

# Hindsight bias and shooting incidents

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People routinely experience the feeling that they “knew all along” an event would occur (or fail to occur) once they learnt what actually happened. This “hindsight bias” has important implications for the field of psychology and law. We conjectured that the hindsight bias could have serious implications for aftermath judgements made following shooting incidents such as the Harry Stanley case or the Jean Charles de Menezes case. Using a 2 x 2 x 2 experimental design, we presented participants with a thumbnail scenario summarising the facts commonly presented in the account of the Harry Stanley case. Respondents were asked to make several judgements about the legitimacy and potential regret of a lethal force decision. Participants playing the role of the police officer ultimately responded in a bias free way, possibly reflecting self-serving motives. Our results also showed that the uncertain information plays a crucial role in evaluations. Namely, we observed that such information might lead to a reverse hindsight bias effect whereby people overcompensated for outcome knowledge. Several possible explanations for this surprising result will be discussed.

We routinely experience the feeling that we “knew all along” an event would occur (or fail to occur) once we learnt what actually happened. This mundane observation, however, could have serious yet unexpected implications. Researchers have long established that the knew-it-all-along phenomenon results from a bias in our judgements, called the hindsight bias (Fischhoff, 1975). This bias refers to our tendency to believe the past was more predictable than the future. For example, imagine you were told about the Anglo-Nepalese War, fought between Nepal and the British East India Company war in the 19th century. Suppose you were asked to estimate the probability that each of the following possible outcomes occurred: a Nepalese defeat, a British defeat, a military stalemate. You may not know the actual outcome of this war but you could use your current knowledge to estimate the probability of, say, a Nepalese defeat. Alternatively, you may be a keen historian and already know that the Nepalese were defeated. Even so, you could still estimate the probability of a Nepalese defeat in hindsight as if you did not know the actual outcome. Yet, research has shown that those making an estimate in hindsight will systematically overestimate the

probability of a Nepalese defeat compared to those who had no such knowledge and would make the same estimate in foresight (Fischhoff, 1975; see Hawkins & Hastie, 1990 for a review).

The hindsight bias has important implications for the field of psychology and law. For example, foresight judgements are known to differ from hindsight judgements in civil jurors’ judgments of liability for punitive damages (Hastie, Schkade, & Payne, 1999; Kamin & Rachlinski, 1995; Robbennolt & Sobus, 1997) and in determinations of negligence in Tarasoff-type cases (LaBine & LaBine, 1996). We conjectured that the hindsight bias could also have serious implications for aftermath judgements made following shooting incidents such as the Harry Stanley case or the Jean Charles de Menezes case.

Traditionally UK police forces have not routinely deployed authorised firearms officers (AFOs), reserving them instead for specialised operations. Most Police Forces employ a structure of force options known as the use of force continuum. This continuum presents the AFO with a series of escalating steps in the use of force that they should use as the perceived threat level increases and/or use to de-escalate the use of force as the perceived threat level decreases. The continuum typically starts with the mere presence of the officer at the situation, then moves onto the verbal commands of the officer, when the suspect resists these commands then passive options, such as restraint or handcuffs, are employed, finally active options such as the CS spray and baton are employed. For most Police Officers the tactical options end here but for AFOs they have access to further less than lethal weapons and firearms. The Association of Chief Police Of-

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officers (ACPO) issued a manual of guidance for the Police use of firearms which clearly identifies a conflict management model that should determine tactical decision making (Association of Chief Police Officers, 2003). In the conflict management model it is necessary to monitor the unfolding incident whilst considering the ethical and legal implications of the available tactical options to resolve that incident.

Research into the police use of force has indicated that even unarmed confrontations present a serious risk of injury to both the police officer and the suspect (Smith & Alpert, 2000). However, the emphasis in the existing literature has been on the outcome of armed confrontations, that is the (no) shoot decision. However, the antecedents of the (no) shoot decision are also important in determining the outcome of armed confrontations. Based on interviews with Police Officers in the USA, Scharf and Binder (1983) proposed a four phase model of officer behaviour. These phases were; (i) Anticipation - the assessment of the situation prior to the encounter, (ii) Entry and Initial Contact - initial positioning and direct information gathering, (iii) Dialogue and Information Exchange - information dispensed to and received from the opponent, and (iv) Final Decision - the (no) shoot decision. The best predictor of the use of (potentially lethal) force was the Dialogue and Information Exchange phase of the encounter (Fridell & Binder, 1992). That is, shooting incidents were characterised by verbal interactions that made the opponent angrier and resulted in non-compliance and vice versa.

Following a shoot decision, the family of the victim may make a formal complaint against the police or even call for charges to be brought against them. Since April 2004, the Independent Police Complaints Commission (IPCC) has adopted responsibility for complaints against the police in the UK. The IPCC was created to increase impartiality and boost public confidence in the police service. The IPCC has 18 independent Commissioners, none of whom has a police background by law. Their roles include (but are not limited to) overseeing investigations, making recommendations, and deciding whether officers should face disciplinary action.

For instance, the IPCC was called upon to supervise the enquiry of the fatal shooting of Mr Harry Stanley. It summarised the Stanley case in a public statement as follows:

Mr Stanley was shot in Hackney, east London in September 1999 as he walked home carrying a table leg wrapped in a blue plastic bag. Two armed officers went to the scene and they saw Harry Stanley with what appeared to them to be a sawn off shotgun. They challenged him and each fired one shot. One shot hit Mr Stanley's left hand; the other struck his head and killed him. The inquiry into the fatal shooting was supervised by the IPCC's predecessor the Police Complaints Authority and carried out by Surrey Police. After the second inquest had been held, the Crown Prosecution Service asked Surrey Police to carry out further investigation. In October 2005 the CPS again decided not to bring any criminal charges against the officers. The IPCC then took on the disciplinary role in place of the PCA. IPCC Commissioner Deborah Glass asked Surrey Police to update the disciplinary recommendations in the light of the

new inquiry evidence, the inquests and the CPS decisions. The Metropolitan Police Service agreed with Surrey Police's conclusion that no officer should now face any disciplinary charges. The IPCC review of the evidence was considered by a panel of three Commissioners, none of whom were involved in the original inquiry. (IPCC, February 9, 2006).

In a case such as the Harry Stanley case, the officers involved could be charged for murder. In the UK, the Government Department responsible for prosecuting criminal cases investigated by the police in England and Wales is the Crown Prosecution Services (CPS). In a report on the Harry Stanley case, the CPS explained that it would be necessary to establish beyond a reasonable doubt that the officers had not acted in the honest belief that they were under imminent threat or that the force used was excessive for a prosecution to have a realistic prospect of conviction of murder (Crown Prosecution Service, 2005).

Clearly, the prosecutor should make a concerted effort to ignore the fact that the victim was innocent to provide a fair evaluation of the officers' actions, and evaluate such actions *as if they did not know the actual outcome*. Yet, research on the hindsight bias precisely and consistently shows that despite our best intentions, judgements made in hindsight will be influenced by outcome knowledge (Christensen-Szalanski & Willham, 1991).

For example, respondents asked to examine mental health professionals' treatment of patients judged that violent behaviour was more foreseeable in a patient when they knew, in hindsight, that such a patient had been violent. Consistent with this result, when they learnt that a patient had been violent following a treatment, respondents judged that the therapist's treatment was less reasonable (thus, potentially more negligent) than when they had no such hindsight knowledge (LaBine & LaBine, 1996). Similarly, (Hastie et al., 1999) found that an environmental accident was judged more foreseeable and the defendant was judged more aware of grave danger, and hence more liable for the outcome, when the respondents knew such an accident had occurred. Nevertheless, they observed smaller hindsight effects when respondents were acting as jurors than when they were acting as citizens, suggesting that jurors may be more motivated to overcome hindsight biases when their social role is well defined.

Overall, these results suggest that when knowing that a negative outcome occurred (an environmental accident or a violent behaviour), people will tend to judge those who are legally responsible more severely. These results suggest that the person in charge of evaluating the actions of a police officer who caused harm to an innocent civilian may fall prey to the same bias and be more inclined to judge that the victim's innocence was foreseeable and that the officer should face disciplinary action. By contrast, however, and in line with Hastie et al.'s (1999) results, the socially well-defined role of the senior prosecutor or a board of independent commissioners may motivate these professionals to counteract this biasing tendency.

If motivation plays a key role in the expression of the hindsight bias, one could speculate that the person most likely to ignore outcome knowledge would be the police officer who fired the shot. We might hypothesise that his motivation will no longer be externally defined by a social role as it could be the case for the Commissioners or the Prosecutor, but instead would originate from an intrinsic need, namely the need to protect one's self-image from failure and regret (Larick, 1993).

Finally, there is another element that is sometimes mentioned in media accounts of the Harry Stanley case: the police would have arrived on the scene following a phone call reporting an Irishman with a gun wrapped in a bag (BBC News UK, November 11, 2002). Although each 'nugget' of information on its own may appear disconnected, believing both that a suspect may be Irish *and* is potentially carrying a sawn off shotgun could have triggered terror-related stereotypes. If this was the case, supposing that the suspect was Irish could have counterbalanced the hindsight bias effect by providing a justification for the officers' actions.

In order to test these hypotheses, we designed a quasi-experimental study where we presented participants with a thumbnail scenario summarising the facts commonly presented in the account of the Harry Stanley case and asking respondents to make several judgements about the legitimacy and potential regret of a lethal force decision.

## Method

### Participants

Eighty people (37 women and 43 men, mean age = 35.5 years) volunteered to participate. 38 of the participants were university students from a variety of study areas (e.g. Psychology, IT, Drama, Art, Media, History etc.), whilst the remainder were from non-university backgrounds. Volunteers were not paid for their participation but were treated in accordance with the British Psychological Society's *Ethical Principles for Conducting Research with Human Participants*.

### Materials, design and procedure

The materials consisted of a 2-page questionnaire based on the following thumbnail scenario:

Imagine you are a police officer who is part of an armed response unit. The police have just received a phone call from a witness describing a man walking through the city centre carrying a long object in a plastic bag, which the witness reports as being a shot gun. As you arrive on the scene, you shout "Stop! Armed Police!" but the suspect ignores you. As you shout the second time, the suspect turns around and raises the bag. At this point, you decide to open fire.

The experiment was based on a 2 x 2 x 2 between-subjects design. Each participant was randomly assigned to one of the eight resulting conditions. The three factors manipulated were the outcome knowledge (foresight vs. hindsight), the tip-off (suspect matching a terrorist's description vs. no

match) and respondent's role (police officer vs. commissioner). In the hindsight condition a statement was added following the aforementioned scenario (i.e. *Later, when you check the victim's bag, you realise it contains nothing but a table leg*). The 'tip-off' condition included an additional affirmation within the scenario (i.e. *The witness's description matches that of a man suspected of terrorist activities*). The opening sentence was altered to encourage the respondent to imagine they were either a police officer (as expressed above) or the chair of a committee in charge of evaluating the police officer involved in the scenario.

In addition to providing various demographics, participants were instructed to read the scenario and indicate their answers to several questions focusing on the actions of the police officer on a Likert scale ranging from 0 to 7. The opinions tackled with these questions corresponded to a number of decision-making concerns similarly tackled in hindsight studies discussed previously. For example, a couple of questions focused on assessing the dangerousness of the situation and the possible threat to the police officer's safety (e.g., *Please indicate to what extent you believe the suspect was likely to be dangerous when he turned around?*) whilst others centred on the quality of the decision (e.g., *...to what extent you think the decision to open fire was a good decision?*).

## Results

This research aimed to establish whether judgements related to a shooting incident would be affected by the hindsight bias. We also wanted to assess whether the role of the person making such judgements could moderate the size of the effect. Finally, we were interested in examining whether the information provided in the police tip-off that ultimately led to the shooting incident could moderate the hindsight bias effect. Participants were asked to provide two types of judgements: judgements pertaining to the evaluation of the threat posed by the suspect at the moment of shooting and post-hoc judgements pertaining to the evaluation of the decision to shoot. We review each type of judgement in turn.

### *Threat posed by the suspect at the moment he turned around*

The key factor in assessing whether officers' decision to shoot was warranted is to evaluate whether they were under imminent threat. Respondents were asked to evaluate the probability that the suspect was dangerous, the extent to which the officer's (or their) safety was threatened, and the probability that the suspect was actually carrying a gun when the suspect turned around. These three judgements were highly correlated ( $r = .68, .77$  and  $.87, ps < .001$ ) and were therefore averaged to provide a unique compound estimate of perceived threat. Table 1 presents the mean judgements and standard deviations observed for this measure in each of the 8 experimental conditions ( $n = 10$  per cell).

Overall, respondents taking the role of the police officer involved in the shooting perceived the situation as significantly more threatening than respondents taking the role of a commissioner;  $F(1, 72) = 5.39, MSE = 216.51, p < .05$ ,

Table 1  
Perceived threat as a function of outcome knowledge, role, and tip-off description.

Tip-off	Outcome knowledge	
	Foresight	Hindsight
	Police officer	
Gun only	4.57 (1.57)	4.40 (1.66)
Terrorist	5.73 (1.19)	5.20 (1.99)
	Commissioner	
Gun only	4.87 (1.43)	3.23(2.21)
Terrorist	3.00 (1.85)	5.20 (1.76)

Note. In the foresight condition, respondents did not know what was in the suspect's bag. In the hindsight condition, respondent were told that the bag contained nothing but a table leg.

partial  $\eta^2 = .07$ . When the suspect was only presented as carrying a bag reported to hold a gun, the standard hindsight bias effect was observed. Namely, respondents judged the perceived threat to be higher in foresight than in hindsight (when they knew that the bag only contained a table leg).

To our surprise, however, this pattern was reversed when respondents were told the suspect's description corresponded to that of a known terrorist. Namely, in the terrorist tip-off condition, respondents reported higher perceived threat when they knew the bag contained nothing but a table leg compared to when they did not have such knowledge, as indicated by a significant Tip-off by Outcome knowledge interaction;  $F(1, 72) = 5.00, p < .05$ , partial  $\eta^2 = .07$ .

This peculiar result is better explained by the significant 3-way interaction effect observed between Outcome knowledge, Tip-off, and the role taken on by the respondents;  $F(1, 72) = 7.33, p < .01$ , partial  $\eta^2 = .07$ . Four planned-contrasts comparing foresight and hindsight judgements revealed that those taking the role of the police officer involved in the shooting never fell prey to the hindsight bias, whether or not the tip-off mentioned the matching terrorist description;  $t(72) = 0.69, p = .49$  and  $t(72) = 0.22, p = .83$  (two-tailed), respectively. By contrast, respondents acting as commissioners were subject to the standard hindsight bias when the suspect was simply described as holding a bag reported to contain a gun;  $t(72) = 2.11, p < .05$  (two-tailed) but exhibited a reverse hindsight bias when the description of the suspect was also said to match that of a known terrorist;  $t(72) = -2.84, p < .01$  (two-tailed). Thus, these contrasts show that the unexpected interaction effect between Tip-off and Outcome knowledge was solely due to judgements made by respondents asked to play a commissioner role.

### Post-hoc judgements pertaining to the evaluation of the decision to shoot

Respondents were also asked to make a second set of judgements directly evaluating the officer's decision to shoot. Judgements of the extent to which the force used was excessive were not affected by the factors manipulated ( $F_s < 1.74$ ). Similarly, the role factor did not affect judgements nor did it interact with any other factor to produce an effect.

Table 2  
Post-hoc judgements of blame and of the decision to shoot.

Tip-off	Outcome knowledge	
	Foresight	Hindsight
	Blameworthiness	
Gun only	2.55 (1.64)	4.80 (2.26)
Terrorist	3.30 (2.47)	3.00 (2.08)
	Quality of the decision to shoot	
Gun only	3.65 (2.01)	2.50 (2.06)
Terrorist	2.40 (2.33)	3.75 (2.07)

Table 2 therefore only presents the means and standard deviations observed for respondents' judgements of blame and their evaluation of the quality of the decision to shoot as a function of the tip-off and as a function of outcome knowledge ( $n = 20$  in each cell).

Overall, respondents who had hindsight knowledge about the content of the bag were significantly more inclined to believe that the officer should be blamed for the outcome of his decision than those in the foresight condition;  $F(1, 76) = 4.17, MSE = 346.35, p < .05$ ; partial  $\eta^2 = .05$ . Planned contrasts, however, showed that this effect only held true in the Gun only tip-off condition;  $t(72) = -3.40, p < .01$  (two-tailed). Outcome knowledge no longer affected blameworthiness when the suspect description was said to match that of a known terrorist;  $t(72) = 0.45, p = .65$ .

As for the actual decision to shoot, respondents in the Gun only tip-off condition tended to believe the decision was a better decision in foresight than in hindsight;  $t(72) = 1.72, p = .09$  (two-tailed). By contrast, respondents believed the decision to open fire was a significantly better decision in hindsight (i.e., when they knew the suspect's bag contained nothing more than a table leg) when the suspect's description matched that of a known terrorist;  $t(72) = -2.01, p < .05$  (two-tailed). Although this last result also seems highly surprising at first glance, it is consistent with what was observed with the first set of measures on perceived threat.

## Discussion

When making determinations of negligence in Police shooting incidents, it is important to consider whether the officer acted professionally, not whether the action taken caused injury. Results from LaBine and LaBine (1996) suggest, however, that the determination of negligence is influenced by the report of damages or harm. Though their study focused on therapists' actions, their findings are applicable in a forensic context. They found that the influence of reported harm (i.e., hindsight bias) occurred even though the therapist had acted in a professional manner (i.e. consistent with the professional standard of care).

The present study extends the body of literature on hindsight bias by examining it in a forensic context that is not restricted to the prevailing domain of study - juror decision-making (e.g., Hastie et al., 1999; Kamin & Rachlinski, 1995). It was hoped that a closer assessment of current cases of forensic interest such as shooting incidents would high-

light areas in the determination of negligence where the hindsight bias could also be influential.

A police shooting scenario based on the Harry Stanley case was utilised as a premise to examine the hindsight bias. Ultimately, the overriding hypothesis of shooting incident judgements being affected by the hindsight bias was confirmed. For example, respondents judged the perceived threat to be higher in foresight than in hindsight (when they knew that the suspect's bag only contained a table leg). There were a number of other hypotheses of interest and the examination of these revealed some compelling new results. We wanted to assess whether the role of the person making such judgements could moderate the size of the effect. Additionally, we were interested in examining whether the information provided in the police tip-off that ultimately led to the shooting incident could moderate the hindsight bias effect.

The key finding was that motivational factors play an important role in judgements of such incidents. Participants playing the role of the police officer ultimately responded in a bias-free way, possibly reflecting self-serving motives.

Moreover, our results showed that the uncertain information available (i.e. the content of the witness report, the matching terrorist description etc.) also plays a crucial role in evaluations. Namely, we observed that such information might lead to a reverse hindsight bias effect whereby people overcompensated for outcome knowledge and perceived the suspect as originally more threatening upon learning he was not carrying a gun. So even though it was expected that respondents would view the decision to open fire as a bad decision when they knew the suspect's bag contained nothing more than a table leg, knowing the suspect's description matched that of a terrorist unexpectedly counter-acted this anticipated negativism. Perhaps the possibility that the suspect was a terrorist provided an obvious rationalisation for the officer's decision to shoot (Pennington & Hastie, 1988). The outcome information (i.e., the fact that the bag did not contain a gun) could have then made this possibility more salient: respondents in this hindsight condition may have asked themselves "what if he had been a terrorist?" As a result, their hindsight evaluation of the threat posed by the suspect was inflated, leading to the belief that the shooting was warranted.

Another explanation pertains to the counterfactual-thinking literature where it has been suggested that a particular decision making heuristic, otherwise known as the "How do I feel about it?" heuristic, may be the process by which emotional reactions influence evaluative judgments (Robbenolt & Sobus, 1997). The impact of an individual's emotional reaction on judgments depends on its perceived informational value regarding the decision. It has been suggested that in situations where a person has less access "to other relevant information, the more likely the person is to utilize the information provided by their affective response," (Robbenolt & Sobus, 1997, p. 553). It is thus possible that respondents used the emotions triggered by the mention of terrorism as a proxy for evaluating the threat posed by the suspect.

There are limitations to this study that need considera-

tion. Although the sample represented a cross-section of the community, the size, and possible background, raises the question of the generalisability of findings. There is a need, therefore to conduct a replication with appropriate professionals. On the one hand, Christensen-Szalanski and William's (1991) meta analysis found that when a participant had increased experience with the task, less hindsight bias was measured. On the other hand, however, police officers involved in fatal shootings also report that during the incident they experienced dissociative symptoms and altered perceptual states, including visual, auditory and temporal distortions (Verdun-Jones & Parent, 1999; Rivard, Dietz, Martell, & Widawski, 2002). Memory impairment was also observed in 19% of officers, although this impairment was selective with no reports of amnesia for the whole event (Rivard et al., 2002). So evaluations of real incidents made in hindsight could well be affected by these altered experiences and memories.

Moreover, the post-hoc explanations presented above to account for the results observed require further validating. There is no actual proof that bias-free judgements in police officers were caused by self-serving motives or that the reverse hindsight bias is due to post-hoc rationalisation or emotion-based judgements. Additionally, the inclusion of a role condition was not controlled for. Further research would need to take this into account and include a control condition in which the scenario is presented without the respondent required to take any role. Finally, further insight could be gained by a more qualitative approach to examining the reasons for the judgements given if, e.g., respondents were asked to provide justification for their judgements.

The implications of these results and of any future, more ecologically valid, studies on the same forensic domain are obvious. Legal decisions such as the case following the Harry Stanley shooting are made primarily in hindsight. Thus, the hindsight bias can be a crucial factor in the making of those decisions, and in fact, appears to be especially salient in commissioners. Our role-playing commissioners sometimes appeared to overcompensate for outcome knowledge and, as a result, judged the decision to shoot to be overly warranted compared to respondents who had no outcome knowledge. We humbly acknowledge that our scenario was a highly simplified account of a case like the Harry Stanley case. Yet, it is not impossible that basic processes at stake in this study also impacted real-world judgements as the following quote from the official IPCC report may suggest: "Nor should we judge these officers' actions with the wisdom of hindsight" (IPCC, February, 2006, p. 2).

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