

The police officer's terrorist dilemma: Trust resilience following fatal errors[†]

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Abstract

Suicide attacks have raised the stakes for officers deciding whether or not to shoot a suspect ('Police Officer's Terrorist Dilemma'). Despite high-profile errors we know little about how trust in the police is affected by their response to the terrorist threat. Building on a conceptualisation of lay observers as intuitive signal detection theorists, a general population sample (N = 1153) were presented with scenarios manipulated in terms of suspect status (Armed/Unarmed), officer decision (Shoot/Not Shoot) and outcome severity (e.g. suspect armed with Bomb/Knife; police shoot suspect/suspect plus child bystander). Supporting predictions, people showed higher trust in officers who made correct decisions, reflecting good discrimination ability and who decided to shoot, reflecting an 'appropriate' response bias given the relative costs and benefits. This latter effect was moderated by (a) outcome severity, suggesting it did not simply reflect a preference for a particular type of action, and (b) preferences for a tough stance towards terrorism indexed by Right-Wing Authoritarianism (RWA). Despite loss of civilian life, failure to prevent minor terror attacks resulted in no loss of trust amongst people low in RWA, whereas among people high in RWA trust was positive when police erroneously shot an unarmed suspect. Relations to alternative definitions of trust and procedural justice research are discussed. Copyright © 2007 John Wiley & Sons, Ltd.

On the 22nd of July 2005 police officers shot and killed Brazilian electrician Jean Charles de Menezes at London's Stockwell tube station after he had been mistakenly identified as a terrorist suspect. Less than five months later, on December 8th, United States air marshals shot and killed Rigoberto Alpizar as he tried to leave a plane at Miami airport. No explosive device was found and the victim's wife attributed his erratic behaviour to his suffering from a bi-polar disorder. We refer to the complex decisions facing officers in situations such as these as the '*Police Officer's Terrorist Dilemma*' (POTD; cf. Correll, Park, Judd, & Wittenbrink, 2002).

Perhaps surprisingly, given what we know about the generally negative reactions to high cost decision-making errors (Baron & Hershey, 1988; Slovic, 1993), official and public reactions appeared muted. Rather than criticise the police following the de Menezes shooting the Mayor of London Ken Livingstone, for instance, asked the public to 'consider the choice that faced police officers at Stockwell last Friday and be glad you did not have to take it' (British Broadcasting Corporation, 2005). Similarly, the investigation into the shooting of Mr. Alpizar concluded that 'while tragic, it was legally justified in light of the circumstances presented to the air marshals. . . It is factually and legally irrelevant whether Mr. Alpizar actually had a bomb' (State Attorney's Office Report, 2006, p. 44f.). Neither of these events resulted in widespread

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public demonstrations or civil unrest, in contrast to, say, the police's beating of Rodney King in Los Angeles in 1992, even though the immediate outcomes were more serious. The aim of the current research was to explore a possible reason for the apparent tolerance of these high cost mistakes.

Following earlier research into similar dilemmas in a non-terror context (Correll et al., 2002), we characterise the situations facing officers as signal detection tasks that require a distinction between safe and dangerous suspects under conditions of considerable uncertainty. In contrast to earlier research, however, we are not interested in behavioural decisions of students or police officers concerning whether or not to shoot in experimental trials (e.g. Correll et al., 2002; Correll, Urland, & Ito, 2006). Very few people, with the exception of officers themselves (Correll, Wittenbrink, Park, Judd, Sadler, & Keesee, 2007; Plant & Peruche, 2005), will face these decisions in real life. Rather, most will learn about such events through media reports. In the present research we are concerned with reactions to such reports, in particular trust in the police's management of the terrorist threat. Although we shift the focus from personal behaviour to social judgements, the research continues to have both theoretical and applied implications.

As a model of social judgement, we adopt a parsimonious approach, relying on the same constructs to explain both expert decision-making and public evaluations of these decisions (Eiser, 1990; White & Eiser, 2006). In terms of application, although research has examined trust in the police in general (Ackerman et al., 2001; Goldsmith, 2005; Tyler & Huo, 2002), we know of no other research that has investigated trust or distrust with respect to the police's management of the terrorist threat. Because 'distrust acts to heighten risk perceptions, to intensify public reactions to risk signals, to contribute to the perceived unacceptability of risk and to stimulate political activism to reduce risk' (Kasperson, Kasperson, Pidgeon, & Slovic, 2003, p. 32), understanding these processes may be crucial to avoid a significant loss of trust that may raise public fears about both the terrorist threat itself and the police's handling of it.

REACTIONS TO NEGATIVE OUTCOMES

Normative theory suggests that ex post evaluations of decisions *should be* based on the circumstances the decision-maker faces at the moment the decision was made rather than on whether or not the decision was ultimately correct (Dawes, 1988). Fischhoff (1975), for instance, claimed that 'in situations where information is limited and indeterminate, occasional surprises—and resulting failures—are inevitable. It is both unfair and self-defeating to castigate decision-makers who have erred in fallible systems' (p. 298). The investigators into the Alpizar shooting seemed to have abided by these principles in their conclusion that it was irrelevant whether the decision to shoot actually was 'correct' in terms of outcomes.

Nevertheless, a considerable amount of research suggests that lay observers *are* often influenced by knowledge about a decision's outcomes when evaluating the person(s) responsible (Allison, Mackie, & Messick, 1996; Baron & Hershey, 1988; Harley, 2007; Louie, Rajan, & Sibley, 2007). Baron and Hershey (1988), for instance, found that people rated physicians more positively following successful than unsuccessful operations, even though they were aware that it may have been inappropriate to do so. Similar findings have been found for decisions in a range of domains including legal contexts (Robbennolt, 2000), transport policies (Hastie, Schkade, & Payne, 1999), genetic testing (Menec & Weiner, 2000) and, especially relevant to the present research, decisions to shoot an intruder (Mazzocco, Alicke, & Davis, 2004) and counter-terrorist activity (Lipshitz, 1989).

The degree of 'castigation' (Fischhoff, 1975) is also linked to the severity of outcomes. The worse an error turns out to be, the more negative the decision-maker is viewed (Burger, 1981; Robbennolt, 2000). For instance, in a study by Bornstein (1998) participants were presented with a legal liability case against the manufacturers of a birth control pill. Negative health outcomes were either severe (e.g. inability to have children, shortened life expectancy) or less severe (e.g. need for an ovarian operation). Perceived liability increased with the negativity of the outcomes, at least as long as decisions about compensation were made in tandem with causation and when the jurors felt sympathy towards the plaintiff.

Although an analogous pattern has been found when actors make correct decisions (i.e. people evaluate them more positively in hindsight than in foresight), the bias appears to be stronger for negative than positive outcomes (e.g. Schkade & Kilbourne, 1991; Slovic, 1993). Slovic (1993), for instance, presented participants with positive and negative information about the performance of managers of a nuclear power plant and found that trust in managers who made errors was more negatively affected by negative information than positively affected by positive information. He therefore

concluded that trust in decision-makers is 'typically created rather slowly, but it can be destroyed in an instant by a single mishap or mistake' (p. 677).

In short, according to the outcome bias literature, a fatal shooting of an innocent terror suspect by armed officers should have had a profoundly negative effect on perceptions of the responsible officers. Not only did they make a mistake, the costs were so high that an innocent person lost his life. That, anecdotally at least, such a reaction has not occurred needs explaining. Below we propose a possible account for this apparently anomalous reaction.

A SIGNAL DETECTION APPROACH TO UNDERSTANDING REACTIONS TO DECISION OUTCOMES

The term 'Police Officer's Dilemma' was originally used by Correll et al. (2002) in their investigation into the police's shooting of African American versus White suspects in non-terror, street-crime situations. They construed the dilemma officers face as a signal detection task. Signal detection theory is concerned with decision-making under uncertainty, especially where decision-makers have to distinguish between situations of potential danger and safety (Green & Swets, 1988; Swets, Dawes, & Monahan, 2000). At its simplest the theory distinguishes four prototypical outcomes: correct acceptance of danger (True Positive or Hit), correct rejection of danger (True Negative or All Clear), incorrect acceptance of danger (False Positive or False Alarm) and incorrect rejection of danger (False Negative or Miss). Using this taxonomy, shooting an unarmed suspect would be considered a False Alarm while failing to shoot an armed suspect who subsequently shot a victim would be considered a Miss.

Signal detection theory sheds light on two different parameters of performance. First, the number of correct decisions (Hits and All Clears) can be compared to the number of errors (False Alarms and Misses). The greater the proportion of correct judgements the higher an officer's *discrimination ability* (or sensitivity), reflecting competence at discriminating between dangerous and innocent suspects. Second, performance can be considered in terms of the tendency with which officers accept or reject the suspect as a threat (i.e. shoot/don't shoot). This is referred to as their *response bias*. Ideally, a decision-maker's response bias will be determined by the probability and expected costs and benefits of the various outcomes. If the probability of danger and the costs of a Miss are high, a 'good' decision-maker will set a risk-averse response bias assuming danger is present when uncertain in order to avoid costly Misses. If the probability of danger and the costs of failing to detect it are low, a relatively risk tolerant response bias may be more appropriate to avoid frequent False Alarms (Swets et al., 2000).

Considerations of decision-making in terms of discrimination ability and response bias have traditionally been the realm of professional analysts or experimenters. Eiser (1990), however, proposed that members of the public may also use these indicators of performance in assessing the degree to which decision-makers can be trusted in their decision-making roles (pp. 119–121). Trusted decision-makers would be ones who (a) made correct assessments of danger, suggesting good discrimination ability and (b) reacted in an 'appropriate' fashion given the potential costs and benefits. In situations where the probability of danger is high and/or the costs of failing to detect it are high, an assumption of danger is likely to result in higher trust in the decision-maker than an assumption of safety. In Correll et al.'s (2002) original experiments, for instance, it was assumed that participants would prefer a cautious response bias because although 'shooting an innocent suspect is a terrible mistake [. . .], the stronger motivation is presumably to avoid misidentifying an armed and hostile target, which could result in an officer's death' (p. 1317).

Due to various limitations such as access to information and cognitive constraints, however, lay assessments of decision-makers are likely to be less systematic than those of formal detection theorists. For instance, while formal detection theorists require multiple instances of performance to accurately calculate discrimination ability and response bias, non-specialists may form impressions on the basis of even single decisions, just as single behavioural instances can be powerful cues in making attributions about others' traits (e.g. Reeder & Brewer, 1979; Rothbart & Park, 1986; Skowronski & Carlston, 1987, 1989). In this way it has been suggested that people may act as intuitive signal detection theorists, or *Intuitive Detection Theorists* (IDTs) for short (White & Eiser, 2007).

Eiser (1990) proposed that what is affected by these processes is confidence or trust in the decision-makers to adequately perform their risk-management roles. In this context, the term 'trust' is used to reflect 'social' (Cvetkovich & Lofstedt, 1999) or 'role-based' (Kramer, 1999) trust where 'it is not the person in the role that is trusted so much as the system of expertise that produces and maintains role-appropriate behaviour of role occupants' (Kramer, 1999, p. 578).

This distinguishes it from *general trust* reflecting a disposition to be more or less trusting of others in general (e.g. Uslaner, 2003) and *interpersonal trust* reflecting trust in people one knows personally (e.g. Rempel, Holmes, & Zanna, 1985). In keeping with other forms of trust, however, role-based trust entails: (a) a situation involving risk and potential exploitation, (b) positive expectations about the other's performance (i.e. *trusting beliefs*) and (c) preparedness to accept this position of vulnerability based on these positive beliefs (i.e. *trusting intentions*) (Boon & Holmes, 1980; Dirks & Ferrin, 2001; Kim, Ferrin, Cooper, & Dirks, 2004; Mayer, Davis, & Schoorman, 1995; McKnight, Cummings, & Chervany, 1998; Rousseau, Sitkin, Burt, & Camerer, 1998).

Although Eiser's (1990) proposals are relatively old, they have only recently been tested. Building on the earlier work by Slovic (1993) into trust in nuclear power plant managers, White and Eiser (2006, Study 2) presented participants with a decision scenario that reflected one of the four prototypical outcomes of a signal detection task (i.e. Hit, Miss, False Alarm or All Clear). Participants were then asked how these events would affect their trust in the managers responsible for the decision. It was predicted that trust would be higher if managers correctly discriminated between safe and dangerous situations and if they showed a relatively risk-averse response bias. This latter prediction was based on the belief that participants would perceive a 'better safe than sorry approach' to the managing of nuclear power plants as more appropriate given that (a) the costs of a Miss could easily outweigh those of a False Alarm and (b) the costs of a False Alarm would be met by the industry whereas the costs of a Miss could be borne by the general public (see Haselton & Nettle, 2006, for an evolutionary perspective on preferences for risk aversion). Support for both effects was found. Moreover there was a significant interaction between them: Trust *increased* following a False Alarm, as long as it was openly admitted, despite it being an incorrect assessment of danger.¹ The authors suggested that this was because people may have felt that the occasional False Alarm was actually a good thing because it indicated that the managers were exhibiting high levels of vigilance and would thus avoid making the more costly error of a Miss. In other words, people were not simply thinking of the actual outcomes but also the counterfactual alternatives in deciding the degree to which decision-makers could be trusted.

Further support for the IDT approach was found in a public survey of attitudes towards mobile phone technology (White & Eiser, 2007). Because relative to nuclear power, the potential costs of a Miss loom less large and the costs of a False Alarm fall more obviously on members of the public if the technology is withdrawn, it was predicted that a more balanced response bias would be preferred in this context. Additionally, it was predicted that considerations of appropriateness would also be influenced by the individual's own perceptions of the risk of the technology. Those with higher risk perceptions should show higher trust in decision-makers who were perceived as setting a more risk averse-response bias while those with lower risk perceptions should show higher trust in decision-makers who set a more risk tolerant response bias. All hypotheses were supported, suggesting that being able to discriminate safe from dangerous situations is probably universally important, but the perceived 'appropriateness' of a decision-maker's response bias depends upon both the relative costs and benefits of the specific decision context and the observer's own risk beliefs.

THE CURRENT RESEARCH

The aims of the current research were threefold. First, we wanted to explore whether it was possible to apply the IDT model to the POTD. Specifically, we wanted to examine trust beliefs about the police's management of the terrorist threat following news of a Hit, False Alarm, All Clear or Miss. As well as being topical, this context is theoretically interesting because the costs of a False Alarm can be very high (i.e. death of an innocent suspect) and according to the traditional outcome bias literature should result in a significantly negative impact on trust. The IDT model, by contrast, argues that the costs of the alternative error, a Miss, may still outweigh those of a False Alarm resulting in a general acceptance of decisions to shoot, even if they turn out to be incorrect. As a result trust should not, in line with anecdotal reports, be as negatively affected by False Alarms as traditional outcome bias research would predict.

¹White and Eiser (2006) extended the original proposals by suggesting that decision transparency, or 'communication bias', may also influence trust. Unlike formal detection theorists, members of the public rarely have direct access to decisions and must rely, at least to some extent, on the transparency and honesty of decision-makers to learn about what has happened. As predicted, trust was seriously compromised by a lack of transparency and even accurate decisions failed to increase trust. In the current research, participants were provided with information about what occurred directly and thus issues of transparency were less relevant.

Nevertheless, in keeping with earlier research into outcome severity we would still expect that as the costs of False Alarms rise so trust in the police will be increasingly negatively affected because the IDT model claims that people are sensitive to the costs and benefits of the actual outcomes as well as those of the counterfactual alternatives. For instance, a False Alarm which also involved the accidental shooting of a child bystander has higher costs than a False Alarm involving only the suspect and we would therefore expect trust to be more affected as a result. Similarly, a Miss involving a terrorist armed with a bomb should result in a larger negative impact on trust than a Miss involving a terrorist armed only with a knife because the former error results in a more negative outcome in terms of the number of lives lost.

Second, following Correll et al. (2002) in the original Police Officer's Dilemma studies and White and Eiser (2007) in the earlier IDT study, we wanted to explore possible interindividual differences in such reactions. Specifically, we expected people who place particular value on maintaining social order through the use of force to be more tolerant of police decisions to shoot (and thus False Alarms) than people who put greater value on civil liberties or maintaining positive inter-ethnic relations. Research suggests that people high in Right-Wing Authoritarianism (RWA), a concept encompassing tendencies of authoritarian submission, authoritarian aggression and conventionalism (Altemeyer, 1988), tend to see restrictions in civil liberties and the use of force to combat terrorism as more legitimate and beneficial than those low in this trait (e.g. Cohrs, Kielmann, Maes, & Moschner, 2005; Crowson, DeBacker, & Thoma, 2005; Henderson-King, Henderson-King, Bolea, Koches, & Kauffman, 2004). Thus, we predicted that people high in RWA would see decisions to shoot as having higher benefits and lower costs (compared to the counterfactual alternative of not shooting) than those low in RWA and that this would in turn impact trust in the officers responsible. That is, we predicted that RWA would moderate the effect of shoot response on trust in officers and that this would be due to (i.e. mediated by) differences in the perceived costs and benefits of the responses compared to their counterfactual alternatives.

Finally, extending the IDT framework beyond its original proposals, we were also interested in how perceptions of the officers at the scene might affect people's trust in the police's ability to manage the terrorist threat in general. This is known as individual-to-group generalisation and requires the individual's group membership to be salient (Hewstone & Brown, 1986; Pettigrew, 1998). Since an officer's membership in the police is highly salient in these incidents, we expected any effects on trust in specific officers to extend to trust in the police's management of the terrorist threat in general (i.e. generalised trust; Kramer, 1999). This kind of generalisation might be important for commentators interested in the 'secondary' effects of specific actions and the degree to which the actions of individual decision-makers can impact perceptions of risk more generally (Kasperson et al., 2003). These considerations led to the following hypotheses (with 'correctness' defined in terms of outcomes: Hits and All Clears being correct and False Alarms and Misses being incorrect).

People as Intuitive Detection Theorists

In line with the IDT account, people will respond to terrorism-related events using information about officers' decisions and outcomes to form judgements of officer trustworthiness. Specifically, trust should be higher following: (a) correct decisions, suggesting officers have good discrimination ability (Hypothesis 1a); and (b) shoot versus not shoot responses, suggesting the setting of an 'appropriate' response bias given the payoffs where a Miss is more costly than a False Alarm (Hypothesis 1b). Although Hypothesis 1a is consistent with the outcome bias literature and refers to a conceptual replication in another context, Hypothesis 1b is novel. Moreover, if earlier IDT findings were to be replicated in the current context we may not expect a decrease in trust following False Alarms despite their fatal consequences because their costs are still lower than those of a Miss (Hypothesis 1c).

The Moderating Role of Outcome Severity

People will be sensitive to the specific costs and benefits of an outcome. Correct decisions will lead to higher trust for high versus low benefit outcomes, whereas incorrect decisions will lead to lower trust for high versus low cost outcomes (Hypothesis 2a). Similarly, the propensity to show higher levels of trust following decisions to shoot versus not shoot will also depend on the severity of the outcomes: As the stakes rise people will show an increased preference for a more risk-averse (shoot) response bias (Hypothesis 2b). Although Hypothesis 2a is consistent with the previous literature and again refers to a conceptual replication in another context, Hypothesis 2b is novel.

The Moderating Role of Right-Wing Authoritarianism

The effect of officer decisions on trust will be affected by beliefs in the legitimacy of the use of force to combat terrorism as indexed by RWA. Shoot decisions will lead to higher trust among those high versus low in RWA, and *vice versa* for don't shoot decisions (Hypothesis 3a). Moreover, this effect will be due to a different construal of events among those high vs. low in RWA. Specifically, people high in RWA will construe decisions to shoot more positively (relative to decisions to not shoot) than people low in RWA, and *vice versa* for decisions to not shoot (Hypothesis 3b). Below we refer to these construals as Outcome Perceptions.

Trust Generalisation

Our final hypothesis was more exploratory in nature and examined whether some or all of the above predictions might generalise from trust in specific officers to trust in the police in general because the kind of trust we are interested in is role-based in nature and the category membership of officers is highly salient (Hypothesis 4).

METHOD

Scenario Construction and Selection

Since we wanted to experimentally manipulate outcomes, it was not possible to investigate perceptions of events that had already occurred. Nevertheless, earlier events provided us with details that aided development of our own scenarios in an attempt to make them both realistic and novel. The July 7th attacks on the London underground in 2005, for instance, were carried out by young, agitated looking Islamic men carrying heavy rucksacks. The shootings of both de Menezes and Alpizar occurred in public transport settings with the latter involving a suspect who reportedly made threatening remarks and was pushing through passengers to leave the plane.

Based on these events, we constructed four scenarios describing events in a Berlin train station. Each scenario was written in the style of a news report. The scenarios differed in terms of the number of cues present that suggested the man was armed and dangerous (e.g. a heavy rucksack, known membership of extremist group etc). Our aim was to select the scenario where opinions as to the most appropriate course of action, before the police's decisions and associated outcomes were known, were most divided. This was necessary to allow the investigation of possible outcome bias and the moderating effect of RWA. The four scenarios were pre-tested using 50 student participants who were asked, without knowing the police's decision or event outcome, whether (a) they believed the police should shoot (yes/no) and (b) if it were up to them, they personally would shoot (yes/no). The scenario selected for this study resulted in 23 out of 50 participants believing that the officers should shoot and 25 out of 50 saying they would have shot if the decision were up to them.²

Participants

Participants were drawn from a German university-based online panel of members of the general public. Of the 4038 invited members, 1595 (40%) responded to the participation request. This response rate is normal for this and other panels (Görizt, 2007). Of these, 1181 (74%) completed the study. Nineteen individuals withheld consent following debriefing. The number of Islamic participants ($n = 9$) was insufficient to compare Muslims versus non-Muslims, so these were also excluded, leaving a final sample of 1153 participants. There were 678 (59%) males; ages ranged from 15 to 81 years ($M = 37$, $SD = 12$), and 96% were German nationals. Fifty-two per cent were employed, 26% were apprentices or students, 9% were unemployed, 5% were retired, 4% were homemakers and 4% responded 'other'.

²Traditional outcome bias studies often have a control condition where participants rate the actors before the outcomes of decisions are known. Evidence of bias is reported if participants rate actors more/less positively than the control group following correct/incorrect decisions. Part of the need for this control group is because outcomes are confounded with decision (i.e. acts of omission vs. commission). By contrast, each action type has two possible outcomes; for example, decisions to shoot can be correct (Hit) or incorrect (False Alarm). Thus, evidence that outcomes are influencing judgements in this case would be found if trust is higher following one outcome than another despite the action being identical. Moreover, that pre-test scenario participants were split 50:50 in their beliefs that the suspect should be shot suggests that any deviation from the mid-point is also indicative of outcome bias.

Procedure, Design and Materials

The study consisted of two parts. In Part 1, which was embedded in materials irrelevant to the present study, participants completed the German 12-item RWA³D scale (Funke, 2005; adapted from Altemeyer, 1996). A sample item was: 'Obedience and respect for authority are the most important virtues children should learn'. Items were answered on scales from 1 (*don't agree at all*) to 7 (*agree completely*). Cronbach's α was .77 ($M = 3.59$, $SD = 0.96$). In addition, a baseline measure of trust in the police in this context (short: *Pre-Trust*) was obtained by asking participants 'How much do you trust the police in general with regard to how they deal with the terrorist threat?' (1 = *very little trust*, 7 = *very high trust*). *Pre-Trust* was somewhat above the scale midpoint overall ($M = 4.58$, $SD = 1.37$). Part 2 of the study was completed 1 week later. Participants were asked to read the following passage (translated from German):

'A serious event has occurred at Berlin's Zoological Garden train station: During Friday's post-work rush hour, a man was seen pushing through the crowd, shouting wildly and carrying an apparently heavy rucksack. With a clearly foreign accent he was heard to be shouting, 'Allah loves me!' and 'I will take you all with me!' The police patrol at the station were quickly alerted to the situation and had to decide how to respond. Worried that the man may be a suicide bomber, the officer in charge had to decide whether or not to give the order to shoot-to-kill, the only way to stop the man quickly in such a crowded space'.³

Following this introductory passage, the police's decision and subsequent outcomes were manipulated according to condition (see Appendix). Specifically, the officer decided to 'Shoot' or 'Not Shoot' and the suspect was 'Armed' or 'Unarmed', producing the four prototypical signal detection outcomes. Additionally, two versions of each outcome were created by manipulating the situation's costs/benefits. When the suspect was Armed he had either a bomb ('High Severity') or a knife ('Low Severity'). When the suspect was Unarmed, there was either a child bystander hidden just behind the suspect ('High Severity') or simply the suspect ('Low Severity'; since any innocent deaths are severe in absolute terms, the use of these terms here is relative). This resulted in eight different conditions reflecting a 2 (Suspect: Armed/Unarmed) by 2 (Police Response: Shoot/Not shoot) by 2 (Severity: High/Low) between-participants design with random allocation (Table 1).

Manipulations were checked by asking participants to select an article headline from a list reflecting the four SDT outcomes (e.g. 'Police shoot innocent terror suspect' for False Alarm). Trust in the officers responsible was measured by asking: (a) How would your trust in the responsible offices be affected by this event? ($-3 = \textit{much less trust}$, $0 = \textit{no change}$, $+3 = \textit{much more trust}$); (b) How would you rate the officers responsible in general following this event? ($-3 = \textit{very negative}$, $0 = \textit{neutral}$, $+3 = \textit{very positive}$) and (c) How confident would you be about the appropriateness of future decisions of the officers responsible? ($-3 = \textit{very unconfident}$, $0 = \textit{neutral}$, $+3 = \textit{very confident}$). The three items were highly correlated and combined to form a *Trust in Officers* scale ($\alpha = .92$; $M = 0.24$, $SD = 1.43$).⁴ Outcome Perceptions were assessed by asking 'Compared to the alternative possible decision by officers (i.e. to Shoot [Not Shoot] the suspect), how positive or negative do you think the outcomes of their actual decision to Not Shoot [Shoot] were?' ($-3 = \textit{much more negative}$, $0 = \textit{equally negative/positive}$, $+3 = \textit{much more positive}$). To examine generalisation, the same baseline trust question presented in Part 1 was re-presented at the end of Part 2 (short: *Post-Trust*).

RESULTS

Preliminary Analyses

Ninety-five per cent of the participants selected an appropriate headline. Since exclusion of participants who selected an inappropriate headline did not affect results, these were retained to maintain random allocation. To facilitate the testing of interactions z -transformed scores of both the RWA scale and *Pre-Trust* were used in the Analyses of Covariance (ANCOVA) detailed below. Due to the large sample size, significance was set at $p < .001$ for all analyses.

³A participant pointed out that the man would have been unlikely to use these precise words. Muslims tend to comment on the glory of God 'Allah Akbar' rather than Allah's relations to them personally, a rather Christian perspective. We thank the participant for highlighting this issue and apologise for any potential offence.

⁴Using z -transformations of each item to create the trust scale yielded identical results. We therefore aggregated the three items using raw scores from -3 to $+3$ to aid interpretation of the means with the assumption that 0 is the neutral point of neither trust nor distrust.

Table 1. Conditions reflecting manipulation of suspect threat, police response and incident severity

Suspect was	Officer response	Severity	
		High	Low
Armed	Shoot	Hit _H ($n = 146$) Police shoot suspect and prevent imminent bombing	Hit _L ($n = 142$) Police shoot suspect and prevent potential knife attack
	Don't Shoot	Miss _H ($n = 152$) Police fail to prevent bombing resulting in around 'a hundred people killed or wounded'	Miss _L ($n = 143$) Police fail to prevent knife attack resulting in 'several people wounded'
Unarmed	Shoot	False Alarm _H ($n = 134$) Police shoot innocent suspect and child bystander	False Alarm _L ($n = 141$) Police shoot innocent suspect
	Don't Shoot	All Clear _H ($n = 148$) Police avoid shooting innocent suspect and child bystander	All Clear _L ($n = 147$) Police avoid shooting innocent suspect

Notes: _H = High Severity, _L = Low Severity. Numbers in brackets = participants per condition.

Trust in Officers

Estimated means for Trust in Officers as a function of condition are presented in Table 2 (upper panel) and were analysed using a 2 (Suspect: Armed/Unarmed) \times 2 (Response: Shoot/Not Shoot) \times 2 (Severity: High/Low) between-participants ANCOVA with Pre-Trust and RWA as covariates and the Response by RWA interaction included.⁵ Pre-Trust was included to control for any prior differences in general levels of trust in the police across conditions, and RWA and the Response by RWA interaction were included to test Hypothesis 3. There was a significant main effect of Pre-Trust, $F(1, 1140) = 13.24$, $p < .001$, $\eta_p^2 = 0.01$, suggesting that those who trusted the police in general also had higher trust in specific officers after the experimental manipulation.

Supporting Hypothesis 1a, there was a significant interaction between Suspect and Response (representing outcome correctness), $F(1, 1140) = 197.50$, $p < .001$, $\eta_p^2 = 0.15$. In line with the outcome bias literature, simple effects analysis (using simple comparisons of the estimated marginal means with Pre-Trust and RWA at the sample mean) revealed that Trust in Officers was higher if officers decided to Shoot an Armed versus Unarmed ($M_{\text{sest}} = 0.89, 0.01$) suspect $F(1, 1140) = 69.78$, $p < .001$, $\eta_p^2 = 0.06$, but to Not Shoot an Unarmed versus Armed ($M_{\text{sest}} = 0.64, -0.55$) suspect $F(1, 1140) = 133.61$, $p < .001$, $\eta_p^2 = 0.11$. Supporting Hypothesis 1b, there was also a main effect of Response, $F(1, 1140) = 29.81$, $p < .001$, $\eta_p^2 = 0.03$. Officers were trusted more if they decided to Shoot versus Not Shoot ($M_{\text{sest}} = 0.45, 0.05$). Supporting Hypothesis 1c, although False Alarms involved the deaths of innocent suspects and/or bystanders they did not result in significantly reduced levels of trust (Table 2, upper panel; $M_{\text{sest}} = 0.17, -0.16$).

Supporting Hypothesis 2a, the two-way interaction between Suspect and Response (reflecting outcome correctness) was qualified by a three-way interaction with Severity, $F(1, 1140) = 43.28$, $p < .001$, $\eta_p^2 = 0.04$. Simple effects analysis revealed that the difference of being correct versus incorrect was greater for High ($F(1, 1140) = 214.22$, $p < .001$, $\eta_p^2 = 0.16$; $M_{\text{sest}} = 0.98, -0.55$) versus Low ($F(1, 1140) = 27.75$, $p < .001$, $\eta_p^2 = 0.02$; $M_{\text{sest}} = 0.55, 0.00$) Severity. Note that the only error to result in a significant decrease in trust was the High Severity Miss (Table 2, upper panel). Supporting Hypothesis 2b, there was also a significant interaction between Response and Severity, $F(1, 1140) = 13.87$, $p < .001$, $\eta_p^2 = 0.01$. Simple effects analysis showed that whether officers decided to Shoot versus Not Shoot made a larger difference for High ($F(1, 1140) = 42.31$, $p < .001$, $\eta_p^2 = 0.04$; $M_{\text{sest}} = 0.56, -0.12$) versus Low ($F(1, 1140) = 1.47$, $p = .23$; $M_{\text{sest}} = 0.34, 0.21$) Severity.

Supporting Hypothesis 3a, there was a significant two-way interaction between Response and RWA, $F(1, 1140) = 68.25$, $p < .001$, $\eta_p^2 = 0.06$. Simple effects analysis found that at high levels of RWA (one SD above the sample mean), Shoot responses led to higher Trust in Officers than Don't Shoot responses, $F(1, 1140) = 94.07$, $p < .001$, $\eta_p^2 = 0.08$ ($M_{\text{sest}} = 0.85, -0.16$), whereas at low levels of RWA (one SD below the mean), the effect was (non-significantly) reversed, $F(1, 1140) = 4.01$, $p = .046$ ($M_{\text{sest}} = 0.04, 0.25$). The ANCOVA did not reveal any further significant effects, $F_s < 7.42$, $p_s > .007$.

⁵Preliminary analyses revealed no significant interactions involving Pre-Trust and no other significant three or four-way interactions with RWA. Because these interactions were also not hypothesised they were not included in the final model.

Table 2. Estimated means (*M*) and standard errors (SE) for trust in officers, outcome perceptions and Post-Trust as a function of condition and controlling for Pre-Trust and RWA

	Suspect armed				Suspect unarmed			
	Shoot (Hit)		Don't Shoot (Miss)		Shoot (False Alarm)		Don't Shoot (All Clear)	
	<i>M</i>	(SE)	<i>M</i>	(SE)	<i>M</i>	(SE)	<i>M</i>	(SE)
Trust in Officers								
Low Severity	0.50 ^a	(0.10)	-0.18 ^{n.s.}	(0.10)	0.17 ^{n.s.}	(0.11)	0.60 ^a	(0.10)
High Severity	1.27 ^a	(0.10)	-0.92 ^a	(0.10)	-0.16 ^{n.s.}	(0.11)	0.68 ^a	(0.10)
Outcome Perceptions								
Low Severity	0.25 ^{n.s.}	(0.13)	-0.67 ^a	(0.13)	-0.64 ^a	(0.13)	2.04 ^a	(0.13)
High Severity	2.18 ^a	(0.13)	-2.33 ^a	(0.13)	-1.12 ^a	(0.14)	2.08 ^a	(0.13)
Post-Trust								
Low Severity	4.57 ^a	(0.11)	4.21 ^{n.s.}	(0.11)	4.25 ^{n.s.}	(0.11)	4.34 ^{n.s.}	(0.11)
High Severity	4.52 ^a	(0.11)	4.18 ^{n.s.}	(0.11)	4.32 ^{n.s.}	(0.12)	4.31 ^{n.s.}	(0.11)

Notes: Covariates: Pre-Trust and RWA *z*-scores set at zero. Response scales ranged from -3 to +3 for Trust in Officers and Outcome Perceptions and from 1 to 7 for Post-Trust. ^aSignificantly (^{n.s.} = not significantly) different from the scale midpoint (0 or 4, respectively) based on 99.9% confidence intervals.

The results are summarised in Figures 1 and 2. Estimated means were deemed significantly different from zero (the scale mid-point) if their 99.9% confidence intervals did not contain zero. Figure 1 shows Trust in Officers if the Suspect was Armed. Shoot responses (Hits) resulted in higher trust for High versus Low Severity and for people High versus Low in RWA. These effects combined such that trust following a Low Severity Hit was not significantly above zero for people low in RWA. Don't Shoot responses (Misses) resulted in lower trust for High versus Low Severity and for people High versus Low in RWA. Although trust was significantly negative for High Severity Misses for both High and Low RWA, it was only significantly negative for High RWA participants under Low Severity. In other words, Trust in Officers was resilient to the Low Severity Miss among people low in RWA. Figure 2 shows Trust in Officers if the suspect was Unarmed. This time Don't Shoot responses (All Clears) resulted in trust levels significantly above zero in all cases. However, the only time when incorrect Shoot responses (False Alarms) resulted in a significant decrease in trust was among those low in RWA in the High Severity condition. Among high RWA participants, Low Severity False Alarms even resulted in a significant increase in trust.

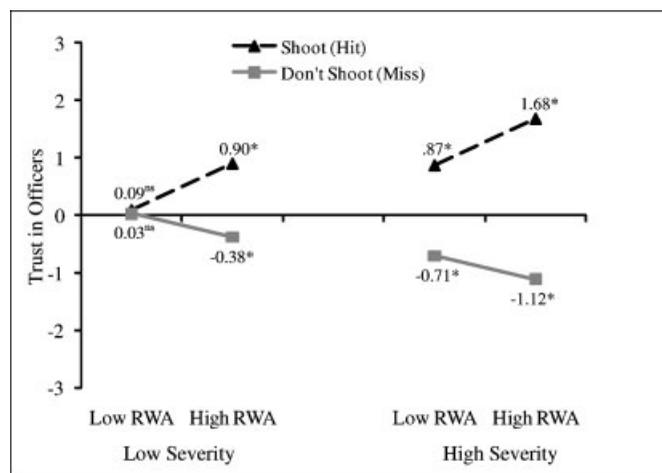


Figure 1. The moderating effect of Right-Wing Authoritarianism on Trust in Officers for incidents involving Armed suspects; depicted are estimated means with Pre-Trust at the sample mean. Notes: Low RWA = (-1 SD), High RWA = (+1 SD). *Significantly (n.s., not significantly) different from zero ($p < .001$)

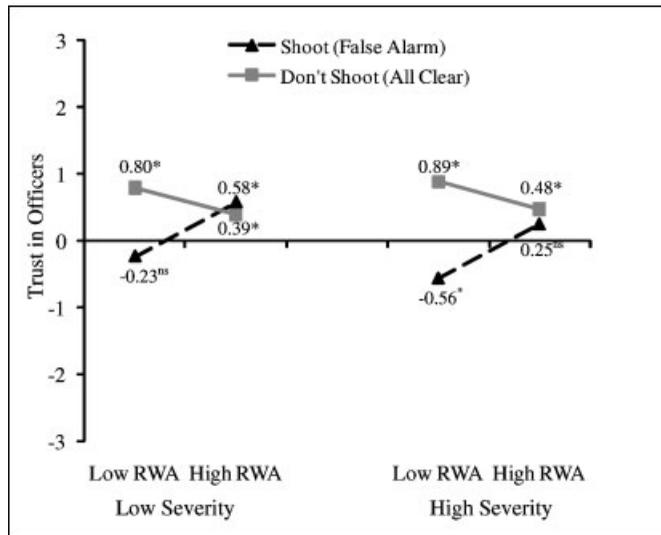


Figure 2. The moderating effect of Right-Wing Authoritarianism on Trust in Officers for incidents involving Unarmed suspects; depicted are estimated means with Pre-Trust at the sample mean. Notes: Low RWA = (-1 SD), High RWA = (+1 SD). *Significantly (n.s., not significantly) different from zero ($p < .001$)

In order to test Hypothesis 3b concerning the potential mediating effect of Outcome Perceptions on the Response by RWA effect on Trust in Officers, we carried out a four step mediation analysis, always controlling for Pre-Trust.⁶ First, we regressed Trust in Officers onto RWA, Response and the RWA by Response interaction. In line with the ANCOVA results above, the interaction was significant ($\beta = .21, p < .001$). Second, we regressed Outcome Perceptions onto RWA, Response and the RWA by Response interaction. Again, the interaction term was significant ($\beta = .14, p < .001$), suggesting that outcomes of Shoot versus Not Shoot decisions were construed differently as a function of RWA. Third, when Outcome Perceptions were added to the first regression, the Response by RWA effect dropped significantly ($\beta = .13, p < .001$) and Outcome Perceptions was a strong predictor ($\beta = .56, p < .001$). Fourth, a Sobel test confirmed the mediated effect to be significant ($z = 4.75, p < .001$). Thus, in line with predictions, people high in RWA did see Shoot decisions as having higher benefits/lower costs than people low in RWA (and *vice versa* for decisions to Not Shoot) and these differences in event construal at least partly explained the differences in Trust in Officers.⁷

⁶For completeness we also carried out an analogous 2 (Suspect: Armed/Unarmed) \times 2 (Response: Shoot/Not Shoot) \times 2 (Severity: High/Low) between-participants ANCOVA with Pre-Trust and RWA as covariates and the RWA by Response interaction included on the Outcome Perception scores (Table 2, middle panel). The results largely reflected those for Trust in Officers and support the notion that our manipulations of severity did have the desired effect on the perceived costs and benefits of the outcomes. Specifically, there was a main effect of Suspect $F(1, 1138) = 60.97, p < .001, \eta_p^2 = 0.05$ with incidents involving Armed suspects being perceived more negatively than incidents involving Unarmed suspects ($M_{\text{est}} = -0.13, 0.64$). This was qualified by the significant interaction of Suspect with Response (indicating outcome correctness) $F(1, 1138) = 916.68, p < .001, \eta_p^2 = 0.45$. Simple effects analysis revealed that Outcome Perceptions were more positive if officers decided to Shoot an Armed vs. Unarmed ($M_{\text{est}} = 1.21, -0.88$) suspect $F(1, 1138) = 247.33, p < .001, \eta_p^2 = 0.18$, but to Not Shoot an Unarmed versus Armed ($M_{\text{est}} = 2.06, -1.48$) suspect $F(1, 1138) = 740.61, p < .001, \eta_p^2 = 0.39$. Importantly for our intended manipulation of Severity, this two-way interaction was further qualified by a significant three-way interaction with Severity $F(1, 1138) = 123.31, p < .001, \eta_p^2 = 0.10$. The difference of being correct versus incorrect was greater for High ($F(1, 1138) = 861.83, p < .001, \eta_p^2 = 0.43; M_{\text{est}} = 2.13, -1.72$) versus Low ($F(1, 1138) = 182.54, p < .001, \eta_p^2 = 0.14; M_{\text{est}} = 1.15, -0.64$) Severity. Severity also significantly interacted with Response $F(1, 1138) = 69.29, p < .001, \eta_p^2 = 0.06$. Simple effects revealed that Outcome Perceptions were more positive if officers decided to Shoot versus Not Shoot under High Severity ($F(1, 1138) = 24.52, p < .001, \eta_p^2 = 0.02; M_{\text{est}} = 0.53, -0.12$) but that this was reversed for Low Severity ($F(1, 1138) = 46.55, p < .001, \eta_p^2 = 0.04$) where people thought to Not Shoot resulted in better outcomes overall ($M_{\text{est}} = -0.19, 0.71$). Finally, and most importantly for Hypothesis 3b, there was also a significant interaction between Response and RWA, $F(1, 1138) = 50.22, p < .001, \eta_p^2 = 0.04$. At high levels of RWA (one SD above the sample mean), Shoot responses led to higher Trust in Officers than Don't Shoot responses, $F(1, 1138) = 16.59, p < .001, \eta_p^2 = 0.01$ ($M_{\text{est}} = 0.57, 0.04$), whereas at low levels of RWA (one SD below the mean), the effect was significantly reversed, $F(1, 1138) = 35.64, p < .001, \eta_p^2 = 0.03$ ($M_{\text{est}} = -0.24, 0.55$). In other words, there is evidence that the situation is being construed differently as a function of RWA.

⁷A reviewer wondered whether the RWA findings may be due to people with high RWA having higher prejudice towards Islam in general. To some extent we were able to test this because later in the study, following the variables discussed in the text, we asked participants to complete a nine-item Attitude towards Islam scale ($\alpha = .79$). Our initial aim was to investigate whether the different outcomes affected perceptions of Islam in general. Preliminary analysis suggested they did not. Further analysis did, however, reveal a significant correlation between this scale and RWA ($r = -.46, p < .001$), showing that people high in RWA had more negative attitudes towards Islam in general. Controlling for Attitudes towards Islam as a predictor as well as potential moderator in subsequent regression analyses only slightly reduced the Response by RWA interaction. This suggests that the impact of this interaction was not simply a product of general prejudice towards Islam but in line with predictions, predominantly due to perceptions of costs and benefits of outcomes.

Generalised Trust

Trust in the police in general at the end of the study (Post-Trust) was analysed using an analogous 2 (Suspect: Armed/Unarmed) \times 2 (Response: Shoot/Not Shoot) \times 2 (Severity: High/Low) between-participants ANCOVA with Pre-Trust and RWA as covariates and the Response by RWA interaction included (Table 2, bottom panel). Again, there was a significant effect of Pre-Trust, $F(1, 1138) = 248.62, p < .001, \eta_p^2 = 0.18$. Pre- and Post-Trust were highly positively correlated ($r = .42, p < .001$), reflecting relative stability in trust in the police's management of the terrorist threat over the course of the study. In partial support of Hypothesis 4, there was also a significant interaction between Response and RWA, $F(1, 1138) = 21.67, p < .001, \eta_p^2 = 0.02$. Paralleling the results for Trust in Officers, simple effects analyses found that at high levels of RWA (one SD above the sample mean), Shoot responses led to higher Post-Trust than Don't Shoot responses, $F(1, 1138) = 21.40, p < .001, \eta_p^2 = 0.02$ ($M_{\text{est}} = 0.67, 0.14$), whereas at low levels of RWA (one SD below the mean), the effect was (non-significantly) reversed, $F(1, 1138) = 3.90, p = .049$ ($M_{\text{est}} = 0.16, 0.38$). The ANCOVA did not reveal any further significant effects, $F_s < 6.05, p_s > .013$, suggesting a lack of generalisation for outcome correctness and severity.

DISCUSSION

The so-called 'war on terror' carries a number of political, economic and social implications (see also Dunwoody & Hammond, 2006). One, as witnessed in Madrid and London, is the greater frequency of suicide attacks. Another is the shift in police guidelines concerning how to react to these incidents, that is, shoot-to-kill to prevent bomb detonation (e.g. Operation Kratos in the UK). In signal detection terms, police are effectively being told to lower their threshold for categorising a person as a suicide bomber who needs to be killed to prevent a terror attack. A side effect of this response bias shift is an increased likelihood of incorrectly accepting someone as a threat (False Alarm). Although a number of such incidents have occurred, we know little about the public's reactions to them.

The current research investigated such reactions by asking a large sample of members of the general public how the police's dealing with hypothetical incidents reflecting the four prototypical outcomes of signal detection tasks (Hits, Misses, All Clears and False Alarms) affected their trust beliefs. The circumstances surrounding the incidents we developed were ambiguous enough that exactly half of all participants asked during pre-testing said they themselves would have shot and half said they would not have shot the suspect before the outcomes were known.

Predictions were based on a model of social judgement that proposes that people act as IDTs, using information about decision outcomes made under uncertainty to make inferences about a decision-maker's performance and the degree to which they can be trusted to perform their role (Eiser, 1990). Beliefs about the trustworthiness of the police in situations such as these is a particularly important perception to investigate given that (dis)trust is associated with perceptions of risk, feelings of well-being and support for civil action (Earle, Siegrist, & Gutscher, 2007; Helliwell & Putnam, 2004; Kasperson et al., 2003).

In line with received wisdom (Baron & Hershey, 1988; Slovic, 1993), officers who correctly interpreted the situation as dangerous if the suspect was armed (Hit) but safe if he was unarmed (All Clear) were trusted more than officers who incorrectly saw the situation as safe if the suspect was armed (Miss) or dangerous if he was not (False Alarm). In other words, evidence of good discrimination ability is important for trust in decision-makers operating under uncertainty (Eiser, 1990).

However, as predicted, this was not the only process involved. People also showed higher levels of trust in officers who decided to shoot versus not shoot, independent of outcome correctness. Does this mean our participants were gung ho and insensitive to the death of innocent suspects? We believe not. Their reactions reflect public responses to such shootings in general. Unlike the beating of Rodney King in Los Angeles in 1992, for instance, there was no major outcry following the fatal shootings of Mr. de Menezes and Mr. Alpizar even though the immediate costs were higher. Perhaps this means that society in general is insensitive. Again, we suspect not. In the scenarios we used here, as in the real world, the costs of a Miss (many deaths) exceeded those of a False Alarm (one or two deaths). Moreover, the benefits of a Hit (many lives saved) exceeded those of an All Clear (one or two lives saved). Thus, under these conditions it makes 'sense' to trust decision-makers who seem to be adopting a response bias that will maximise the expected outcomes given the uncertainty under which they are operating. That this tendency was moderated by outcome severity suggests it is not simply the result

of a general preference for shooting since outcome perceptions and trust following such decisions declined in situations where the benefits/costs associated with a Hit/Miss were lower.

According to normative theory, of course, decisions *should be* assessed on the probabilities and expected costs and benefits at the moment of decision rather than in hindsight (Baron & Hershey, 1988; Fischhoff, 1975). Nevertheless, evidence of outcome bias in our data, namely that people trusted decision-makers more when they made preferred decisions once the outcomes were known despite no aggregate preference in pre-testing, supports a model of people acting only as *intuitive* rather than *formal* detection theorists, vulnerable to biases such as these in a way that formal detection theorists should not be (White & Eiser, 2006, 2007). If we are to understand public reactions to such incidents it is important to recognise the role of both the 'rational' element of their assessment of the costs and benefits and any biases which may influence these judgements such as being overly influenced by outcomes.

The study also provided insight into possible interindividual differences among public responses. As predicted, people high in authoritarianism (RWA), a construct associated with greater acceptance of force to combat terrorism (e.g. Crowson et al., 2005), showed higher trust following decisions to shoot than to not shoot. This effect was so strong that low severity False Alarms, involving only the suspect, were associated with an apparently positive effect on trust among those high in RWA (Figure 2). In this case, trust was not merely resilient to a fatal error, but actually augmented.

Why should people high in RWA show this response? One possibility is that they construe the costs of False Alarms (e.g. the death of an unarmed Muslim) as lower than those low in RWA (see also Footnote 7). That outcome perceptions partially mediated the effects of the interaction between response and RWA on trust provide support for this suggestion. That there was not full mediation, however, suggests additional processes at work. One possibility, in line with findings that RWA is correlated with beliefs in a dangerous social world where many 'bad' people are threatening 'good' people (Altemeyer, 1988), may be that people high in RWA see the *probability* of the person being a terrorist as higher than those low in RWA. As a result they may deem the necessity of shooting to be higher and more reasonable. Although we cannot determine the relative contributions of these factors in the present research, further research could ask people to estimate the probability that the suspect is armed and the costs and benefits of the alternative responses *before* the police's responses and outcomes are known. If probability considerations are affected by RWA we would predict that those high in RWA would be more likely to believe the suspect to be armed than those low in RWA as well as seeing the outcomes associated with decisions to shoot as being more positive.

Finally, it emerged that perceptions of the police in general were also affected by the outcomes of a single event involving only specific officers. More precisely, if officers shot the suspect, trust in the police's management of the terrorist threat was greater among high versus low RWA participants. This is in keeping with the suggestion that officer trust is role-based in nature, concerning their role as representatives of the police rather than merely as specific individuals (Kramer, 1999). It also suggests that people high in RWA are being re-assured by the actions of specific officers that the police in general are adopting their preferred response to the terrorist threat and can thus be trusted en masse. That the outcome and severity effects did not generalise is intriguing because it suggests that outcome biases may be restricted to evaluations of specific individuals and do not carry over to the groups to which they belong. In other words, costly errors or beneficial correct decisions were seen to be due to the actions of specific individuals, whereas the decision to shoot or not was seen at least in part as the product of police policy in general.

In short, the data largely support a model of observers as IDTs making trust-related judgements based on inferences about the dimensions of discrimination ability and response bias from even single instances of performance. The approach is a parsimonious model of lay assessments of decision-makers operating under uncertainty because it relies on the same dimensions developed for more formal models. That observers are prone to biases in these assessments supports the contention that they are intuitive rather than formal detection theorists.

Relations to Alternative Definitions of Trust

Although the IDT model was developed within the specific context of public perceptions of decision-makers operating under conditions of uncertainty, it is important to recognise how it may be related to alternative, perhaps more familiar definitions of trust. For instance, persuasion researchers have long been concerned with understanding which factors influence a communicator's *credibility*, a concept closely linked to perceived trustworthiness. Deutsch and Gerard (1955), for example, suggested that 'greater trustworthiness usually reflects more experience of the reliability of the judgments of

others and more confidence in the benevolence of their motivations' (p. 629; see also Hovland, Janis, & Kelley, 1953). Subsequent research in the field of impression formation more generally has tended to persevere with something akin to these two dimensions with the first usually referred to as *competence*, *ability* or *expertise* and the second as *morality*, *honesty*, *warmth* or *integrity* (McKnight et al., 1998; Skowronski & Carlston, 1987; Wojciszke, 2006). Does this mean that discrimination ability and response bias are just new names for the old dimensions of competence and integrity respectively? We believe not.

First, unlike many investigations into trust dimensionality within research on impression formation (O'Keefe, 2002, pp. 181–184) and risk perception (White & Eiser, 2007, pp. 96–98), the IDT model is based on a theoretical account of what may be important rather than on factor analysis of various adjectives such as 'concerned', 'knowledgeable', 'open' and so on. Although a two-factor structure often emerges from such investigations, one- or three-factor solutions are not unknown. Also apparent anomalies such as the adjective 'biased' loading on the 'knowledgeable' dimension (Frewer, Howard, Hedderley, & Shepherd, 1996) tend to get overlooked making the factor structures seem more coherent than they actually are (Johnson, 1999; White & Eiser, 2007). That the two dimensions continue to be labelled in different ways (honesty, warmth, integrity etc.) is indicative of these bottom-up methods and suggests a certain lack of conceptual clarity. The IDT approach is thus different from some other accounts of trust because it postulates a reason why the two dimensions might be important in terms of the different aspects of decision-making under uncertainty they relate to.

Second, although discrimination ability does appear related to competence (albeit a very specific type of competence concerning discriminating safe from dangerous stimuli), response bias setting is not simply an integrity issue. Response bias setting is based on the decision-maker's perceptions about the probabilities and payoffs of outcomes under conditions of uncertainty and these may be more or less accurate reflections of the true probabilities and outcomes. If accurate, the response bias reflects competence. If inaccurate, this could be due to incompetence (e.g. a lack of knowledge) *or* bias, as the term is usually used, in the sense of not assigning appropriate values to the outcomes. In the POTD, for instance, officers who adopt a 'shoot when uncertain' response bias may do so because of inappropriate stereotypical beliefs about Islamic people (e.g. 'many of them are terrorists') or immoral beliefs concerning the relative value of different lives (e.g. 'it is less important if a Muslim gets shot than a Christian'). Future research is needed to unpack how people interpret response bias information with questions such as 'Why do you think the officer decided to shoot/not shoot'? If their behaviour is attributed to a lack of competence, we might expect to see a less negative effect on trust than if it is attributed to a motivational bias (Reeder & Brewer, 1979; Skowronski & Carlston, 1987, 1989). In sum, response bias need not be simply an integrity related issue although further research is needed to explore exactly how participants perceive it.

Third, although we did not explore it in the current research, the IDT approach as outlined by White and Eiser (2006) does include a dimension which directly examines issues of integrity and honesty as they are usually construed (see Footnote 1). This third dimension, referred to as communication bias, concerns the degree to which decision-makers are open and transparent about their decisions. In keeping with research showing that lies and deliberate violations have a large impact on trust because they are diagnostic of dishonest tendencies (Kim et al., 2004; Kim, Dirks, Cooper, & Ferrin, 2006; Reeder & Brewer, 1979; Skowronski & Carlston, 1987, 1989), White and Eiser (2006) report that a lack of openness leads to a lack of trust even following correct decisions (Hits and All Clears).

Indeed such a tri-dimensional approach is not uncommon in the trust literature. Peters, Covello, and McCallum (1997), for instance, distinguish between (a) knowledge and expertise, (b) care and concern and (c) openness and honesty. Mayer et al. (1995) make a similar distinction between ability, benevolence and integrity. In both cases these frameworks, like our own, are decomposing the second dimension into two aspects, the first relating to the consideration of others in terms of one's own behaviour and the second relating to issues of honesty and deception. Clearly future research is needed to explore how the three dimensions proposed by IDT on theoretical grounds relate to these other frameworks, and in particular more is needed to understand how the response bias aspect of performance is interpreted.

Relations to Procedural Justice Research

The findings also appear related to research into procedural justice. This research reports that in addition to outcomes, people also judge decision-makers in terms of the procedures they used to attain these outcomes (Thibault & Walker, 1975). For instance, people may view a decision-maker positively even if the outcomes are not in their favour if they believe the process by which the decision was reached was just, they were provided with the opportunity to voice their

opinions, the decision process was open and transparent (Leventhal, 1980) and/or they feel the groups to which they belong were shown respect (de Cramer & Tyler, 2005; Lind & Tyler, 1988). Moreover, these considerations may be especially important when uncertainty around the correct decision is large (Van den Bos & Lind, 2002), if the decision-makers are in positions of authority such as the police (Tyler, 1989) and when people make judgements about trustworthiness (Van den Bos, Wilke, & Lind, 1988).

Since our scenarios were associated with high levels of uncertainty about the correct decision at the group level and concerned trust in authorities (i.e. the police), they seem the kind of situation where procedural justice concerns may be particularly important. Support for such a possibility can be found in the effects of response bias on trust. While discrimination ability is clearly linked to outcomes (i.e. correctly vs. incorrectly detecting danger), the setting of the response criterion for accepting danger is the procedural aspect of a signal detection task involving the assessment of outcome probabilities and payoffs. Thus, the IDT model suggests a new aspect of procedures that may be important for perceptions of justice, namely response bias. Since we know of no previous research that has directly postulated this link or explored its impact on trust, the IDT model may provide a valuable extension to procedural justice research which could be explored more directly in future studies.

Limitations and Future Research

In addition to the issues outlined above a number of other aspects also require further research. First, according to signal detection theory, estimates of discrimination ability and response bias technically require repeated performance. Thus, a fuller exploration of trust using the IDT approach requires monitoring of people's responses to multiple decisions (e.g. several False Alarms). Second, in addition to examining trusting beliefs, future research could also examine the effect of such information on *trusting intentions* such as the willingness to allow the police to be involved in the management of the terrorist threat as opposed to other organisations (Kim et al., 2004; McKnight et al., 1998). Third, further research could investigate reactions to False Alarms that do not involve a shoot response such as the shutting down of airports or the holding of suspects without trial. Would, for instance, False Alarms be as tolerated if the costs to the public at large were more immediate (e.g. cancelled flights)? Fourth, the current findings are related to those of Perkins and Bourgeois (2006), who investigated reactions to False Alarm police shootings in a non-terror context. They found that officers were less likely to be perceived as having used excessive force in firing a high ratio of shots per officer among respondents who scored highly on Social Dominance Orientation (Pratto, Sidanius, Stallworth, & Malle, 1994). Since there is some overlap between this construct and RWA (e.g. Cohrs, Moschner, Maes, & Kielmann, 2005), research could explore the interplay among them in relation to preferences for decision-making in terror contexts. Fifth, reactions of Islamic community members to these and related scenarios need to be explored since they may feel particularly vulnerable to police errors. This would be especially important given what we know about (relatively low) levels of trust in the police among ethnic minorities generally (Goldsmith, 2005; Tyler & Huo, 2002). Finally, the IDT model is not limited to the terror context. Although RWA was an important moderator here, other interindividual differences might be important elsewhere. Further research is needed to see how personal preferences for more or less cautious responses influence trust in decision-makers across a range of contexts characterised by uncertainty. Doctors, engineers, pilots and stock-brokers, amongst many others, are all discriminating between 'dangerous' and 'safe' situations of one sort or another, and understanding how trust in such risk managers is built and lost is of both theoretical and applied importance (Kasperson et al., 2003).

CONCLUSIONS

It seems that trust in decision-makers does not always, as the saying goes, 'leave on horseback' (Calman, 2002; Slovic, 1993), even following fatal errors. Rather people act like IDTs and assess decision-makers in terms of whether they make technically correct or incorrect decisions and whether they have made reasonable decisions under the circumstances. Due to differences in costs and benefits and personal preferences for action in any given context, what counts as 'reasonable' will vary systematically across decision domains. Thus, rather than being the result of public indifference to suffering, trust resilience following fatal False Alarms such as those of Jean Charles de Menezes and Rigoberto Alpizar appears to result

from an awareness of the even greater costs of failing to identify a real terrorist threat. Although the IDT approach appears related to both impression formation and procedural justice research, as far as we know the issue of response bias preferences has not been explored in either literature to date. Unpacking the extent to which this aspect of performance is perceived to be a product of competence versus integrity seems to be a fruitful area for further research. Such research may aid not only our understanding of public reactions to the shooting of innocent terror suspects but also the public's reactions to errors made by a range of decision-makers operating under conditions of uncertainty.

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APPENDIX: THE SCENARIO ENDINGS (TRANSLATED FROM GERMAN)

- (A) *Hit*: ‘The officer in charge decided to give the order to shoot and the man was killed immediately. Subsequent inspection of the suspect’s rucksack revealed that’; (i) *Low Severity* ‘... it did not contain explosives, but mostly books. However, the man did have a sharp knife with which he could have wounded dozens of people’; (ii) *High Severity* ‘... it did contain ignitable explosives which if detonated would probably have killed or wounded hundreds of people’.
- (B) *All Clear*: ‘The officer in charge decided not to give the order to shoot and the man was eventually detained. Subsequent inspection of the suspect’s rucksack revealed that there were no explosives, only books, and he was unarmed. There appeared to be no danger that anyone would have been wounded or killed’; (i) *Low Severity*: No additional information; (ii) *High Severity*: ‘In addition, officers realised that just behind the man when the shoot decision had to be made, a 12-year-old girl had been standing unseen by officers and any decision to shoot could have resulted in her also being shot’.
- (C) *False Alarm*: ‘The officer in charge decided to give the order to shoot and the man was killed immediately. (i) *Low Severity*: ‘Subsequent inspection of the suspect’s rucksack revealed there were no explosives, only books and he was

unarmed. There appeared to be no danger that anyone would have been wounded or killed'; (ii) *High Severity*: 'Moreover, standing just behind the suspect, and unseen by officers, was a 12-year-old girl who when they opened fire was also killed'. (Plus low severity information.)

- (D) *Miss*: 'The officer in charge decided not to give the order to shoot . . .'; (i) *Low severity* ' . . . and although the rucksack did not contain explosives, the man did possess a sharp knife with which he attacked several bystanders wounding several seriously'; (ii) *High Severity* ' . . . even though the rucksack did in fact contain explosives. The man subsequently activated the detonator and the explosion resulted in hundreds of people being killed or wounded'.