the relative

Whether or not Kyle had suffered a stroke also produced small but reliable changes in the magnitude of punitive damages, though not the magnitude of the fine or the length of the prison term.[21] Interestingly, this small difference in punitive damages was not accompanied by greater moral outrage. This implies that the greater punitive damages stemming from greater harm is not a clear function of anger and may serve a different purpose. Perhaps related to this finding is that our respondents assigned a greater proportion of the punitive award to Kyle—as opposed to the independent agency—in the stroke condition.[22] Both might be backdoor attempts to compensate the victim further for his suffering.

6. Discussion

We began this article by asking whether citizens are responsive to moral luck in holding wrongdoers liable and whether their judgments distinguish between the retributive goals of criminal justice and the compensatory goals of tort law. The experiment has yielded some interesting partial answers to these questions.

The answer to the first question is yes: people do impose greater sanctions when a wrongdoer causes harm than when a wrongdoer engaging in the same conduct does not cause harm. At the same time, the moral luck effect is greatest when people are asked to award compensation and less robust when it comes to criminal sanctions. As the data in Figure 1 show, 84 percent of subjects preferred full compensation when the victim suffered a stroke, with only 6 percent preferring that remedy when he was put at risk of having a stroke. By the same token, Kyle having the stroke made participants more likely to hold Pilling liable for his medical expenses and assign greater noneconomic compensation. Both results are consistent with a corrective justice focus.

Participants did award slightly higher punitive damages in the stroke condition and, distinct from the impact of the state of mind manipulation, they assigned a greater proportion of the punitive damages to Kyle himself as opposed to the government agency when

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contributions of state of mind (treating it as a linear three-point scale) and moral outrage using the Sobel test (Baron & Kenny 1980). Three multivariate outliers were excluded (Mahalanobis distance greater than three standard deviations from the state of mind and moral outrage combined regression). Sobel's $Z = 8.42$, $p < 0.0001$, indicated that differences in moral outrage across state of mind conditions explained a significant portion of state of mind's influence over the punitiveness measure. The Sobel test was significant to a similar degree when each component of punitiveness was examined separately.

[21]Punitive damages: F (1, 316) = 5.84, $p = 0.02$, $\eta^2 = 0.02$. Stroke present ($M = 4.25$, $SD = 1.95$); stroke absent ($M = 3.74$, $SD = 1.94$).

[22]Participants who were told Kyle had a stroke assigned a greater proportion of punitive damages to him (rather than the independent agency). F (1, 304) = 6.33, $p = 0.01$, $\eta^2 = 0.02$. Stroke present ($M = 68.45$ percent, $SD = 32.40$); stroke absent ($M = 59.03$ percent, $SD = 34.12$). There was, however, a significant interaction between state of mind and stroke condition in the length of prison sentence assigned by the subjects. Further analysis revealed that there was a stroke condition effect only for participants in the knowing condition—that is, Kyle having the stroke only increased the prison sentence assigned to Pilling if Pilling acted intentionally. F (2, 315) = 4.24, $p = 0.015$, $\eta^2 = 0.03$. Knowing condition ($M_{stroke} = 3.20$, $SD_{stroke} = 1.83$; $M_{no\ stroke} = 2.27$, $SD_{no\ stroke} = 1.55$, $p = 0.006$).

he actually suffered a stroke. This result indicates that our respondents view punitive damages as partly compensatory and partly punitive. However, it is important to note that the impact of the stroke manipulation on the magnitude of punitive damages was far smaller than that of the state of mind manipulation.[23]

Whether the victim suffered a stroke had no effect on the amount of a fine or the length of a prison sentence that should be imposed. In other words, consistent with earlier findings by Robinson and Darley (1995, 2007), retributive instincts are not highly sensitive to whether the perpetrator successfully caused harm.

In contrast, there was a clear association between more culpable states of mind, greater perceived moral responsibility (as measured by the "outrage" question),[24] and greater retributive sanctions, especially on punitive damages. The more culpable Pilling's state of mind, the more he needed to be punished. This effect dwarfed that of whether Kyle actually had the stroke. Looking at Figure 2, state of mind shows a consistent effect across those types of sanctions that tap retributive justice instincts. While the base level of punishment varies across sanction type (e.g., far lower for jail than for punitive damages), the progression from innocent, to negligent, to knowing is remarkably similar. Note that this difference is mediated by the moral outrage finding.

Retributive instincts spilled over into compensatory damage judgments as well. Recall that participants in the innocent condition assigned significantly less damages than those in the knowing condition, though neither differed significantly from the negligent condition.[25] Since these damages are intended to be compensatory, in principle there should be no difference in the amount of the award resulting from the defendant's state of mind. The results also suggest that some level of retribution infiltrates judgment about the amount of pain and suffering damages that should be awarded. In both cases, however, the effect of whether Kyle had a stroke was larger than that for Pilling's level of moral culpability.

Participants therefore seem to be making two separate judgments. One concerns the consequences of the act. The worse Pilling's conduct harmed Kyle, the more Kyle needs to

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[23]These effects roughly correspond with earlier findings. Several studies have shown that more damages are awarded when injuries are more severe (Wissler et al. 1997, 1999). The small impact of whether there was a stroke or not on punitive damages is also consistent with earlier results that indicate at most a small effect of actual damages on punitive damage awards. For example, Robbennolt (2002) found no effect on severity alone, but an effect when actual damages were combined with potential damages and Cather et al. (1996) found no effect of severity on punitive damages.

[24]It is worth noting that the stroke manipulation did not produce significant differences on the outrage variable. This result is consistent with some other research that finds the severity of consequences does not affect the amount of responsibility assigned to the actor. However, other studies have found an association between accident severity and level of responsibility, an effect usually explained as a matter of defensive attribution (see, e.g., Walster 1966). Robbenolt (2000) conducted a meta-analysis of studies exploring these effects. She found that the effect size was dependent on the particular dependent variable used. When "blame" is the dependent variable, the effect is greatest; it is smaller when "responsibility" is the dependent variable; and it is quite small when "liability" is the dependent variable (2002:Tbls. 2–4).

[25]F (2, 316) = 3.92, $p = 0.02$, $\eta^2 = 0.02$. Innocent condition ($M = 3.69$, $SD = 1.80$); negligent condition ($M = 3.94$, $SD = 1.88$); knowing condition ($M = 4.33$, $SD = 1.67$, $p < 0.05$).

be compensated. This result is generally consistent with the reluctance of most U.S. courts to give compensation to "unharmed" victims. Distinct from the assessment of harm is the assessment of Pilling's moral wrongness. When Pilling has a more culpable state of mind, his actions generate more moral outrage. This effect carries through to result in greater punishment. Although this effect mirrors that of whether Kyle had the stroke on some measures, it has a distinctly retributive tinge. Culpable states of mind have a greater impact on punitive rather than restorative outcomes (see Zipursky 2007).

Finally, the study produced an interesting result concerning the award of damages for those put at risk but who have not yet suffered a stroke: Most subjects preferred the solution of placing enough money in escrow to compensate the victim if the stroke actually occurs in the future. They rejected partial compensation in favor of this solution. We will say more about this in the final discussion.

B. Study 2

Study 1 was comprehensive in scope, but there were two elements of its design that left room for expansion. First was the breadth of the study. With such a complex story and so many dependent measures, one could easily imagine subjects becoming lost and confused throughout the course of the experiment. With the exploratory data from the first study, it became possible to make and test predictions in a more targeted fashion. Second, the first study presented each subject with only one version of the story, a between-subjects design. This has both costs and benefits. In Studies 2–4, we present subjects with more focused vignettes that ask their readers to consider multiple variations and evaluate compensation and punishment options in light of each, a within-subjects design.

Study 2 reexamined the impact of whether Kyle had the stroke on the liability for medical costs and noneconomic harm. It presented participants with a shortened version of the core story, to which we added a new outcome condition. Kyle was said to have either had the stroke, to have not had the stroke and be past the window of danger, or to not have had the stroke and still be in the period of increased risk. By adding the "window closed" condition, we created a case in which Kyle was no longer under increased risk—where he was in fact as healthy as before he was affected—but in which Pilling had still performed the same wrong act as in the other conditions. This is a pure case of "no injury." Each of these possibilities was included on a separate page (order randomized), and each participant was asked to consider the medical liability decision and the noneconomic damages decision. We assumed based on Study 1 that there would not be a meaningful interaction between the variable of interest in this study (stroke condition) and Pilling's state of mind, so we kept the state of mind constant at negligent to allow for maximum sensitivity to the effect of our variables of interest.

1. Method

a. Participants. Participants were 43 persons (27 female, 16 male) recruited at the Princeton campus center. They were slightly more liberal than conservative ($M = 4.70$, $SD = 1.40$ on a 7-point scale) and their average age was 22.05.

b. Procedure and Materials. This questionnaire was included in a longer packet of other research materials on unrelated topics. It began with the core story and on each of the three subsequent pages it presented one of the three possible outcomes. Participants were instructed to look at each version before completing the dependent measures.

The study focused on the impact of whether Kyle had the stroke on the liability for medical costs and noneconomic harm. In the within-subjects design, each respondent was presented with three conditions: stroke, no stroke but with a heightened risk of a stroke (window open), and no stroke and the period of heightened risk had passed (window closed), returning Kyle to the same situation he occupied before the exposure. Each participant was asked to make a medical liability decision and a noneconomic damages decision for each version.

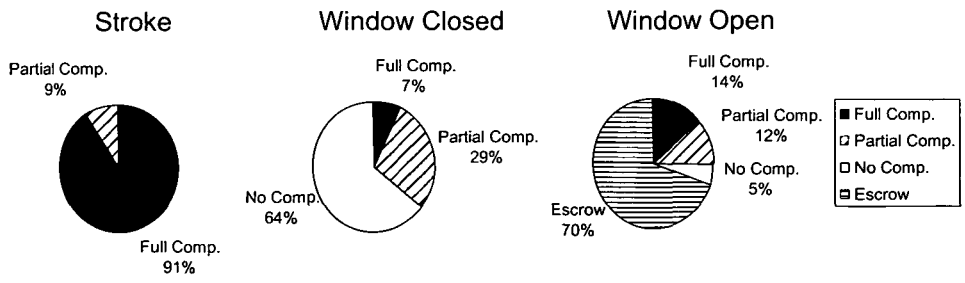
There were two dependent variables in this study. The first was the manner in which medical liability was assigned. In the stroke and window closed conditions, there were three possible choices. Pilling could either have complete liability, no liability, or partial liability for Kyle's actual or potential medical costs (estimated at $575,000). In the case of partial liability, participants were asked what percentage of Kyle's medical costs they believe Pilling should be liable for. In the condition in which Kyle had not had a stroke but was still at risk, a further option was added. This option provided an escrow account that would give Kyle full compensation in the event of a future stroke and none otherwise. Following the medical liability question, there was an item asking how much noneconomic damages (stress, pain, sleepless nights, etc.) should be assessed using the same sort of seven-point scale as in Study 1 (no damages to maximal damages).

2. Results

In the condition in which Kyle had the stroke, the overwhelming majority of subjects assigned full liability to Pilling for the medical damages (91 percent). The remainder assigned partial liability, saying that Pilling should pay a percentage of the medical expenses (9 percent of subjects). See Figure 4.

When Kyle had not had the stroke and would not, 64 percent of participants assigned no compensation for (in this condition the potential) medical costs; however, 29 percent assigned partial compensation and 7 percent assigned full compensation. Here, we see the

Figure 4: Study 2—Degree and method of compensation across three harm outcomes.



majority of subjects saying that no compensation is appropriate, while a substantial minority believe the option of partial compensation proper. Only a small fraction assigned full compensation.

In the condition in which Kyle had not had the stroke but was still in the period of danger, we again allowed subjects to select an escrow account. This option, which would assign full compensation in the event of a stroke, attracted 70 percent of participants in this condition. This mirrors the overwhelming preference for full compensation in the stroke condition. A further 14 percent assigned full compensation, 12 percent partial compensation, and 5 percent no compensation. Note the large difference between those assigning no compensation in the window open (5 percent) and window closed (64 percent) scenarios.

The amount of pain and suffering damages assigned (measured on a seven-point scale) was analyzed in a simple repeated measures ANOVA. More damages were assigned in the stroke condition than in the window open condition, and damages in the window open condition were higher than in the window closed condition.[26]

3. Discussion

The results are very similar to those seen in Study 1. In each case, full compensation was the norm in the stroke condition and escrow dominated in window open. That ordinary people recognize the conflict between their consistent urge to provide some compensation to window open victims while, at the same time, not compensating them for harms that have not yet and might never occur displays a fascinating degree of awareness on their part.

In the novel window closed condition, intuitive societal norms generally follow the law. Most participants seem to agree "no harm, no recovery." However, a minority of participants, like a minority of jurisdictions, seem to be inclined to give the individual some money for the emotional injury suffered because he was placed at increased risk.[27] Perhaps some of these subjects are indirectly awarding damages for Kyle's mental anguish during the period he was at risk, even though this was not part of the question.[28] Likewise, Kyle was awarded some noneconomic damages in this window closed condition though the award appears to be rather modest.

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[26]Pain and suffering damages: F (2, 82) = 6.47, $p < 0.001$, $\eta^2 = 0.47$. Stroke: $M = 4.57$, $SD = 1.70$. Window open: $M = 3.38$, $SD = 1.63$. Window closed: $M = 2.45$, $SD = 1.55$. In pairwise tests, all possible comparisons significant at $p < 0.001$.

[27]The closest the legal system usually comes to this position is by awarding money for medical monitoring so that individuals can ascertain whether they have become ill at a later date (Abraham 2002).

[28]*Williamson v. Waldman*, 150 N.J. 232, 696 A.2d 14 (1997) is a case where the plaintiff claimed she feared contacting AIDS from a puncture wound she received from a medical instrument while cleaning the office of the plaintiffs, physicians, who had negligently discarded the instrument in the wrong container. The court permitted her to recover emotional distress damages for the period of time after the exposure until repeated testing proved negative. Most courts, however, have refused any recovery for exposures such as this unless the individual actually becomes ill. For a collection of the cases, see Christie et al. (2004).

C. Study 3

This study reexamined the impact of whether Kyle had the stroke on the award of punitive damages. It presented participants with a shortened version of the core story (state of mind always negligent). Each of the three possible outcomes (same as in Study 2) were included on separate pages (order randomized), and for each participants were asked to consider the punitive damages decision.

1. Method

a. Participants. Participants were 48 persons (30 female, 18 male) recruited at the campus center. They were slightly more liberal than conservative (M = 4.23, *SD* = 1.37 on a 7-point scale) and their average age was 20.13.

b. Procedure and Materials. This questionnaire was included in a longer packet of other research materials on unrelated topics. It began with the core story and on each of the three subsequent pages it presented Kyle as having one of the three possible outcomes. As in Study 2, Pilling's state of mind was held constant as negligent. Participants were instructed to look at all versions before completing the dependent measures. One additional feature of this study is that it included reference to the other mechanisms of compensation. Before asking what punitive damages were appropriate, it included whichever of the following was appropriate.

> Stroke: Kyle has been compensated for his medical costs—a substantial amount—as well as for pain and suffering.
>
> Window Open: Kyle was compensated for his medical tests—a small amount—and will be further compensated for any additional costs in the event of a stroke—large amount. He was also compensated for pain and suffering.
>
> Window Closed: Kyle was compensated for his medical tests—a fairly small amount. He was also compensated for pain and suffering.

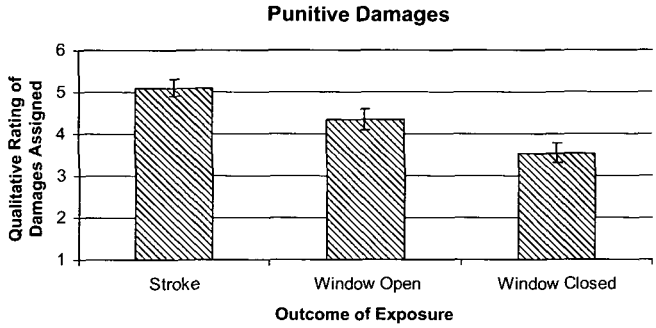
This was done to tighten the focus on punitive damages and encourage participants to think of punitive damages as being distinct from compensation for loss. The story's compensation for each condition is in line with what participants actually assigned in the previous studies.

There were two dependent variables in this study. The first asked whether further punitive damages should be assigned using the same seven-point scale as in the previous studies (no damages to maximal damages). The second described the independent agency and asked what proportion of damages should be assigned to it as opposed to Kyle directly.

2. Results

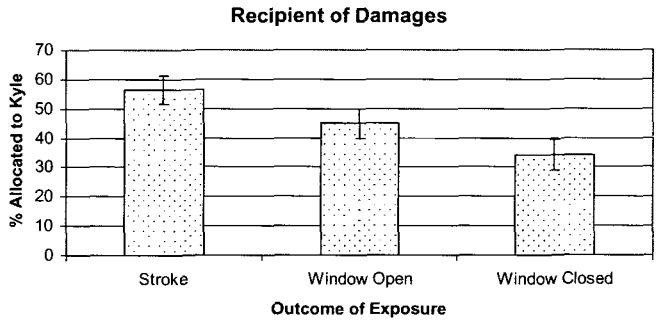
Both dependent measures were analyzed using repeated measures ANOVAs. Higher punitive damages were assigned in the stroke condition than in the window open condition, and

Figure 5: Study 3—Magnitude of punitive damages assigned across three harm outcomes.



NOTE: Error bars represent +1/−1 standard error.

Figure 6: Study 3—Percentage of the punitive damages allocated to the victim across three harm outcomes.



NOTE: Error bars represent +1/−1 standard error.

higher damages were assigned in the window open condition than the window closed condition (see Figure 5).[29]

There also was a moderate effect of outcome on the percentage of punitive damages assigned to Kyle. He was granted a larger share of the punitive damages in the stroke condition than the window open condition, and a greater percentage in the window open condition than the window closed condition (see Figure 6).[30]

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[29]Punitive damages: F (1.63, 73.50) = 28.28, $p < 0.001$, $\eta^2 = 0.39$. Stroke: $M = 5.17$, $SD = 1.23$. Window open: $M = 4.39$, $SD = 1.41$. Window closed: $M = 3.72$, $SD = 1.56$. In pairwise tests, $p <= 0.001$ for all possible comparisons. Mauchly's test of sphericity was significant, so this analysis uses the Greenhouse-Geisser correction.

[30]Percent allocated to Kyle as opposed to independent agency: F (1.48, 68.08) = 17.45, $p < 0.001$, $\eta^2 = 0.27$. Stroke condition: $M = 57.23$ percent, $SD = 27.72$. Window open: $M = 46.45$ percent, $SD = 27.42$. Window closed: $M = 37.89$ percent, $SD = 31.28$. In pairwise tests, $p <= 0.001$ for all possible comparisons. Mauchly's test of sphericity was significant, so this analysis uses the Greenhouse-Geisser correction.

3. Discussion

This study once again largely confirmed the results of Study 1. It showed a stronger effect for outcome on punitive damages than was seen previously, but that might be the result of insufficient discounting for the preexisting compensation described in the experimental manipulations. It also replicated and confirmed the strong effect on the amount of punitive damages assigned to Kyle versus the agency. Participants showed a great deal of concern for ensuring that Kyle received more of the punitive damages in the conditions in which he suffered more harm.

Even when Pilling's action had no negative consequences, participants still assigned punitive damages. And, even though Pilling's actions and state of mind were held constant, participants assigned higher punitive damages when his actions had worse consequences. Just as retributive justice concerns have spilled over into assessment of compensatory damages, corrective justice concerns have spilled over into an area that, at least in tort theory, should focus on retributive justice.[31] This is, in some ways, a misuse of the tort system as it is classically understood. In this study we held mental state constant, so the relative importance of mental state and outcome cannot be directly assessed. In Study 4, however, the effect seen for state of mind is larger than the one seen for consequences here and in Study 1; where both variables were manipulated, state of mind had a much larger effect then stroke outcome.

Nevertheless, these results suggest that, like the law, individuals sanction bad outcomes more than they sanction attempts; the same tortious actions receive differential punishment depending on whether they lead to an injury.

D. Study 4

This study reexamined the impact of state of mind on the liability for medical costs and punitive damages decisions. It presented participants with a shortened version of the core story. To limit the size of the study, we decided to present Kyle as having the stroke in all conditions. As legal liability is most clearly present in event of stroke, this would allow us to see the extent to which state of mind was a mitigating or aggravating factor. Each of the three states of mind measured in Study 1 was included on its own page (order randomized) and for each participants were asked to consider the medical liability decision and the punitive damages decision. This was a three-condition within-subjects design. It allowed us to examine whether participants would draw the same sharp state of mind distinctions shown in Study 1 even when consciously comparing the three scenarios.

1. Method

a. Participants. Participants were 43 (32 female, 11 male) people, primarily undergraduates, recruited at the campus center. They were slightly more liberal than conservative ($M = 4.95$, $SD = 1.23$ on a 7-point scale) and their average age was 20.58.

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[31]Similar effects have been found in other jury laboratory studies. See Landsman et al. (1998) and Anderson and MacCoun (1999).

b. Procedure and Materials. This questionnaire was included in a longer packet of other research materials on unrelated topics. It began with the core story and on each of the three subsequent pages it presented Pilling as having one of the different states of mind. Participants were instructed to look at all versions before completing the dependent measures. This was intended both to limit the influence of order effects and to strengthen our claim that our participants were making a conscious decision to penalize differentially based on state of mind.

There were three dependent variables in this study. The first asked whether Pilling should be held liable for the plaintiff's medical expenses (liable or not liable). These expenses were not described in detail. The second question asked whether further punitive damages should be assigned using the same seven-point scale as in the previous study (no damages to maximal damages). Lastly, the questionnaire described the independent agency previously mentioned in Study 1 (a government body that administered compensation to victims in other cases who might otherwise go uncompensated) and asked what proportion of damages should be assigned to it as opposed to Kyle directly. We did not ask about additional fines or prison terms because we assumed those measures would follow the trend set by punitive damages, as was seen in Study 1.

2. Results

Results of the medical liability question were analyzed using chi-square tests. Some participants (21 percent) in the innocent state of mind condition, in which the accident was an unforeseeable accident, did not wish to hold Pilling liable. This differed significantly from the knowing (0 percent) and negligent (2 percent) conditions, in which virtually everyone did assign liability.[32]

The liability effect was confined to a single condition; however, a repeated measures ANOVA revealed a very strong and clear effect of state of mind on the magnitude of punitive damages. These damages differed significantly across condition, with higher punitive damages assigned in the knowing condition than the negligent condition, and higher damages assigned in the negligent condition than the innocent condition.[33] See Figure 7.

Another repeated measure ANOVA on the percentage of damages assigned to Kyle also revealed an effect of state of mind.[34] A slightly higher percentage of the damages was assigned to Kyle (as opposed to the agency) in the knowing condition than in the negligent or innocent conditions. We had expected that more punitive damages would be assigned for the more culpable states of mind, but we had no specific prediction on this measure.

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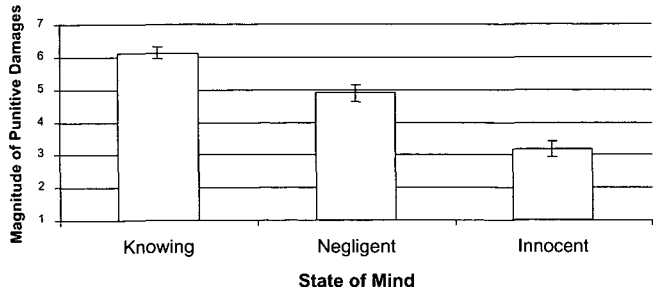
[32] χ^2 ($N = 129$) = 15.33, $p < 0.001$.

[33] Punitive damages: F (2, 82) = 87.14, $p < 0.001$, $\eta^2 = 0.68$. Knowing: $M = 6.12$, $SD = 1.21$. Negligent condition: $M = 4.90$, $SD = 1.68$. Innocent: $M = 3.17$, $SD = 1.62$. In pairwise tests, $p < 0.001$ for all possible comparisons.

[34] Percent allocated to Kyle as opposed to independent agency: F (1.40, 53.11) = 4.28, $p = 0.03$, $\eta^2 = 0.10$. Knowing: $M = 70.00$ percent to Kyle, $SD = 25.26$. Negligent: $M = 66.33$ percent, $SD = 24.55$. Innocent: $M = 61.92$ percent, $SD = 25.30$. Both innocent and negligent conditions were significantly different than knowing ($p < 0.05$), though not from each other ($p = 0.12$). Mauchly's test of sphericity was significant, so these analyses use the Greenhouse-Geisser correction.

Figure 7: Study 4—Damages as a function of state of mind.



NOTE: Error bars represent +1/−1 standard error.

Perhaps participants viewed harm that was more intentionally (or perhaps more malevolently) inflicted as more damaging, and thus requiring of more compensation.

3. Discussion

The shift from a between-subjects design (where each participant sees only one condition) to a within-subjects design (in which each participant sees all conditions and can compare them) did not meaningfully affect the pattern of results. This study again found a large impact of state of mind on punitive damages, replicating the result from the first study. More culpable states of mind excite more punitive responses. Moreover, while the law sets a threshold for compensatory damages at the level of negligence, only morally outrageous conduct (something more than mere negligence) is subject to punitive damages. Instead of this, we find punitive damages steadily increasing as the scenarios moved from innocent, to negligent, to knowing. It is not psychologically shocking to find a mostly linear trend on those measures. Perhaps some of the respondents believed that the defendant's behavior in the "negligence" condition was more than merely "negligent."

We see an additional effect on the percentage of damages going to Kyle directly. The effect is weak and is driven only by greater compensation going to Kyle in the knowing condition, but it is still psychologically interesting. Pilling's behavior in the knowing condition may be seen as inflicting additional harm on Kyle as a result of its deliberately callous nature. This might be worthy of further study.

More significant in our opinion is the effect of mental state on liability for the injury. While it is not surprising that the knowing and negligent conditions produced nearly universal assignment of liability to Pilling, we did not expect that so few responses in the innocent condition relieved Pilling of liability. Perhaps participants viewed Pilling as having a duty of care by which harm to Kyle was automatically compensable despite Pilling's best intentions. We return to this finding in the general discussion.

V. General Discussion

From these four studies, we can draw several conclusions about how corrective and retributive justice considerations affect people's response to inchoate torts.

The research also produced some unexpected findings concerning the role of state of mind on compensatory damages that raise a difficult set of questions concerning the relationship between societal norms and legal rules and that suggest lines for future research.

A. Liability for Risk

1. Moral Luck and Compensation for Inchoate Torts

The main manipulation in our studies is whether Pilling's actions caused a neighbor to suffer a stroke, or merely put the neighbor at risk of having a stroke. This issue is addressed in Studies 1, 2, and 3. In each state of mind condition in Study 1 and in all versions of Studies 2 and 3, Pilling's conduct was identical: only the consequences of the action changed. This raises the issue of moral luck. When judging actors who carry out risky conduct, are people more forgiving of those lucky ones whose conduct does not bring about physical harm? Put somewhat differently, how closely does the harm requirement that is firmly embedded in tort law comport with people's everyday intuitions of fairness?

In Study 1, if Kyle had a stroke, participants were more likely to hold Pilling responsible for Kyle's medical expenses and to award more noneconomic damages. In the stroke condition, the respondents also awarded slightly higher punitive damages and gave Kyle a larger percentage of these damages.

Studies 2 and 3 build on and are consistent with these results. Each of these studies added a new condition, the "window closed" condition in which Kyle was no longer at a heightened risk of a stroke.

From Study 2 we found that when Kyle had the stroke, 91 percent of the respondents gave him full compensation (recall that this was $575,000) and the remaining 9 percent assigned partial compensation. When the same respondents awarded compensation in the window closed condition, in which no stroke had occurred nor would occur, 7 percent still gave him full "compensation," 29 percent partial compensation, while 64 percent assigned no compensation. For the stroke victim's pain and suffering, he is to be awarded damages equivalent to 4.57 on a 7-point scale, while the person who did not have the stroke was awarded compensation equal to 2.45 on the 7-point scale. On this measure, the stroke victim gets higher compensation, but he suffered more because he actually had the stroke. The lucky person who did not have the stroke probably worried about having one throughout the period when he was at risk and he is assigned pain and suffering compensation, but less than assigned to the stroke victim. Clearly, with respect to compensatory damages, our respondents refuse to treat similar behaviors equally regardless of outcome. Like tort law and other compensation systems, they award damages largely to repair injury. Those who are not actually hurt are not taken into consideration, even if the result is a moral luck effect.

Perhaps it is easier for both the law and our respondents to disregard moral luck effects in this context because the morality of compensatory damages is not solely a matter of the wrongdoer's actions; it is also a matter of the victim's desert. Unlike criminal law, where one can argue that the situation of the victim is irrelevant to the sanctions imposed on the wrongdoer, in tort law, compensation paid to a plaintiff for a nonexistent injury

creates its own set of moral problems. Just because the wrongdoer got lucky and did not hurt anyone does not mean that the "victim" is himself entitled to benefit from this happy result (for a separation of these issues, see Zipursky 2007).

2. Punitive Damages and Moral Luck

Two of the studies looked at the assignment of punitive damages as a function of whether the victim suffered a stroke, or was placed at risk, but did not suffer a stroke. Study 1 showed higher punitive damages (mean of 5.74 on a 7-point scale) when the victim suffered a stroke than when the victim did not suffer a stroke, but the window was still open (mean of 3.74). Study 3 produced similar, but somewhat less extreme, results. Higher punitive damages were awarded in the stroke condition (5.17 on a 7-point scale) than in the window open condition (4.39). When the window was closed, even lower punitive damages were assigned (3.72). One should remember that each respondent in Study 3 was able to compare stories and consciously decide whether he or she wished to produce a moral luck effect. Note, however, this is not an all-or-nothing result. The actor who causes the risk and gets away with having produced no harm is still punished. Note also that a higher percentage of the punitive damages are assigned to the agency that compensates other victims of negligence when the victim in the present case has not been harmed, which seems reasonable. This is consistent with the idea that the uninjured individual is not deserving of a large award.

Punitive damages occupy an uneasy middle ground between punishment and compensation (Anderson & MacCoun 1999). On the one hand, they are damages—they go to the victim.[35] On the other hand, like criminal sanctions, they are intended to punish. In our studies, moral luck plays a smaller role here than it does in connection with purely compensatory damages, but it plays a bigger role than it does with respect to fines and prison.

Because punitive damages more nearly fall into the realm of retributive justice than do compensatory damages, these results are quite consistent with outcomes of studies that explore moral luck in the criminal context. The no stroke condition is similar to "completed attempt" crimes. In both situations, the offender has taken all the actions necessary to complete a crime or the tort, but through some odd coincidence the actions do not have an injurious effect. One sees the logic of the argument that those guilty of completed attempts should receive the same punishment as does the successful criminal (or the tortfeasor who does cause injury).

Yet our results appear inconsistent with the Supreme Court's recent decision in *Exxon Shipping Co. v. Baker*, which tied the upper limit on punitive damages to the amount awarded

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[35]But why do they go to the victim? That is, if the victim has been compensated for material damages, and for pain and suffering, what remains to be compensated? Perhaps the insult done to the victim? Alternately, they are a bounty rather than a compensation. Having punitive damages that go to the victim motivates the victim to bring the civil action, and thus act as an efficient bounty hunter agent of the larger society, which has a general interest in punishing negligence. We would simply note that many of our subjects thought it appropriate to allocate some of the punitive damages they extracted to a public fund that would use its funds to provide material compensation for other victims in cases in which it could not be recovered from the negligent harm-doer.

in compensatory damages.[36] Our subjects, in contrast, were willing to award substantial punitive damages when the victim was put at risk but did not suffer physical harm that would lead to substantial compensation. Although the amount of punitive damages awarded was less when no stroke was suffered than when a stroke had occurred, subjects' intuitions nonetheless appear to be inconsistent with the Supreme Court's recent approach. Moreover, the Supreme Court's 2008 pronouncement that "[r]egardless of the alternative rationales over the years, the consensus today is that punitives are aimed not at compensation but principally at retribution and deterring harmful conduct"[37] is partially, but not fully, consistent with the behavior of our participants, who considered both compensation and retribution in the award of punitive damages. Other empirical findings complicate the Court's statement that punitive damages are focused on deterrence. Although punitive damages may serve to "deter harmful conduct," Sunstein's evidence (Sunstein et al. 2002) makes quite clear that ordinary persons do not seek "optimal deterrence." Optimal deterrence would be achieved by assigning higher damages when the probability of detection of the offense in question is low and reducing them when the probability of detection is near certainty. People given different estimates of detection probabilities do not do this; they do not vary the punitive damages they assign, and they reject the suggestion that they should do so. Sunstein (2005) suggests that people are motivated in assigning punitive damages by a retribution-based intuition that is in turn based on the degree of moral outrage they feel at the transgression. This may be one area in which the law is developing in a manner counter to citizens' intuitions about what is fair and just.

3. Moral Luck and Criminal Sanctions

In Study 1, respondents did not assign higher fines or greater prison terms based on whether Kyle suffered a stroke. This result is consistent with what is called the subjectivist stance of the model penal code and those states that assign the same penalty to a completed attempt as they do to the successfully completed offense. In fact, those codes often assign the same penalty to many attempts that fall short of completed attempts.

Our results here are somewhat flatter than the empirical evidence from the criminal context (Darley et al. 1996; Robinson & Darley 1995), which finds that respondents do not assign quite as high a punishment to the completed attempt as they do to the completed successful offense. It may be that the emission of toxic chemicals is the kind of act that triggers particularly retributive responses, washing out a moral luck effect. Another possibility is that the presence of compensatory damage options, which allowed participants to

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[36]In *Exxon Shipping Co. v. Baker*, ___ U.S. ___, ___, 128 S. Ct. 2605, 2621 (2008), concerning the *Exxon Valdez* oil spill, an equally divided Court tied the punitive award to the compensatory damage award and held that absent earmarks of exceptional blameworthiness, such as intentional or malicious conduct, or behavior driven primarily by a desire for gain, a 1:1 ratio of punitive to compensatory damages is a fair upper limit in maritime cases. In imposing this limit, the Court cited empirical work to the effect that the mean ratio of punitive to compensatory damages over time has remained under 1:1. Id. at 2624 n.13. See Eisenberg et al. (2006:275). See also State Farm Mut. Auto. Ins. Co. v. Campbell, 538 U.S. 408, 416, 123 S. Ct. 1513, 155 L. Ed. 2d 585 (2003); Philip Morris USA v. Williams, 549 U.S. 346, 127 S. Ct. 1057, 166 L. Ed. 2d 940 (2007).

[37]Exxon Shipping Co. v. Baker (2008).

distinguish between moral luck and non-moral-luck cases (assigning higher compensatory damages in cases of actual harm), freed participants to use the retributive measures "properly"; their desire to draw a distinction having been satisfied.

This overall pattern of results is consistent with the theory that people tend to follow fairly distinct corrective justice and retributive justice paradigms when making these judgments. Because desert plays a bigger role in retributive justice judgments, one would expect there would be a lesser role for moral luck in making judgments concerning fines and imprisonment. At the other extreme, desert plays a much smaller role in corrective justice judgments, making participants more likely to fully honor moral luck. This is consistent with the results in Study 2, where nearly two-thirds of our subjects awarded Kyle nothing in the "window closed" condition.

B. State of Mind

The state of mind with which the actor inflicts the increased risk on an individual matters a great deal to our participants. This shows itself both in the compensation the actor must give the victim and, even more strongly, in the further punishments our participants desired to inflict. Except for a few pockets of strict liability, for example, liability for abnormally dangerous activities, U.S. tort law does not require that a person who injures another compensate the victim unless the harmful conduct was done negligently or worse. Criminal liability usually requires an even more culpable state of mind. Our respondents assigned both civil and criminal responsibility to a negligent actor. However, they assigned more—sometimes considerably more—compensation and punishment to the actor that *knowingly* created the risk.

From a moral reasoning perspective, this is not difficult to understand. Mere carelessness is not wrong in the same sense that knowingly leaving a stranger open to serious harm is wrong. In the negligent case, the actor has made an error and presumably only needs to be properly educated and careful to prevent future recurrences. In the knowing case, the actor has morally failed and his action borders on evil. It is therefore not surprising that participants were more morally outraged by Pilling's conduct in the knowing condition and that this outrage was expressed strongly on the more punitive measures—punitive damages, fines, and prison—which are intended to punish moral wrongdoing, rather than restore the victim. Unsurprisingly, the innocent condition saw much less moral outrage and much lower sanctions than the negligent condition. All these results are consistent with earlier research by Robinson and Darley and others demonstrating that desert is the central component in retributive justice intuitions.

The innocent condition did present one puzzle, though. We worked quite hard to create a story in which the perpetrator of the chemical leak would be perceived as only innocently responsible for the release of the chemical into the atmosphere.

> Through no fault of Pilling, the machinery used in the plant malfunctioned and did not distribute the buffering chemical, which Pilling had diligently added to the filtering system. Pilling was a responsible person. Had he known of the danger he would have shut down the process and called environmental authorities to find out how to dispose of the bad batch of glue without putting anyone at risk.

Nonetheless, a majority of our respondents held that the perpetrator was liable even in that condition. We did not anticipate this result. Perhaps the absence of any "judicial instructions" on the appropriate responsibility standard produced this effect (Diamond et al. 2003; Sanders forthcoming). It is something we plan to pursue in future research.

The absence of an instruction permitted us to observe a strong inclination to impose strict liability on Pilling. Strict liability for injuries caused by what are deemed to be abnormally dangerous activities has played a small but enduring part in English and U.S. law. Whether an activity is abnormally dangerous is a question for the courts in the United States and it is unlikely that any U.S. court would impose strict liability on these facts.[38] Nevertheless, our vignette does resonate with the language of Judge Blackburn in *Rylands v. Fletcher*: "The person who for his own purposes brings on his land and collects and keeps there anything likely to do mischief if it escapes, must keep it at his peril, and if he does not do so is prima facie answerable for all the damage which is the natural consequences of its escape."[39]

One interpretation of our results is that many of our respondents concluded that Pilling allowed a chemical likely to do mischief to escape into the air, and he is liable for the damages it causes even if he is without fault (see Honoré 1999). However, there are other possible interpretations. Subjects might have concluded that someone in Pilling's company is at fault for the mistake in mixing up the batch of Glu-Tight and Pilling is being held vicariously responsible for this act. Or they may believe that Pilling is at fault for being so secretive about his technique for removing any danger from the manufacturing process.[40]

These potential explanations do not foreclose the possibility that our respondents hold the view that "that the hazardous enterprise, even though it be socially valuable, must pay its way, and make good the damage inflicted" (Prosser & Keeton 1984:549). Respondents who assign liability in the innocent condition may believe there is a duty to pay damages to the person who has had the stroke regardless of the mental state of the actor; the perpetrator inflicted a manufacturing process with associated risks into a neighborhood that previously had not contained that risk in order to profit from the manufacturing process.

We cannot tell at this point the extent to which laypeople prefer strict liability to negligence generally as a threshold for imposing liability in situations such as this. Nor can we tell the extent to which these findings reflect "deep-pocket" effects or bias against

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[38]The case would be somewhat stronger if the chemical in question were harmful to the public at large, but even there strict liability is very unlikely because the activity of making glue is not likely to be seen as abnormally dangerous (see Dobbs 2001). Some releases from some activities may qualify for abnormally dangerous treatment, however. See In re Hanford Nuclear Reservation Litig., 497 F.3d 1005 (9th Cir. 2007).

[39]L.R. 3 H.L. 330 (1868). Blackburn's approach did not even completely survive appeal in the *Rylands* case, supplanted on appeal by Lord Cairn's "nonnatural use" test.

[40]The paragraph right before the mental state manipulation may have led to this conclusion. It read: "Once Pilling learned that his manufacturing process emitted the dangerous chemical, he worked out a way to make the process safe. He revised the process to include adding a buffer that neutralizes all of the dangerous molecules, preventing them from ever reaching the air through the plant's smokestacks. Pilling regards this buffering process as a trade secret and insists that he be the only one to operate this aspect of the process."

corporate defendants. Some research suggests that these effects are real and robust (e.g., Chin & Peterson 1985; Hammitt et al. 1985; Ostrom et al. 1992), while others tend to show that the presence of a deep-pocket defendant does not increase damage awards (e.g., Hans 2000:Ch. 7; MacCoun 1996). Further research into these important issues is clearly in order.

Regardless of the initial threshold for liability, however, our studies repeatedly show a graded effect of the perpetrator's state of mind: the more culpable the state of mind, the greater the damages. This intuition is consistent with most notions of criminal justice. These studies suggest that people award victims greater compensation when they were injured by relatively worse actors. While the tort system may be chiefly about compensation, a certain amount of retributive justice makes its way into the system, even with respect to compensatory damages. This fact is inconsistent with formal legal doctrine but conforms to earlier findings (Feigenson et al. 1997; Greene et al. 1999; Horowitz & Bordens 1990) and the intuition of many attorneys that jurors will trade off various elements of a tort.

C. Comparing State of Mind and Outcome

When we compare the state of mind results and the results concerning outcome severity we can see that state of mind exerts its influence on individual judgments primarily by engaging retributive justice instincts focused on desert. On the other hand, the outcome severity exerts its influence primarily by engaging corrective justice instincts focused on compensation.

Figure 8 crosses our manipulations and these two justice perspectives.

As Figure 8 indicates, although mental state may have its greatest effect on judgments grounded in retributive justice and outcome its greatest effect on judgments grounded in corrective justice, for both there are "spillover effects." In Study 1, the more serious the actor's mental state, the larger the compensatory damage within severity outcome. For example, when the defendant acted knowingly, the subjects assigned more compensatory damages in each outcome condition than they did when the defendant was only negligent or acted innocently. Mental state also has an effect on corrective justice judgments.

Spillover effects occur in the other direction as well. In Studies 1 and 4, outcome severity affected our subjects' retributive justice judgments. When the plaintiff was less seriously injured, the subjects punished the defendant less. That is, they rewarded "moral luck." Indeed, one way to view societal norms concerning moral luck is to view them as

Figure 8: The effect of state of mind and outcome severity on punishments topping corrective and retributive justice motives.

	Corrective Justice (As measured by compensatory damages)	**Retributive Justice (As measured by punitive damages, fines, and jail)**
Defendant State of Mind (Knowing, negligent, or innocent)	Some effect	Large effect
Outcome severity (Stroke/no stroke)	Large effect	Some effect

spillover effects. The domains of justice instincts are not perfectly walled off from each other (Robbennolt et al. 2003).

These spillovers notwithstanding, by and large our respondents honor the distinction between retributive and corrective goals. Mental state had a much larger effect on retributive justice judgments (i.e., on punitive damages, fines, and prison), while outcome severity had a much larger effect on corrective justice judgments (i.e., compensatory damages).

VI. Consequences for the Law: Some Avenues for Future Research

Our moral luck findings are broadly consistent with previous research in social psychology (cf. Robinson & Darley 1995). How do they relate to existing legal approaches?

In many ways, these results suggest that legal doctrine is broadly consistent with people's intuitions about the consequences of putting people at risk, and at the same time reflect the tensions in the legal system's approach to moral luck. On the corrective justice side, even in the case in which the victim escaped harm, our participants assigned some compensatory damage liability to the defendant. Here, however, it is very useful to distinguish the situations where the window of injury was closed or still open. When the window has closed, most of our participants did not believe that compensation should be awarded, although they did mete out some amount of punishment. When the window of risk was still open, in contrast, participants greatly preferred to take a wait-and-see approach via some kind of escrow system in which the victim could ultimately either be compensated fully, or not at all. Although courts have not been willing to adopt this procedure, a number of courts have altered the ordinary rules concerning statutes of limitations and res judicata to assist plaintiffs with slowly developing injuries.[41]

On the retributive justice side, our respondents were prepared to assign punitive damages to defendants even in the absence of injury. The respondents, however, assigned lesser sanctions when the victim had not suffered a stroke. This half-way position parallels the current legal uncertainty concerning the proper relationship between the harm suffered by the plaintiff and the proper size of punitive damage awards.[42] There are many

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[41]For example, in the United Kingdom and Australia, courts are empowered to grant "provisional damages" where there is a recognized risk that the injured person may, as a result of the accident, develop a further disease, with the provisional payment having been made on the basis that the disease will not occur. If the contemplated disease does occur, the injured person can seek further damages (see O'Meally 2007; Sprague 1997). A similar result has been reached in Texas, at least with respect to asbestos injuries. Pustejovsky v. Rapid-American Corp., 35 S.W.3d 643 (Tex. 2000).

[42]See Sharkey (2003), Sebok (2007), and the various opinions in State Farm Mut. Auto. Ins. Co. v. Campbell, 538 U.S. 408, 416, 123 S. Ct. 1513, 155 L. Ed. 2d 585 (2003); Philip Morris USA v. Williams, 549 U. S. 346, 127 S. Ct. 1057, 166 L. Ed. 2d 940 (2007); Exxon Shipping Co. v. Baker, ___ U.S. ___, ___, 128 S. Ct. 2605, 2621 (2008). The majority in each of these cases ties the size of punitive damages to what happened to the plaintiff, while the dissenting opinions argue for a greater disconnect between award size and injury. Rather, they want the reprehensibility of the defendant's conduct to be a more significant determinant of the size of punitive awards.

reasons, of course, why it may be unwise for law simply to track everyday morality, but we should recognize that the complete elimination of this moral luck effect from our legal system may be counter to jurors' natural inclinations.

By the same token, there are a few areas into which this work might be extrapolated, suggesting avenues for additional empirical study. Significantly, our subjects' strong preference for the wait-and-see approach is consistent not only with such doctrinal moves as tolling statutes of limitations, but also with broader reconceptualizations of the tort system. For example, our results are consistent with a system in which society ensures that stroke victims are cared for medically irrespective of the cause of their stroke. To the extent that wrongdoers have caused greater societal expenditures, the government might have the right to be reimbursed by the tortfeasor. In essence, our findings are consistent with their being more first-party social insurance, stronger regulation, and less plaintiff-oriented tort law. Systems can be also devised in which the victims themselves have the right to bring actions, with some sharing of damages between themselves and the government.

This kind of system already exists in connection with environmental cleanup. CERCLA, the Comprehensive Environmental Response, Compensation, and Liability Act,[43] creates a Superfund through which the government can identify especially dangerous toxic waste sites and clean them up. The government then has the right to sue a range of actors who are statutorily responsible for the financial burden of the clean-up effort. In future work, we will explore people's intuitions about such a system and, for that matter, we will explore how the presence or absence of insurance affects their judgments more generally. Insurance coverage is generally kept from jurors, but it may well lurk in the background of their decision making. While all this is beyond the inferences that can legitimately be drawn from our findings as they now stand, we wish to emphasize that the questions we address engage with very important social issues.

Perhaps even more importantly, we wish to explore at greater depth the willingness of many of our subjects to award damages even when Pilling's actions seem to have been neither intentional or negligent. Have we in fact presented a fact pattern where people's instincts are to employ a strict liability standard of responsibility? If so, are there identifiable boundaries to this instinct? Insofar as there are domains where societal norms impose strict liability while law requires negligence or more, the tension between the legal regime and everyday norms raises the very sorts of concerns that generated this research in the first instance. If our findings give comfort to those who believe the law should honor moral luck in the case of inchoate torts, they raise a red flag about the standard of care required for liability. If we began our study by focusing on the problem of doing wrong without creating harm, we end with a new focus for future research: creating harm without doing wrong.

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[43]42 U.S.C. §§ 9601–9675.

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