Since its inception, the felony-murder rule has been a controversial issue in the law. It states that all participants in a felony, regardless of intent to kill, can be charged with murder if someone dies as a result of the felony. Defendants of the rule claim that the rule is necessary for deterrence and for an equitable level of retribution (Binder, 2008; Crump, 2009). Critics argue that it runs afoul of fundamental principles of our legal system and that, because of certain cognitive biases present in jurors, the application of the law is unjust (Lijtmaer, 2008). If what critics espouse is true, felony-murder laws pose a threat to a fair distribution of justice. The purpose of this research was to investigate this debate by examining whether a cognitive bias, specifically the hindsight bias, impedes the ability to fairly apply the felony-murder rule.

THE FELONY-MURDER RULE

Developed in the mid-19th century, the felony-murder rule states that any killing during the course of a felony constitutes murder, even if the death was accidental or unintentional (Binder, 2004; Crump, 2009; Lijtmaer, 2008). In most circumstances, to commit murder, a perpetrator must have the specific intent or mental state—the mens rea—to kill. If a victim dies but the perpetrator did not have the specific intent to kill, he or she could be charged with a lesser crime such as manslaughter or negligent homicide as opposed to murder. However, under the felony-murder rule, the mens rea required for the charge of murder is supplied from the specific intent to commit the underlying felony (Lijtmaer, 2008).

An implication of the felony-murder rule is that murder charges can apply to many different types of felonies in different situations. Gunmen attempting to rob stores can be charged with murder if their gun accidentally goes off and kills the clerk, regardless of any intent to kill the clerk. The charge of murder can also be attached to felony accomplices such as getaway drivers and look-outs, even if they are away from the scene when the death occurred. The felony-murder rule can even apply to killings by third parties, such as victims who fight back or responding police officers.

Many legal scholars have criticized the felony-murder rule as indefensible (e.g., Gerber, 1999; People v. Aaron, 1980). The main criticism of felony-murder is that these situations are contrary to a fundamental principle of the legal system, namely that criminal results by themselves are not sufficient to constitute a crime but rather, a crime requires a specific mens rea. The general application of the felony-murder rule is criticized because it separates criminals from their culpable mindset (Crump, 2009). It assigns to felons who lack the intent to kill the same blameworthiness as a person with specific and premeditated intent to kill.

Finkel and Duff (1991) and Finkel and Smith (1993) have shown empirically that this assignment of blame is not endorsed by the general public. In multiple experiments, they asked participants to judge and assign blameworthiness to actors in felony-murder scenarios. Participants consistently rejected equal blameworthiness and equivalent treatment of accessories tried for murder and criminals with actual intent to kill. People view culpability differently than that defined by the felony-murder rule. Yet prosecutors continue to charge defendants under felony-murder statutes, juries continue to convict using the felony-murder rule, and appellate courts continue to uphold these decisions (Associated Press, 2012; Finkel & Smith, 1993; Ghast, 2012; People v. Klebanowski, 2006; Tison v. Arizona, 1987).

Legal scholars have speculated as to why the oft criticized law has had such longevity (Lijtmaer, 2008; Tomkovicz, 1994). One explanation involves the development of limitations on felony-murder statutes. During the late 20th century, many state legislatures modified felony-murder statutes in an attempt to make the law more fair (Binder, 2008; Lijtmaer, 2008). By eliminating the most egregious and unjust applications of felony-murder, these modifications may have muted critics, making it harder for opponents of the rule to repeal it outright (Lijtmaer, 2008; Tomkovicz, 1994). One such modification is that felony-murder can only be applied in certain groups of inherently dangerous felonies such as armed
robbery, arson, rape, and assault with a deadly weapon (Binder, 2004; Lijtmaer, 2008; Tomkovicz, 1994).

Two other modifications have attempted to limit the legally troubling and controversial cases of felony-murder deaths caused by third-party intervention (e.g., victims who fight back, responding police officers). These modifications revolve around competing theories of causation, and one of the modifications may introduce cognitive biases into the legal decision-making process. The first modification relies on the *agency theory* of causation, which holds that felons and accomplices are only held accountable for deaths that they are the direct ‘agent’ of bringing about. It precludes the application of felony-murder when the death is a result of any third-party intervention (Lijtmaer, 2008). For example, criminals are guilty of felony-murder if they kill someone with their car fleeing from a robbery but not if a responding police officer does the same. Although their actions caused the felony and subsequent police response that led to a death, they were not the direct agents of the death.

A less strict limitation relies on the *proximate cause theory*. A proximate cause is a legally defined restriction on a cause-in-fact (McLaughlin, 1925). A cause-in-fact, or a ‘but for’ cause, of an event is a philosophically necessary cause. But for a given action, the event in question would not have occurred. However, a cause-in-fact can be remote and attenuated and, therefore, is not a sufficient legal definition of causation. But for car manufacturers, there would never be car accidents, but this does not mean that car manufacturers should be held legally responsible for all car accidents. Proximate cause is a narrower, legal definition of cause that deals with foreseeability. A person’s actions are said to be a proximate cause if a reasonable person should foresee that the actions, either directly or indirectly, will lead to the harm (Lijtmaer, 2008; McLaughlin, 1925). Applied to felony-murder, the proximate cause limitation means that felons can still be held responsible for third-party killings but only if those deaths were a foreseeable consequence of the felony.

Proponents of the felony-murder rule argue that these modifications justify continued use of the rule. Crump (2009) states that the modern felony-murder law, which requires that the underlying felonies be inherently dangerous and a proximate cause of the death, reunites the felony-murder statutes with the culpability of the offender. Another defender of the felony-murder rule, Binder (2008) thinks that limiting felony-murder to inherently dangerous felonies with a foreseeable possibility of death ensures that felons who negligently cause death receive a fair punishment. Others (e.g., Lijtmaer, 2008) argue that these modern incarnations of the rule, especially the proximate cause limitation, are still problematic and that limitation has become a central issue of some appellate decisions (*People v. Klebanowski*, 2006; *People v. Lowery*, 1997). Because these supposedly limiting modifications have been implemented, felony-murder convictions have increased (not decreased) and prosecutors have used the law to charge non-dangerous felons and felony accomplices not directly connected to a dangerous act (Binder, 2008; Lijtmaer, 2008).

A possible explanation for the ironic increase in felony-murder convictions under the limiting statutes is that these new laws have introduced a cognitive bias, namely hindsight bias, into decision making (Lijtmaer, 2008). Hindsight bias can lead to difficulties for jurors making after-the-fact determinations of whether a death was foreseeable. Simply stated, knowing that a death occurred makes that death seem likely. Jurors then have difficulty disregarding information about that death and making a judgment about its subjective foreseeability. They assume that defendants should have foreseen that their actions would lead to a death. Hence, convictions are likely. In addition, because proximate causation limitations require foreseeability and hindsight bias makes every felony-related death more likely in hindsight than foresight, the proximate cause threshold may always be met in hindsight. This may lead other legal actors—prosecutors, judges, and legislators—to expand, rather than limit, the scope of felony-murder (Lijtmaer, 2008). This study specifically assessed the role of foreseeability and the effects of the hindsight bias on felony-murder judgments.

### THE HINDSIGHT BIAS

The hindsight bias is the ‘tendency for individuals with outcome knowledge (hindsight) to claim that they would have estimated a probability of occurrence for the reported outcome that is higher than they would have estimated in foresight (without the outcome information)’ (Hawkins & Hastie, 1990, p. 311). The formative study, conducted by Fischhoff (1975), demonstrated that outcome knowledge significantly increased participants’ reports of the likelihood of an event. Fischhoff (1975) theorized that cognitive processes could explain this phenomenon by positing that, through immediate assimilation, people make sense of both the possible causes of the outcome and the outcome itself. Through this sense-making process, they heuristically assimilate information about outcomes and their antecedent events in a way that makes a coherent story. Information that causally supports the outcome will be assimilated and remembered as more important than information that does not support the outcome. Afterwards, it is nearly impossible to imagine how the events of the story could lead to any other possible outcome, increasing *post hoc* probability ratings for that outcome.

A number of studies have supported the hypothesis that causal explanation involved in the sense-making process is a key mechanism in the inevitability aspect of the hindsight bias (Roese & Vohs, 2012). Wasserman, Lempert and Hastie (1991) demonstrated that a necessary precursor to hindsight bias is creation of a causal explanation (as opposed to a chance explanation) between given antecedents and the outcome. Other studies have shown an increase in hindsight bias with an increase in causal reasoning. Hindsight bias increased when participants were forced to think of conditional counterfactuals, that is, counterfactual thoughts that forced participants to causally relate antecedents to the outcome (Roese & Maniar, 1997; Roese & Olson, 1996). A similar effect was found for surprising outcomes when participants were able to causally explain what happened (Pezzo, 2003). In other words, the cognitive desire to make coherent sense of a series of events leads people to make causal explanations that result in hindsight bias.
Since Fischoff’s seminal study, a large body of research using many different methodologies has examined the hindsight bias (for reviews see Blank, Musch & Pohl, 2007; Hawkins & Hastie, 1990; Hoffrage & Pohl, 2003), and sense-making continues to be a consistent explanation of this effect, especially for event likelihood estimates (Blank, et al., 2007; Blank & Nestler, 2007; Hawkins & Hastie, 1990; Roese & Vohs, 2012). Meta-analyses have shown that the hindsight bias is a robust effect, is applicable in a myriad of circumstances, and is difficult to debias (Christensen-Szalanski & Willham, 1991; Guilbault, Bryant, Brockway & Posavac, 2004).

**Hindsight bias in jurors’ decision making**

Studies have also examined the hindsight bias in a variety of contexts in which jurors make decisions. To award damages, civil juries must decide if defendants’ actions were negligent or reckless by determining whether a defendant should have foreseen the potential for harm. But juries make these judgments with outcome knowledge that harm did occur, introducing the hindsight bias. Kamin and Rachlinski (1995) showed that when mock jurors judged the negligence of civil defendants who failed to take precautions to prevent a flood, those who knew that a flood occurred gave higher negligence ratings than those who did not. Hastie, Schkade and Payne (1999) assessed civil juries’ judgments of recklessness (the criterion for awarding punitive damages) rather than mere negligence (the criterion for awarding compensatory damages). Using methodology similar to Kamin and Rachlinski’s and simulating judgments regarding a train accident, they found a large hindsight affect; significantly more participants thought it was reckless for the train to operate if they were told that it eventually crashed than if they lacked that information.

The hindsight bias has also been shown to affect civil liability judgments against individuals. LaBine and LaBine (1996) looked at Tarasoff-type cases involving psychologists’ duty to warn others about dangerous clients. Using the same clinical information, participants who knew that the patient became violent were more likely than those without such knowledge to report that outcome as foreseeable and judge the therapist to be negligent. In the context of search and seizure cases, Casper, Benedict and Perry (1989) showed that jurors viewed a questionable police search as more justified when they knew that it uncovered an illicit object than when they lacked that knowledge.

**THE PRESENT STUDY**

Statutory reforms limit the charge of felony-murder to situations where an offender’s actions were a proximate cause of a death. Proximate cause judgments require an assessment of foreseeability, and foreseeability judgments are made in hindsight. Thus, the present research examined the role of hindsight bias in a felony-murder case in which proximate causation is required. More specifically, the study examined whether the proximate causation requirement that decision makers assess whether death was a likely outcome of the felony—when they already know that a murder has occurred—introduces the hindsight bias and affects beliefs about culpability.

Participants read a felony crime vignette that closely followed the facts of People v. Klebanowski (2006) and that described a shooting incident in which an off-duty police officer, in the process of being robbed, shot the robber. The defendant in the case was the accomplice of the robber, namely his getaway driver. These case facts incorporate two controversial means by which offenders can be charged with felony-murder: the defendant was an accomplice, away from the scene when the robber was shot to death, and the killing was done by a third party—the victim who fought back.

We were most interested in beliefs about the defendant’s role in the robber’s death. We manipulated three variables in the vignettes that could affect notions of the foreseeability of death: (1) whether participants learned that the robber died; (2) whether the robber’s gun was lethal; and (3) whether the robber had a violent criminological history. Information about these factors is typically included as part of the evidence presented in a murder case. After reading the vignette, participants determined the likelihood of a death occurring. We hypothesized that those who were told that a death occurred would rate that outcome as much more likely than those who were given no-outcome information.

We also suspected that participants would assimilate evidentiary information to create a narrative that leads inexorably to the actual outcome. We predicted that through causal attributions, those with information that a death occurred would provide high likelihood ratings regardless of whether the death was more likely (i.e., a lethal weapon and a violent criminal history) or less likely (i.e., a non-lethal weapon and a non-violent history). Knowing that someone died would cause participants to perceive the situation as dangerous regardless of whether case facts supported that conclusion. On the other hand, we predicted that participants with no-outcome information would vary considerably in their likelihood ratings based on the case facts (i.e., weapon lethality and criminal history) themselves. Thus, we also hypothesized that there would be an interaction effect between the presence of outcome information and other case facts on likelihood ratings.

**METHOD**

**Participants**

An *a priori* power analysis was completed using online software (Faul, Erdfelder, Lang & Buchner, 2009; Soper, 2004). It was determined that a minimum of 274 participants would be sufficient to detect the usually observed small to medium hindsight bias effect (*Cohen’s d* = .39; Guilbault et al., 2004) at a .05 alpha level. A goal of obtaining approximately 300 total participants was set to ensure that at least 274 participants remained after missing data and eligibility screening. The final sample included a total of 289 participants.

Participants were required to be eligible for service on a jury: to be US citizens and to either have a driver’s license or be registered to vote. Those with a felony conviction or those younger than 18 years of age were excluded. Participants were recruited from two different sources. One group (*n* = 148) included students from a university in a mid-sized western city who were compensated with class credit. The
second group \((n = 169)\) was recruited through Amazon’s Mechanical Turk (MT; Amazon.com, Inc. 2011), an online forum where ‘requesters’ can hire ‘workers’ to complete online tasks. Social scientists have begun to use MT because of its many advantages including access to a large participant pool that tends to be more representative than a convenience sample (Buhrmester, Kwang & Gosling, 2011). Participants were hired to complete the materials online and were compensated $3.00 for their time. Nineteen of these participants withdrew early or did not submit the necessary information. Nine others were excluded for not meeting eligibility criteria. This left 141 participants in the MT sample.

Overall, the sample was predominately female (64%) and Caucasian (76%). Participants ranged in age from 18 to 62 years. There were no significant differences between the MT and student samples on gender and ethnicity (all \(ps > .05\)). The MT sample was older (Mdn = 32 years) than the student sample (Mdn = 20 years), \(U = 2033.00, Z = -11.78, p < .001\), two-tailed. The MT sample also tended to be more politically liberal, \(\chi^2(4) = 21.20, p < .001\), two-tailed, and have a higher level of education, \(\chi^2(4) = 104.26, p < .001\), two-tailed. The two samples did not show meaningful differences on any dependent variables of interest and were combined for analysis.

Materials

Each participant received an experimental packet containing the manipulated crime vignette and dependent measures. Student participants filled out a paper and pen version of the packet and MT participants filled out an electronic version adapted for Survey Monkey (2011). All packets contained six parts: (1) informed consent document; (2) armed robbery crime vignette; (3) likelihood rating measure; (4) follow-up measures; (5) demographic questions; and (6) the debriefing statement. Packets for the two samples were uniform except for the addition of one question to the online version designed to ensure that participants were reading the directions.

Armed robbery vignette

The facts of the robbery vignette were based on the evidence in People v. Klebanowski (2006), a case appealed to the Illinois Supreme Court. Klebanowski agreed to be the getaway driver in an attempted armed robbery. The robber was shot and killed during the robbery when he pointed his inoperable BB gun at the victim, an armed off-duty police officer. Klebanowski was charged with and convicted of felony-murder for the death of the robber. Klebanowski appealed on multiple grounds, including that he should not be held accountable for the unforeseeable intervention of a third party (the police officer). The Illinois Supreme Court relied on the proximate cause theory in upholding Klebanowski’s conviction and ruled that it was foreseeable that violence might result during the course of the armed robbery (People v. Klebanowski, 2006).

With these facts, the vignette described how two men (henceforth referred to as the robber and the getaway driver) agreed to commit an armed robbery. The vignette included important aspects of the actual case including the fact that the robber brought a weapon and followed a potential victim down an alley and out of sight of the getaway driver.

Eight versions of the story were created by manipulating three independent variables, each with two levels. Two variables (weapon type: broken gun unloaded, real gun loaded; robber’s criminal history: violent, non-violent) were manipulated to influence the perceived likelihood that a death might occur. The weapon was a 9 mm semi-automatic handgun that was described either as broken and unloaded or working and loaded. In the non-violent criminal history condition, participants were told that the robber had never committed a crime but planned this robbery because he had lost his job and needed money. In the violent criminal history condition, participants were told that the robber had prior convictions for robbery and assault and needed money because he had just been released from prison with little money and no job. The conditions that made the situation more dangerous and a death hypothetically more likely involved a real loaded gun and violent history; the conditions that made it less so involved a broken unloaded gun and non-violent history.

The third independent variable was outcome information regarding the death of the robber (outcome given, no outcome given). In the no-outcome condition, the vignette ended without information that the victim was an off-duty police officer who gave chase and shot and killed the robber in self-defense. Vignettes ranged in length from approximately 450 words to approximately 600 words.

Likelihood ratings

One set of questions measured likelihood (i.e., probability estimates of how likely a certain outcome was). Participants were asked to rate the likelihood of four different outcomes: (1) that the robber and the getaway driver would have made a safe getaway with the money; (2) that someone would have died during the course of the armed robbery; (3) that the robber and the getaway driver would have been apprehended by the police; and (4) that the robber would have abandoned the getaway driver and escaped in another direction, keeping the money for himself. They responded on a scale from 0 (zero likelihood) to 100 (absolute certainty). They were reminded that there are many possible outcomes to the story and people in the outcome condition were specifically told to ‘ignore the outcome that was described’. Only outcome (2) concerned felony-murder. The other three questions were fillers provided to hide the goal of the study as well as the ‘true’ outcome for participants in the no-outcome condition.

Follow-up measures

Follow-up questions were used to measure beliefs about the felons, blame, and responsibility. Four items assessed how participants viewed the intentions and knowledge of the felons. The items were statements to which respondents indicated agreement on a five-point scale (1 = strongly disagree and 5 = strongly agree): (1) the robber intended to hurt someone in the course of the robbery; (2) the robber intended to kill someone in the course of the robbery; (3) the getaway driver intended for someone to be hurt in the course of the robbery; and (4) the getaway driver knew there was a risk that someone would be hurt in the course of the robbery.
All participants were then asked to assign blame for the robbery to each of four sources: the robber, the getaway driver, the robbery victim, and other factors. They were told to assign a percentage of the total blame to each source and that the percentages must add to 100%.

Participants in the outcome condition were then asked three additional questions that pertained to the death of the robber and were not asked of participants who did not know that the robber died. The first question asked them to assign a percentage of blame for the death of the robber. Again, there were four possible sources (the robber, the getaway driver, the robbery victim, and other factors), and the total blame had to add to 100%. The second and third questions asked if the getaway driver and the robbery victim should be held responsible for the death of the robber. They responded on a five-point scale from 1 (non-existent) to 5 (yes, definitely).

The final questions in this section were manipulation checks and were asked of all participants. The first asked how dangerous was the weapon used by the robber on a scale from 1 (not dangerous) to 5 (extremely dangerous). The second asked how extensive was the robber’s criminal history from 1 (non-existent) to 5 (extremely extensive). The final manipulation check asked how likely the robber’s weapon, if used, would cause bodily injury from 1 (extremely unlikely) to 5 (extremely likely).

Demographics
A short demographic questionnaire followed. Requested information included age, ethnicity, political leaning, and education level.

Procedure
The 2 (outcome information: present, absent) × 2 (weapon type: broken gun unloaded, real gun loaded) × 2 (robber’s criminal history: violent, non-violent) manipulated crime vignettes created a total of eight unique conditions. Participants were randomly assigned to one condition of this between-subjects experimental design. Student participants completed the paper and pen survey in less than 30 minutes. The median time for MT participants to complete the packet online was 11 minutes 22 seconds.

RESULTS
Manipulation check
Manipulation checks showed that the experimental variables had the intended effects. Independent samples t-tests were computed using each answer to the manipulation check questions as a dependent variable and the corresponding dangerousness variable as the independent variable. Participants reported that the weapon was more dangerous when it was real/loaded (M = 4.57, SD = 0.69) than when it was broken/unloaded, M = 2.64, SD = 1.14, t(218) = −17.11, p < .001, η² = .57, two-tailed. They also said that the real/loaded weapon was more likely to cause harm (M = 4.74, SD = 0.68) than the broken/unloaded weapon, M = 2.85, SD = 1.46, t(181) = −14.03, p < .001, η² = .57, two-tailed. Finally, participants said that the violent robber had a more extensive criminal past (M = 3.64, SD = 0.85) than the non-violent robber, M = 1.34, SD = 0.78, p < .001, η² = 23.91, p < .001, η² = .67, two-tailed.

Likelihood ratings
Participants were asked how likely it was (0–100% likely) that someone would have died during the course of the robbery. Death likelihood ratings, regardless of group, had a mean of 41% and standard deviation of 26%. A 2 (outcome information) × 2 (weapon type) × 2 (criminal history) factorial ANOVA was used to test the hypotheses, which are restated below. One respondent was deleted for failing to give a likelihood estimate.

The first hypothesis was that the presence of outcome information would increase death likelihood ratings. There was a significant main effect for outcome information, F(1, 280) = 11.38, p = .001, η² = .04. It was in the predicted direction. The stated probability of a death occurring was higher among respondents who were given outcome information that a death had occurred (M = 45%, SD = 25%) than among respondents without such outcome information (M = 36%, SD = 25%). Hindsight judgments differed from foresight judgments.

The effects of both dangerousness variables (criminal history and weapon type) on death likelihood ratings were in the expected direction. Participants who learned that the robber had a violent past rated the likelihood of a death as higher (M = 43%, SD = 25%) than did those who learned that the robber had a non-violent past (M = 38%, SD = 25%); F(1, 280) = 7.05, p = .01, η² = .03. Participants who learned that the gun was broken/unloaded rated the likelihood of death as lower (M = 36%, SD = 26%) than did those who learned it was functional/loaded (M = 44%, SD = 24%); F(1, 280) = 3.89, p = .05, η² = .01. Participants who learned that the weapon type, if used, would cause bodily injury from 1 (extremely unlikely) to 5 (extremely likely).
Table 1. Mean death likelihood ratings in each cell

<table>
<thead>
<tr>
<th>Weapon type</th>
<th>Robber’s violent history</th>
<th>Robber’s non-violent history</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M (%)</td>
</tr>
<tr>
<td>Outcome information missing Real/loaded</td>
<td>40</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>38</td>
<td>33</td>
</tr>
<tr>
<td>Broken/unloaded Real/loaded</td>
<td>36</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>47</td>
</tr>
</tbody>
</table>

Table 2. Mean death likelihood ratings for outcome information by robber’s criminal history

<table>
<thead>
<tr>
<th>Robber’s criminal history</th>
<th>Outcome information missing</th>
<th>Outcome information present</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M (%)</td>
</tr>
<tr>
<td>Violent</td>
<td>78</td>
<td>39</td>
</tr>
<tr>
<td>Non-violent</td>
<td>67</td>
<td>32</td>
</tr>
</tbody>
</table>

Table 3. Mean death likelihood ratings for outcome information by weapon type

<table>
<thead>
<tr>
<th>Weapon type</th>
<th>Outcome information missing</th>
<th>Outcome information present</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M (%)</td>
</tr>
<tr>
<td>Real/loaded</td>
<td>75</td>
<td>41</td>
</tr>
<tr>
<td>Broken/unloaded</td>
<td>70</td>
<td>30</td>
</tr>
</tbody>
</table>

a significant interaction of outcome information with criminal history or weapon type, there is no good evidence to support the second hypothesis.

Follow-up measures

Other measures included assessment of the felons’ mindset, blame, and responsibility. Four questions assessed how participants interpreted the intention and knowledge of the felons. Three assessed intent: whether the robber intended to hurt someone, whether the getaway driver intended to hurt someone, and whether the getaway driver knew there was a risk that someone could be hurt during the course of the armed robbery. These were assessed on a scale from 1 (strongly disagree) to 5 (strongly agree). All participants tended to disagree that the robber intended to hurt someone (M = 2.10, SD = 0.94, 95% CI [1.99, 2.21]), that the robber intended to kill someone (M = 1.60, SD = 0.76, 95% CI [1.51, 1.69]), and that the getaway driver intended to hurt someone (M = 1.53, SD = 0.80, 95% CI [1.44, 1.62]). Respondents did tend to agree that the getaway driver knew that there was a risk that someone might be hurt (M = 3.61, SD = 1.02, 95% CI [3.49, 3.73]). The two outcome conditions did not differ on these variables (all ps > .29, all $\eta^2 < .01$).

Participants were asked to assign a percentage of the blame for the armed robbery to each of four different parties: the robber, the getaway driver, the robbery victim, and other factors. Participants assigned most blame to the felons themselves but did not assign blame equally. On average, the robber was assigned 66% (SD = 16%) of the blame for the robbery, whereas the getaway driver (the felony-murder defendant) was assigned only 28% (SD = 14%) of the blame. Very little blame was assigned to either the robbery victim ($M = 2\%$, $SD = 7\%$) or other factors ($M = 5\%$, $SD = 9\%$). The median and mode for both of these parties was 0% of the blame.

Participants in the outcome condition were also asked additional questions regarding blame and responsibility for the death of the robber. First, they were asked to assign a percentage of the blame to each of four different parties: the robber, the getaway driver, the robbery victim, and other factors. Most of blame for the robber’s death ($M = 71\%$, $SD = 21\%$) was assigned to the robber himself. Only an average 11% of the blame ($SD = 12\%$) was assigned to the defendant getaway driver who was removed from the scene when the robber was shot. Fifteen percent ($SD = 18\%$) was assigned to the robbery victim, who in fighting back actually pulled the trigger. Very little blame ($M = 4\%$, $SD = 8\%$) was assigned to other factors.

Although participants were not asked to give verdicts, those in the outcome condition were asked if either the getaway driver or the robbery victim should be held responsible for the death of the robber. They answered on a five-point scale from 1 (no, definitely not) to 5 (yes, definitely). They did not think the robbery victim should be held responsible for the robber’s death ($M = 1.81$, $SD = 0.98$, 95% CI [1.65, 1.97]) and contrary to the felony-murder rule, they also reported that the getaway driver should not be held responsible for the robber’s death ($M = 2.11$, $SD = 1.05$, 95% CI [1.94, 2.28]). Fewer than 11% of participants in the outcome condition said that the getaway driver should be held responsible for the death of the robber.

DISCUSSION

Participants’ knowledge of the outcome of a robbery—in this case, that the robber was killed—affected their beliefs about the likelihood of that outcome. As predicted, participants said that a death was a priori more probable when they were told that a death eventually did occur than when they had no such information. Given that the proximate cause version of felony-murder statutes requires jurors to assess the foreseeability of death in the process of reaching a verdict and that jurors in these cases always have outcome information when judging foreseeability, it is likely that hindsight bias affects their decision-making process.
Proponents of the felony-murder law might argue that the proximate cause theory was appropriately applied in the Klebanowski case, however. Even in the no-outcome condition of the current study, participants reported an average 36% chance that death might occur. But does this mean that a death was foreseeable? How probable must a death be to be deemed ‘foreseeable’? As Lijtmaer (2008) argues, any death that occurs during the course of a felony may be foreseeable in hindsight. If unlikely, highly attenuated outcomes are all technically foreseeable, then proximate causation has lost its purpose as a limiting factor. So although the proximate cause limitation was expected to constrain, rather than compound felony-murder convictions in cases involving third-party interventions, the ubiquity of hindsight bias in foreseeability judgments may explain the increase in convictions under these new laws.

We also predicted that knowledge of the outcome of this incident—the robber’s death—would moderate the effect of dangerousness variables on judgments of the likelihood of death. Although participants without outcome information showed a larger differentiation in death likelihood ratings between the more and less dangerous situations than did participants with outcome information, these differences were not significant. There are a few reasons why. First, the dangerousness variables had less effect on foreseeability ratings than anticipated. Given that these manipulations had minimal impact, finding the hypothesized interactions, even in the no-outcome condition, would be nearly impossible. Second, the manipulated dangerousness variables may not have been the antecedents in the vignette that were eventually assimilated with the outcome. Antecedents will be remembered as more important if they are interpreted to causally support a given outcome. In the Klebanowski case, because the robbery victim actually pulled the trigger, the causal links between the robber’s criminal history or the weapon that he used and the outcome were probably weak.

An analysis of other variables and follow-up questions revealed some important results. Although participants said that the getaway driver should have known that there was a risk that someone may have been hurt during the felony, they believed that neither the robber nor the getaway driver actually intended to hurt or kill anyone. They also said that the robber was the main person to blame for causing both the robbery and his own death. They assigned only 28% of the blame for the robbery to the defendant and an impressively small percent of the blame for the robber’s death—just 11%—to the defendant. The latter finding seems contrary to felony-murder formulations that deem persons like the defendant as culpable as persons who had a more central role in the crime. Also, contrary to felony-murder formulations, most participants said that the getaway driver should not be held responsible for the death of his co-felon.

There are certain limitations to this study. Although the issue of hindsight judgments in felony-murder is really a concern about bias in jury trials, we did not attempt to simulate a trial. There were no opening statements, closing arguments, jury instructions, or deliberations. Our intention was different: we desired to examine whether the hypothesized main effect of outcome information on foreseeability judgments and interaction of outcome information in combination with dangerousness variables on foreseeability judgments exist more generally. Our intention was to examine how participants make causal attributions unconstrained by rules of courtroom procedure. We optimized internal validity at the expense of external and construct validity (Wiener, Krauss & Lieberman, 2011).

Even with this limitation, it is still reasonable to assume that jurors might be affected by hindsight effects and overestimate the foreseeability of a death occurring when they know that a death did in fact occur. The hindsight bias has been shown to be a robust effect across different settings and populations—including trials and jurors (Harley, 2007; Hastie et al., 1999; Smith & Greene, 2005), and it is likely that its cognitive basis is not unique to college students or MT workers. We suspect that it may be an issue in jurisdictions that require a proximate cause limitation on felony-murder, where, as Lijtmaer (2008) hypothesized, use of proximate causation will probably increase, rather than limit, convictions under the felony-murder doctrine.

Examining the role of the hindsight bias in felony-murder cases is a novel contribution, but our findings are consistent with other studies on the hindsight bias in legal decisions. Like those studies (e.g., Hastie et al., 1999; Kamin & Rachlinski, 1995; LaBine & LaBine, 1996), the present research showed that judgments of probability in foresight are not equivalent to judgments in hindsight. This study also replicated results of the few existing studies of jurors’ decisions regarding felony-murder (Finkel & Duff, 1991; Finkel & Smith, 1993) in showing that the more distant felons are from the individuals who actually ‘pulled the trigger’, the less blame and responsibility they are attributed.

The current results can also add to understanding of sense-making theories of the hindsight bias, namely that outcome information may change how people judge and assimilate information to form a coherent story. Although our hypothesis regarding the role of outcome information in evidence assimilation was not supported—perhaps because our manipulations were inadequate—we believe that our methodology provides a novel angle for further exploration of this idea. Whereas most research on the sense-making aspects of the hindsight bias have asked participants to directly rate (usually through ordinal rankings) the importance of given information (e.g., Fischhoff, 1975; Wasserman et al., 1991), we manipulated the important information related to probability judgments and analyzed whether outcome information was moderating the relationship. This approach is beneficial because it reduces response bias, measures assimilation indirectly, and examines the effects of sense-making on the dependent variable of most meaning, likelihood ratings.

These findings might extend to other legal decision makers who are also prone to errors in decision making (Guthrie, Rachlinski & Wistrich, 2001). Appellate judges in proximate cause jurisdictions are tasked with deciding on the constitutionality of felony-murder. These challenges can be to the law itself or to its application in a certain case. Our findings may shed light on judges’ ability to estimate foreseeability, and the decision in People v. Klebanowski (2006) is illustrative of this point. Writing for the majority, Justice Freeman says:
We have reviewed the trial proceedings and find that Winters’ death was a direct and foreseeable consequence of the armed robbery... It is unimportant that defendant did not anticipate the precise sequence of events that followed the armed robbery. We conclude that defendant’s unlawful acts precipitated those events, and he is responsible for the consequences (People v. Klebanowski, 2006, p. 823).

Freeman asserts that Klebanowski’s intent to be the getaway driver ‘precipitated these events’; that he was a but for cause of Winters’ (the robber’s) death. This alone does not suffice as a proximate cause. However, Justice Freeman also implies that there was a direct and foreseeable causal chain between Klebanowski’s actions and Winters’ death, making his actions a proximate cause of the death. According to Justice Freeman, it does not matter that this chain was attenuated by Winters’ own actions (as noted in the dissenting opinion by Justice McCorr). Rather, the consequence of death was foreseeable from the armed robbery. Given the results of our study, this assertion should be called into question because Justice Freeman made this claim with knowledge that Winters was killed.

Finally, we offer a few thoughts about remedies. Although we are aware that more research needs to be conducted before we have a good sense of the parameters of these effects in real juries, a pragmatic difficulty exists. Specifically, we could not ask participants to provide verdicts. The charge of felony-murder is relevant only when someone dies, but for obvious reasons, we could not ask participants who lacked this knowledge to provide a verdict. This also highlights the problem of implementing and testing remedies such as judicial admonitions or bifurcation into the trial process.

Instead, we turn to other, non-trial-based remedies for reducing hindsight effects in felony-murder. One possibility is that statutes based on proximate cause should be overturned, leaving only statutes that subscribe to the agency theory and thereby holding felons accountable only for deaths they caused directly and not for any deaths caused by third parties. Statutes in some states, including California, have already been interpreted this way (Cal. Pen. Code §187–189, 1872; People v. Washington, 1965, p. 781). This theory of causality would better align felony-murder outcomes with the psychological realities of how people attribute culpability and blameworthiness to felons who acted in concert.

ACKNOWLEDGEMENTS

This research was partially supported by a grant-in-aid from the American Psychology–Law Society to the first author. We thank Miriam Hernandez and Rebecca Hensley for assisting with data collection and analysis.

REFERENCES


 People v. Aaron, 299 N.W.2d 304 (1980).


