Death Priming in Investigations: The Effects on Worldview Threat, Out-Group Derogation, and Stereotyping

Laure Brimbal

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DEATH PRIMING IN INVESTIGATIONS: THE EFFECTS ON WORLDVIEW THREAT, OUT-GROUP DEROGATION, AND STEREOTYPING

by

LAURE BRIMBAL

A dissertation submitted to the Graduate Faculty in Psychology in partial fulfillment of the requirements for the Degree of Doctor of Philosophy, The City University of New York

2016
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Abstract

DEATH PRIMING IN INVESTIGATIONS: THE EFFECTS ON WORLDVIEW THREAT, OUT-GROUP DEROGATION, AND STEREOTYPING

by

Laure Brimbal

Advisor: Professor Maria Hartwig, Ph.D.

Terror Management Theory (TMT) hypothesizes that thinking about one’s own death creates a need to boost our worldview and our self-esteem in order to cope with this existential threat. Decades of research support the theory’s premises with findings in many different settings (Burke, Martens, & Faucher, 2010). The purpose of this dissertation is to extend the findings of TMT to research on decision making in investigations. In two studies, I evaluated how thinking about one’s death (Mortality Salience, MS) affected mock investigators’ reactions to the outcome of a case they investigated and their perceptions of a suspect, depending on their group memberships. In Study 1, participants (n = 299) were either death primed or not and asked to provide their assessment of a case as a police investigator. They were then told of the outcome of the case in court (either fair or unfair), asked how they felt about it. They were also asked how they would investigate a similar case in the future to assess for the impact of outcome on motivational bias. Results showed only an effect for outcome, where participants reacted more positively (and less negatively) to the fair outcome then the unfair outcome. Participants also showed a tendency to generally seek out more information in the unfair outcome condition; however, there was no sign of increased confirmation bias. In Study 2 (n = 403), I either primed participants with MS or not and manipulated what role they took on to investigate the case
(police investigator or journalist), and the race of the suspect (either in-group or out-group member of different races (Black, Hispanic, or White) depending on their own). I then asked participants to provide their assessment of the suspect’s culpability and their overall impressions of him. Results showed that, contrary to predictions, MS decreased mock police investigators’ probability of guilt judgments as compared to those taking on the role of a journalist and those not death primed. There was also no clear evidence of increased stereotype use under MS. Results were discussed; limitations and avenues for future research were proposed.
Acknowledgements

To my committee: Maria Hartwig, Angela Crossman, Mike Leippe, Jamie Arndt, and Karl Ask. Thank you for all of the time you spent helping with my research and your guidance and invaluable advice throughout the dissertation process. Your collective years of fascinating research have been an inspiration for my own work. I am extremely honored and humbled to have had the opportunity to develop my dissertation under your supervision.

Maria: Thank you for taking a chance on a lowly BDO with no research experience and teaching me the ropes. I truly appreciate every opportunity you have given me over the years and you pushing me to grow as a researcher and to become a successful scholar.

Angela: Thank you for always being so very supportive and helpful. Your ability to provide the most intelligent and insightful comments on topics that you have only recently familiarized yourself with has me striving toward that same level of intellect.

To my parents, thank you for your support and encouragements over the years. And Mom, thank you for being the most positive, unwaveringly loving person on the planet. Daniel, thanks for being a big brother I look up to and try to emulate – isn’t that how I got in this mess to begin with? And Céline: 2016, l’année de la thèse!

To my friends, from France, from California: Even though I have been a ghost for the past five years, I always cherished our quick visits and realizing that things haven’t changed. Knowing that you are all there for me brings me a great sense of stability that has allowed me to get through this rocky Ph.D.

To my New York friends, especially those from the program: Thank you for being my support system and keeping me sane on a daily basis. Thanks for the delirious late nights in the office, the drinks, the dancing, the hammock naps, the free therapy sessions, and so much more… You have been the best part of New York.
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Chapter 1: Purpose

Television crime dramas have popularized the cliché of law enforcement officers being motivated to bring a criminal to justice after the death of one of their own. Although fictional, this example raises the question of how experiencing death can affect our thoughts in ways that are more subtle than this obvious reaction of outrage. Specifically, how does contemplating our own death impact our decision making processes? The purpose of this dissertation is to answer this question in the context of police investigations with mock police investigators assessing evidence from a case while under the influence of Mortality Salience (i.e., having thoughts of death accessible in their mind). I focused on how death priming (i.e., Mortality Salience; MS) affects specific factors that could have biasing effects in an investigation. In Study 1, I examined how MS affected investigators’ reactions to a fair or unfair outcome in a case they investigated and how this affected their decision making in future investigations. In this study, I measured affective responses to verdict and perceived utility of pursuing different types of incriminating, exonerating and neutral lines of investigation in future cases. In Study 2, I evaluated how MS affected impressions and judgments of out-group members (racial and professional) and the use of stereotypes. Of interest for this study was how participants might view a suspect of their racial out-group, especially if they were told that their personality matched that of a police investigator vs. that of a journalist. Also of interest for this study was how MS might increase the use of the “Black criminal” stereotype. The overarching goal of this body of research was to apply decades of research on Terror Management Theory (TMT; Burke, Martens, & Faucher, 2010; Greenberg, Solomon, & Arndt, 2008) to law enforcement investigations, a field where thoughts of death are prevalent and could have very real and serious consequences.
Chapter 2: Terror Management Theory – An Overview

Terror Management Theory (TMT; Greenberg, Solomon, & Pyszczynski, 1986; Greenberg et al., 1990; Pyszczynski, Greenberg, & Solomon, 1997; Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989) proposes an answer to the general question of how death unconsciously affects thought processes. TMT is based on the idea that, as humans, we are mortal. Further, but more uniquely, as humans, we are aware of this inevitability. Being programmed with a survival instinct as most other animals are (Becker, 1973), this awareness of an inescapable fate brings us anxiety that we are eager to suppress however we can (Greenberg, Solomon, & Pyszczynski, 1997; Greenberg et al., 2008).

Knowing that death is certain but wanting to survive necessitates that we have cognitive mechanisms to protect ourselves from this realization. TMT posits that when thoughts of death are present, we react in certain ways to bolster our cultural worldview and self-esteem (Greenberg et al., 1993; Landau, Greenberg, Sullivan, Routledge, & Arndt, 2009; Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004). Our cultural worldview – the values that our in-groups hold dear, justifies our existence by providing a purpose and explanation for this existence (e.g., Greenberg et al., 2008; Hohman & Hogg, 2015a). Complimentarily, our self-esteem gives us reason to believe we are fulfilling our role within this cultural worldview (Greenberg, 2008). These two factors protect us from thoughts of death by providing us with the symbolic immortality of being a useful member to a group that will survive our own death (Dechesne et al., 2003). These two factors are important postulates of TMT because they explain why thinking of death can result in particular responses. Relevant to this dissertation are findings that thinking about one’s death increases negative reactions in response to worldview violations.
and derogation of out-group members (Pyszczynski et al., 2004) – the complete rationale for these effects will be discussed in more detail below.

**Terror Management Theory – The Underlying Mechanisms**

Although an increase in negative reactions to worldview violations and derogation of out-group members might seem illogical on the surface, decades of research support these findings. Nonetheless, over the years, researchers have also observed that thinking about one’s death does not always provoke these reactions. Researchers exploring the underlying mechanisms of TMT developed a dual-defense model (for review, see Pyszczynski, Greenberg, & Solomon, 1999) wherein under certain circumstances we cope with explicit thoughts of death with proximal defense mechanisms (i.e., defense mechanisms that seek to minimize threat) that result in more “rational” ways of coping. These processes include suppressing thoughts of death and denying our own vulnerabilities (Greenberg, Arndt, Simon, Pyszczynski, & Solomon, 2000) and are used when thoughts of death are consciously accessed and being paid attention to. When asked to think about our death, we normally engage in proximal defenses until thoughts of death become suppressed. And, once thoughts of death are not the focal point of our attention anymore (but still easily accessible in our minds), we engage in distal defense mechanism (i.e., symbolic cultural worldview defense; Arndt, Greenberg, Pyszczynski, & Solomon, 1997). These distal defense mechanisms are the main focus of TMT and this dissertation.

The dual process model has found support in research showing that the distal effects of death priming are stronger when there is a delay after explicit death priming (e.g., having people write about their own death). Indeed, people do not show the distal effects when measurement immediately follows death priming (e.g., Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). Furthermore, when cognitive load is imposed, people show the distal effects of death
priming (e.g., increased worldview defense, increased pro-American bias in American students) even without the delay that is typically observed in TMT research (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997). Cognitive load increases distal defenses because thought suppression is a cognitively costly activity that cannot be constantly maintained. Under normal circumstances, a person can distract themselves from thoughts of death for a certain period of time, but eventually thoughts will become accessible again. If, for example, one rehearses a certain number over and over again after thinking about death, this should impair thought suppression activities and thoughts of death should be accessible without delay (Wegner, 1994).

Further supporting this dual process model is the finding that subliminal death primes (e.g., flashing the word death in front of people, priming death without their awareness) increases worldview defense and Death Thought Accessibility (Arndt, Greenberg, Pyszczynski, et al., 1997).

The Role of Death Thought Accessibility (DTA)

Originally, TMT posited that the terror that MS creates in us should manifest as death anxiety and thus could be measured by people’s affective responses after being death primed. However, research on MS has almost always failed to produce differences in affect in response to thinking about one’s own death (for one exception, see Arndt, Allen, & Greenberg, 2001). After being asked to contemplate their own death, people do not report feeling emotionally worse than those who are asked to think about control topics (e.g., going to the dentist, watching TV, etc). TMT theorists posited that this is because people suppress the thoughts of death as a way to cope with them. As an ironic result of this suppression, however, participants should have more unconscious access to thoughts of death. In order to explore this idea, Greenberg and his colleagues (1994), inspired by the methods of Bassili and Smith (1986), developed a word
fragment completion task to measure unconscious access to thoughts of death (coined Death Thought Accessibility; DTA). This task involves participants completing ambiguous word fragments with the first word that comes to mind. The word fragments were purposely developed so they could be completed either by a death related word (e.g., corpse) or one unrelated to death (e.g., course).

The concept of DTA has helped develop TMT theory and further the understanding of MS. For instance, research involving DTA has shown that more than just death (e.g., terrorism; see Landau, Solomon, et al., 2004), topics related to death can also increase DTA. People also differ in dispositional DTA and certain factors (e.g., low self-esteem) can increase spontaneous DTA. Furthermore, DTA has been hypothesized to be a mediator in the MS process (Vail, Arndt, Pyszczynski, & Motyl, 2010; for a more comprehensive review of the DTA concept and the research surrounding it, see Hayes, Schimel, Arndt, & Faucher, 2010).

**Critique of TMT and Alternative Explanations**

Some critics of the theory claim that because decades of research have been unable to measure changes in negative affect in response to MS (for one exception to this, see Arndt et al., 2001; see also Juhl & Routledge, 2015), that the anxiety (i.e., terror) stipulated by TMT does not exist. However, clarifying the theory, Greenberg, Solomon, and Arndt (2008) explain that reactions to MS are coping mechanisms to avoid this anxiety on a daily basis. Thus, the absence of anxiety when presented with MS is simply an indication of an individual’s functional cognitive management capabilities. This is why alleviating people’s concern about potential anxiety by giving participants a placebo said to reduce anxiety nullified the effect of MS on reactions to worldview threat (Greenberg et al., 2003).
Another frequent critique of TMT is that the effects of MS are not specific to thoughts of death and that they can be explained by other threats that can produce similar defensive reactions. Arguments have been put forth presenting alternative explanations wherein it is what death represents and not death itself that causes the effects. One commonly presented alternative is uncertainty, the rationale being that death symbolizes ultimate uncertainty. Research on Uncertainty Salience (US) supports the idea that US can produce similar effects as MS. For example, van den Bos, Poortvliet, Maasa, Miedema, & van den Hama (2005) found similar effects of MS and US on reactions to unfairness (i.e., a worldview violation). However these results have not been replicated with different operationalizations of uncertainty or other dependent measures (Landau, Johns, et al., 2004; Routledge, Arndt, & Goldenberg, 2004; for a more thorough review, see Pyszczynski, Greenberg, Solomon, & Maxfield, 2006), therefore it is possible that something unique about unfairness is affected by uncertainty. Other researchers have presented other comparable concepts that death evokes and that could explain the effects of MS, such as meaninglessness (Heine, Proulx, & Vohs, 2006; Martens, Burke, Schimel, & Faucher, 2011) or threat to adaptive coalitions (Navarrete & Fessler, 2005), concern for the future (Greenberg et al., 1995), social exclusion, and extreme physical pain (see Vess, Arndt, Cox, Routledge, & Goldenberg, 2009). However, many studies show the unique effect of MS, replicated using many different constructs of death, such as asking people to reflect upon and write about their own death, a picture of a skull (Chopik & Edelstein, 2014), vivid images of death (e.g., footage of an autopsy, Greenberg, Solomon, et al., 1992), walking in front of a funeral home (e.g., Pyszczynski et al., 1996), or filling out a survey about personal fear of death (Taubman-Ben-Ari, Florian, & Mikulincer, 1999, Study 2), and subliminal primes (e.g., Arndt, Greenberg, Pyszczynski, et al., 1997).
Furthermore, research supports the unique mediating role of DTA with findings that threats to cultural worldview increase the accessibility of death thoughts only, but does not increase availability to thoughts about other threats (e.g., Schimel, Hayes, Williams, & Jahrig, 2007). Conversely, when death primed, bolstering participants’ worldview by letting American students judge the writers of pro- and anti-American essays reduces DTA compared to those who were not given the worldview bolstering opportunity (Arndt, Greenberg, Solomon, et al., 1997).

Furthermore, and most relevant to this dissertation, regardless of the discussion over the uniqueness of the effects of MS, research over the years has demonstrated the consistent effects of MS. I chose to investigate the effects of death priming in investigations because death priming is a real issue in the realm of law enforcement and thus should be explored.
Chapter 3: Terror Management Theory and Violations of Outcome Fairness

As proposed by TMT, our cultural worldview serves as a buffer against thoughts of mortality. One reason for this is that our cultural values reinforce the idea that the world is a just place. Much research shows that we are motivated to view the world as a just place (Lerner, 1980; Lerner & Miller, 1978): a place where good things happen to people who deserve them and bad things happen to bad people (Rosenblatt et al., 1989). When this belief is threatened, for example by the idea of death – an ultimately unfair outcome – this makes the concept of fairness more salient (Hafer & Bègue, 2005) and we might become more upset when exposed to unfairness. This is indeed what research shows: when mortality is salient and people are subjected to unfair procedures, they react with more negative and less positive affect than without MS (van den Bos, 2001; van den Bos & Medina, 2000).

Previous Research on TMT and Fairness

Several studies have examined the effects of MS on reactions to procedural fairness. In four experiments, van den Bos and Miedema (2000) and van den Bos (2001, Study 2) attempted to understand the sources of motivation toward fairness. These researchers found that MS focused people on concepts of fairness. Giving a voice to participants about how many lottery tickets should be awarded to them versus another research participant increased their positive affective responses to the procedure. This increase in positive affect was enhanced when participants were primed with MS. MS had an even stronger effect in decreasing negative affect in response to the procedure. Van den Bos furthered this research by investigating the effect of MS on reactions to outcome fairness manipulations in 2001 (Study 1). He replicated the findings of MS on procedural fairness: Participants who received more lottery tickets compared to an “other” participant showed more negative affect in reaction to this unfair outcome than those
who received more lottery tickets. The main effect was qualified by an interaction with MS, increasing comparative negative affect in participants in the unfair compared to the fair group. These results illustrated the power of MS to highlight the importance of not only procedural but also outcome fairness. These effects were again replicated in five studies investigating the comparative effects of MS, uncertainty, and television watching on reactions to unfairness (van den Bos et al., 2005).

Cook, Arndt, and Lieberman (2004) indirectly tested the idea that MS makes concepts of fairness salient by looking at “nullification” beliefs and jurors’ decision making. Nullification refers to the distinction between jurors following the spirit versus the letter of the law (see Wiener, Habert, Shkodriani, & Staebler, 1991). Those prone to nullification are more likely to ignore substantive legal rules and instructions if they disagree with the spirit of the law – because they do not see it as fair. Nullification proneness is especially important when evidence relevant to a case is judged as inadmissible for procedural reasons (e.g., incriminating evidence that the police gathered without a proper search warrant). People high in nullification belief would be less likely to disregard this type of evidence because doing so would violate the spirit of the law and their concept of fairness. Cook and her colleagues found that MS promoted fairness in opposite ways depending on what different people considered fair (i.e., their proneness to nullification). Indeed, MS enhanced propensity to follow the spirit of the law for those high in nullification belief: these participants were more likely to ignore a judge’s rule to disregard inadmissible incriminating information, compared to those low in nullification beliefs (Cook et al., 2004).

Looking specifically at fairness in terms of belief in a just world and following the just world rationale, Hirschberger (2006) evaluated the effects of MS on propensity to blame
innocent victims. An innocent victim threatens the concept of belief in a just world and MS should amplify this threat. This is what Hirschberger found (Study 3, 2006): When presented with a story about an innocent driver being harmed in a car crash, participants primed with MS assigned more blame to the victim. This was only the case, however, when the driver was severely injured and only when it was specified that he had been driving carefully (i.e., a clearly innocent badly injured victim). Thus, in an attempt to re-establish their threatened (by MS) belief in a just world, participants saw the victim as more culpable than he was.

**TMT and Violation of Outcome Fairness in an Investigation**

Because investigators are a constant instrument in the judicial decision making process, they are essentially part of the procedure. Investigators gather the information about a case, evaluate it, decide whether or not to forward the information for prosecution and might even be asked to testify in court. To that end, the investigators themselves will be concerned with the outcome of a case being consistent (and fair) with their own assessment of it. Although past research has mostly investigated procedural fairness as a worldview violation, perceptions of fairness in general are ingrained in most people’s value systems (Haidt, 2007) and as such should be considered an important cultural value (Tyler & Smith, 1998). This means that violating someone’s principle of fairness should produce a negative affective response, in the same way that a violation of procedural fairness (van den Bos, 2001, Study 2; van den Bos & Medina, 2000) and of outcome fairness (van den Bos, 2001, Study 1) do. Because MS yields negative responses to worldview threats, MS should increase negative affect when exposed to an unfair
verdict, especially if the defendant does not deserve it (Heuer, Blumenthal, Douglas, & Weinblatt, 1999; Sunshine & Heuer, 2002). This is the idea that I tested in my first study.

---

1 It is also possible that MS would increase victim blaming in response to an unfair verdict, given Hirschberger’s findings (2006). However, this is beyond the scope of the current studies.
Chapter 4: Terror Management Theory and Out-Group Derogation

Research on TMT also demonstrates the effects that the threat of death can have on how people treat others. Generally, we favor individuals who are similar to us (Capozza & Brown, 2000; Pinter & Greenwald, 2011). Several prominent identity theories (e.g., Social Identity Theory; Tajfel & Bilig, 1974; Tajfel & Turner, 1979; self-categorization theory; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) posit that we like people in the groups we are a part of and dislike people who are not in our groups (e.g., Struch & Schwartz, 1989) because it helps us promote our own positive image. This can be explained by the idea that our identity has an individual and a social component, both of which affect our self-esteem (Tajfel, 1982; Turner et al., 1987). We can boost our social self-esteem by reinforcing the value of in-groups we identify highly with (e.g., Crocker & Schwartz, 1985; for review, see Aberson, Healy, & Romero, 2000) and derogating members of our out-group (e.g., increased dislike for, distancing from, and decreased rated similarity to an out-group member; Branscombe & Wann, 1994; see also Fiske & Taylor, 2013). Additionally, threats to our self-esteem (including the threat of death) can increase the need for in-group favoritism (Ellemers & Haslam, 2012) and the striving for self-esteem (Greenberg, Simon, Pyszczynski, Solomon, & Chatel, 1992). Because self-esteem serves as a buffer against the anxiety caused by thoughts of death (Simon et al., 1997) boosting our social self-esteem could substitute for personal a self-esteem boost (Castano, Yzerbyt, & Paladino, 2004) and act as a buffer against MS.

Threat Relevance, Group Identification, and Out-group Derogation

People tend to classify themselves into groups based on different factors such as age, gender, and race (Tajfel & Turner, 1979). Such groups become part of their members’ identities. Out-group members generally threaten one’s worldview by their simple existence because a
group other than one’s own implies differences (potentially in terms of worldview) between people and thus their mere existence represents a threat to worldview. This threat is especially concretized if a member of the out-group overtly threatens one’s worldview. Another important factor for an out-group member to provoke a derogation response is identification with the threatened group. For example, Branscombe and Wann (1994) found that when Americans were exposed to a video that threatened American identity (Rocky, an American, being defeated in a boxing match by a Soviet boxer), only those who identified highly as Americans derogated Russian out-group members. Furthermore, only those who highly identified as Americans and derogated Russians then saw a boost in their self-esteem. Thus, derogating an out-group member relevant to the threat at hand can help restore people’s self-esteem when it is damaged (by, say, death priming), especially when they identify highly with the threatened in-group (Wann & Branscombe, 1990).

The minimal group paradigm (Tajfel, Billig, Bundy, & Flament, 1971) shows that these out-group derogation effects hold even in groups that one has been randomly assigned to, as long as one assigns value to the in-group. For example, Tajfel and his colleagues (1971) assigned participants to groups based on a bogus status or preference for a certain type of art. Their participants then allocated more funds to their in-group and less to their out-group, thus illustrating intergroup bias based on random groups that they thought were meaningful. Further strengthening the notion that group identity arouses out-group derogation, Billig and Tajfel (1973) told some participants that they were randomly assigned to group. They found that the simple explicit mention of grouping and group labels resulted in discrimination against out-group members, even when participants were aware that they were randomly assigned to groups. Finally, Crocker and Schwartz (1985) found that self-esteem interacted with group membership
when measuring in-group bias, in these minimal, randomly assigned groups. These findings show the general importance of relevance of threat and level of in-group identification on out-group derogation, before even considering the effects of a threat to self-esteem, such as MS.

**Previous Research on the Effects of MS on Out-group Derogation**

Generally, MS increases our tendency to act favorably toward people we consider members of our in-group (e.g., showing more positive attitudes toward charitable organizations that were deemed important or even giving more money to domestic charities; Jonas, Schimel, Greenberg, & Pyszczynski, 2002; see also Castano, 2004; Castano et al., 2002; Harmon-Jones, Greenberg, Solomon, & Simon, 1996). MS also leads people to avoid and derogate members of out-groups (e.g., ascribing negative traits, being unwilling to spend time with out-group members; Greenberg et al., 1990), and even to act aggressively toward people who challenge their belief system (e.g., choosing how much hot sauce to give an individual who does not like spicy foods; McGregor et al., 1998). Early research on TMT by Greenberg and his colleagues (1990) found that Christians showed more derogation of Jews (a clear out-group) than of Christians (their in-group) when under MS. Research has also found that when death primed, Scottish students showed more negative attributions toward the English (who are considered their out-group; Castano, 2004) and Italian students rated Germans less positively than their own group (i.e., Italians; Castano et al., 2002). Looking at ratings of art, Renkema, Stapel, and van Yperen (2008) found that Dutch people conformed to other Dutch people’s attitudes about art, but they contrasted away from the Germans’ taste in art, when mortality was salient. Interestingly, this effect was not found for their conforming to art liked or disliked by Japanese people. The explanation for this was that the Japanese were viewed as a neutral out-group to the Dutch while the Germans were viewed as a negative out-group. Authors cautioned that this
effect could have been comparative, as all participants rated art that was either liked or disliked by Germans, Dutch, and Japanese. It is possible that, if presented alone, ratings of Japanese art might have been more similar to those of German art. Regardless, however, this illustrates once again, that effects are found when the out-group is viewed negatively or as a threat to the in-group. Similarly, Kugler and Cooper (2010) found that under MS, suspected terrorists were awarded less protection by Americans if they were Saudi Arabian than if they were American (their in-group) or Bulgarian (an out-group not considered a threat). Although the findings outlined above concern groups that are naturally occurring, in-group bias in minimal group settings was also enhanced with MS (Harmon-Jones et al., 1996). Further, MS has been shown to increase identification with one’s in-group (Castano, Yzerbyt, Paladino, & Sacchi, 2002).

**MS, self-esteem and out-group derogation.** TMT theory predicts that under MS, self-esteem should have a moderating effect on out-group derogation. Low self-esteem should increase out-group derogation in response to MS while high self-esteem should decrease it. This is what findings confirm when manipulating self-esteem: When boosting self-esteem by, for example, giving participants positive personality feedback, this attenuated the effects of MS on out-group derogation (Arndt & Greenberg, 1999; Harmon-Jones et al., 1997, Study 1). Findings on explicit trait self-esteem measures, however, show mixed results. Harmon-Jones and his colleagues (1997, Study 2) found support for this idea: Their American students with high self-esteem rated an individual who wrote an anti-American essay less negatively than those with moderate self-esteem – who were more willing to engage in out-group derogation. This out-group derogation effect was replicated with Israeli children’s self-reported unwillingness to engage in different activities with Russian immigrants (Florian & Mikulincer, 1998). The effect was only in 11-year olds but not in 7-year olds because the younger children probably did not
have full conceptual mastery of the concept of death (Wass, 1995). Out-group derogation was also specific to those children with low self-esteem. Das, Bushman, Bezemer, Kerkhof, and Vermeulen (2009) also found that prejudice against Arabs increased after watching news about terrorist attacks\(^2\), especially for people low in self-esteem. This was found for people of European descent (Study 2), but the authors also found that watching a news report about terrorist attacks increased implicit prejudice against all out-group members, as measured by the IAT: Europeans for Arabs and Arabs for Europeans (Das et al., 2009, Study 3). On the other hand, Baldwin and Wesley (1996) found a reversed moderating effect of self-esteem, where Canadian students with high self-esteem (vs. those with low self-esteem) saw an increase in polarization of negative opinions toward an out-group member (American target) and positive toward an in-group member (Canadian target).

Bridging the self-esteem and group identification literature, Hohman and Hogg (2015b) found that out-group derogation only happened under MS when their participants did not have their self-esteem enhanced. Further they found that in-group identification mediated the out-group derogation effect. That is, among their participants (who were American), those who identified most as Americans were those who showed the most in-group bias (as illustrated by a larger difference between the evaluations of pro- vs. anti-American essay). Furthermore, research on group identities shows that although people can embrace several identities, the most salient identity (Halloran & Kashima, 2004) with the most salient norms (Giannakakis & Fritsche, 2011) is the one that is affected by MS.

\(^2\) In their study, they used Terrorism Salience (TS), which has shown similar effects as MS (Landau, Solomon, et al., 2004)
Law Enforcement as a Group Identity

Taking all of this research into consideration, when evaluating the effect of law enforcement as a group identity, one should be sure to evaluate self-esteem and level of group identification – that is the extent to which one identifies with the group they were assigned to. Furthermore, the salience of both the in-group and the threat to the in-group should be clear. Research on police culture seems to indicate that because of job experience, socialization (Ankony & Kelley, 1999; Kappeler, Sluder, & Alpert, 1998), and the often dangerous circumstances officers are constantly exposed to (Skolnick, 1977; 2000), a sense of community develops among officers, that protects them from the byproducts of their work (Paoline, Myers, & Worden, 2000; Twersky-Glasner, 2005). This idea of culture supports the idea that law enforcement officers should feel that their role as an investigator is an indication of their in-group and that they would view suspects as out-group members. Therefore, in addition to more typical and dominant in-group/out-group distinctions such as race (Ito & Urland, 2003; Yzerbyt & Demoulin, 2010) the suspect/investigator group membership distinction should be researched. This group identity has the potential to make investigators derogate all suspects, especially when under threat of death, resulting in a negativity or even a guilt bias toward suspects. This might be one explanation for the idea that criminal investigations themselves induce a guilt presumptive approach (Findley & Scott, 2006). This idea is tested in my second study.
Chapter 5: Terror Management Theory and the Use of Stereotypes

An extension of out-group derogation is the use of stereotypes – especially negative ones toward out-group members (Fein & Spencer, 1997; for review, see Greenberg & Kosloff, 2008). Stereotypes are generalizations about certain groups of people that can help simplify the world and, in the process, make out-group members appear more homogeneous, less individualized (Park & Rothbart, 1982), and more negative (Kunda, 1999). Thus, thinking in a more stereotypical way about out-group members can be a buffer for the threat that death has on one’s self-esteem. Conversely, being threatened with thoughts of one’s own mortality can activate stereotypes that might not be otherwise (Kunda & Spencer, 2003). And indeed, under MS, people increase their use of stereotypes (e.g., interpreting behavior as stereotypically male; Renkema, Stapel, Maringer, & van Yperen, 2008), are more prejudicial (Castano, 2004; Greenberg et al., 1990), and show increased preference for members of out-groups who conform to prevalent stereotypes (Schimel et al., 1999).

Past Research on TMT and Stereotypes

Research on the effects of MS on stereotyping began with Greenberg and his colleagues investigating how Christian students rated members of their out-group (i.e., Jews; 1990, Study 1). Researchers found evidence of not only out-group derogation but also ascription of negative stereotypical traits drawn from anti-Semitic literature (e.g., stingy, manipulative, arrogant, snobbish, and obnoxious; Greenberg et al., 1990, p. 130). This effect was found only when participants were asked to rate their own in-group first. Authors hypothesized that rating an in-group member first could have reminded participants of the dimension being threatened or this rating could have served as an anchor for their ratings of the out-group (Greenberg et al., 1990). Following up on this research, Schimel and his colleagues investigated American students’
propensity to stereotype Germans. They asked their participants to ascribe traits to Americans, Italians, and Germans. There were several stereotypical traits among these (e.g., unemotional, disciplined, proud, hardworking; Schimel et al., 1999) and the researchers found that MS did increase the extent to which their participants attributed stereotypical traits (but not non-stereotypical traits) to Germans over both Americans and Italians. In a second study, Schimel and colleagues (1999) examined people’s tendencies to explain gender stereotypical (e.g., “Tom paid for their dinner”, p. 911) and counter-stereotypical behavior (“[Tom] baby-sat the neighbor’s kids”, p. 911) as a measure of stereotypical thinking. Participants in this study provided more explanations of counter-stereotypical behavior (e.g., completing “Mary paid for dinner” with “because her boyfriend forgot his wallet”, p. 911) in the MS condition as compared to a control. A third study showed that MS increased liking and positive impressions of stereotype consistent Black students compared to stereotypically inconsistent Black students and compared to control students (Study 3). Schimel and his colleagues replicated this finding with stereotypically consistent and inconsistent gay men (Study 5) and males and females applying for jobs that were stereotypically gender congruent and incongruent (Study 4). Building on Schimel and his colleagues’ investigation of MS and gender stereotypes, Leka (2015) found that participants were harsher when judging peers who violated stereotypical gender norms (e.g., a woman engineer major) when primed with thoughts of death. Some of these studies showed the link between MS and negative stereotyping and others did not find a distinction between the increased use of positive and negative stereotypes.

Renkema, Stapel, Maringer, and colleagues (2008) developed a model to explain this distinction. In the presence of only MS, people should seek out structure and try to comprehend the world around them. Both positive and negative stereotypes aid in achieving this, as they
provide a means to categorize the complex world and simplify it for easier understanding. The authors claimed and supported with three studies that the use of negative stereotypes (and negative stereotypes only) is most likely when one has a goal of enhancement, which happens when a person’s self-esteem is threatened (Renkema, Stapel, Maringer, et al., 2008). This is relevant to the current research because I am hypothesizing that the identity of the investigator should be in conflict with that of the suspect in a way that, if set free, the suspect should threaten an investigator’s identity and self-esteem. Thus, the use of negative stereotypes when judging the suspect should be prevalent when under MS.

The “Black Criminal” Stereotype

Over the years, much research has investigated how the justice system treats racial groups differently (e.g., Hagan, 1987). The overwhelming percentage of falsely convicted Black exonerees in the United States is just one example of this disparity (www.law.umich.edu/special/exoneration; Innocence Project Report, 2000). This begs the question of what factors influence false convictions of minorities. One answer is that MS biases decision making processes against people stereotyped as criminals and out-group members, at the time of investigation.

Race is a clear group that people tend to identify with and that evokes well-defined stereotypes (Schneider, 2004). Relevant to the current proposal is the stereotype of the “Black criminal” (Allport & Postman, 1947; Correll, Park, Judd, & Wittenbrink, 2002; Devine, 1989; Duncan, 1976; Greenwald, Oakes, & Hoffman, 2003; Payne, 2001; Sagar & Schofield, 1980; Sue et al., 2008). A variety of findings support the existence and pervasiveness of this stereotype. In their investigation of juvenile sentencing decisions, Rattan, Levine, Dweck, and Eberhardt (2012) found that being primed with the concept of “Black” resulted in more severe sentences
when compared to being primed with the concept of “White” (Rattan et al., 2012). Additionally, the more “stereotypically Black” prisoners looked, the more likely they were to have a longer sentence (Viglione, Hannon, & DeFina, 2011) and be sentenced to death (Eberhardt, Davies, Purdie-Vaughns, & Johnson, 2006). Because the Black criminal stereotype is so prevalent, it is important to investigate the effects that MS can have on investigating crimes where the suspects are of different races. For example, Graham and Lowery (2004) showed the effects of unconscious Black criminal stereotypes. The authors primed police and parole officers with stereotypically Black terms (e.g., Harlem, basketball, Black, dreadlocks; Graham & Lowery, 2004, p. 489) and found that compared to officers in a neutral condition (where they were primed with words such as hell, agony, birthday, rainbow; Graham & Lowery, 2004, p. 489) those primed with Black terms judged a suspect as more culpable, more likely to recidivate, and suggested harsher punishments.

Further, Glaser, Martin, and Kahn (2015) found that jurors were more likely to convict a Black defendant than a white defendant when the death penalty was the harshest punishment possible (compared to life without the possibility of parole). Although the authors did not explicitly mention TMT in this study, these results reflect the possible impact of death priming. Indeed, when life without the possibility of parole was the harshest possible sentence, no differences between suspects of different races were found in conviction rates. This is a potential illustration of increased use of stereotype (operationalized as increased conviction rates) under MS, because the increase in convictions was only present when the death penalty was proposed – possibly making people contemplate their own death and engage in worldview defense. The idea that MS can increase the use of the Black criminal stereotype in criminal investigations is tested in my second study.
Chapter 6: Terror Management Theory and Legal Decision Making

The effects of MS have been shown across many areas (Burke et al., 2010; Greenberg et al., 1997) such as tanning behavior (Routledge et al., 2004), mate selection and preference (Smieja, Kalaska, & Adamczyk, 2006), and creativity (Routledge, Arndt, Vess, & Sheldon, 2008), to only mention a few. One area that has not been given much attention is that of criminal investigations. Apart from looking at the effect of MS on variables related to fairness, research on the effect of MS on legally applicable variables has typically been focused on measuring decision making at the level of punishment and sentencing. That is to say, once a person is found guilty, what kind of punishment do they deserve? Research shows that people who are death primed inflict harsher punishments on criminals (Florian, Mikulincer, & Hirschberger, 2001) and set bail higher for prostitutes (Rosenblatt et al., 1989). The rationale is that criminals should get what they deserve (i.e., be punished) because their guilt is a cultural worldview violation. Indeed, death-primed people do not typically approve of law breaking, especially for crimes that violate specific worldviews, such as prostitution.

In the first published study testing the MS hypothesis, Rosenblatt and his colleagues (1989) found that judges who were death primed imposed on average much higher bonds than those who were not. The explanation that these results were due to a violation in the judges’ belief system was supported with a second study where Rosenblatt replicated the finding with students setting higher bonds when under MS, but only when students held negative beliefs about prostitution. Although many studies found that MS increases punitiveness (i.e., how harsh of a punishment people are willing to bestow upon others), some researchers found that for certain types of crimes, the trend was reversed (see Greenberg, Schimel, Martens, Solomon, & Pyszczynski, 2001; Lieberman, Arndt, Personius, & Cook, 2001). Greenberg and his colleagues
(2001) found that white people were more lenient toward their racist in-group members when primed with thoughts of death. The authors postulated that because hate crimes do not violate people’s cultural worldview to the extent that other crimes do, leniency trends were reversed.

Other studies since the initial Rosenberg findings have evaluated the effect of MS on punitiveness and how domain specific individual differences (e.g., personal hardiness (Florian, Mikulincer, & Hirschberger, 2001), social dominance orientation (Schimel, Wohl, & Williams, 2006), empathy (Crawley & Suarez, 2016); for review, see Arndt, Lieberman, Cook, & Solomon, 2005) might reduce or increase the impact of MS. To understand the effect of MS on punitiveness in different types of crimes, Florian and Mikulincer (1997) developed a Multidimensional Social Transgressions Scale (MSTS). The MSTS includes 20 vignette descriptions of different transgressions (e.g., robbery, fraud, etc.) that are classified based on the consequences of the crime. Each crime was considered as either intrapersonal (i.e., damaging to an individual personally, for example getting hit by a car) or interpersonal (i.e., damaging to a person’s image within their community, for example a famous pianist’s career being destroyed) and rated on severity and degree of punishment warranted. Florian and Mikulincer (1997) used this MSTS and replicated the Rosenberg et al. (1989) results: MS increased punitiveness toward the culprit. They also found that MS increased perceived severity of the crimes and that intrapersonal crimes were perceived as more severe and punished more heavily than interpersonal crimes (specific focus of fear of death did moderate this effect, see Florian & Mikulincer, 1997).

Although the effect on punitiveness has been the focus of much TMT in legal settings, it is not that of mine. In the aforementioned studies, the guilt of the defendant had already been determined. Because I am interested in the effects of MS during the process of investigation, I
am more interested in dependent variables that assess probability of guilt of a defendant or suspect. Several recent studies have evaluated assessment of guilt, typically finding effects for punitiveness but not for guilt. However, these studies focus on jury decision making and not investigations (e.g., Beck, 2011; Jones & Weiner, 2011; Knight, 2010). For example, Goodman-Delahunty, Martschuk, and Ockenden (2015) failed to find an effect of MS on verdict and suggested the reasonable doubt standard might have forced rational processing of thoughts of death, thus nullifying the effects of MS (Simon et al., 1997).

The research reviewed in this section is different from mine in two aspects. I mainly reviewed literature on sentencing and juror decision making; however, MS could affect decision making during an investigation, before a suspect is ever brought to court or convicted. Thus, the first main difference is one of measurement. The outcome of a juror’s decision is a dichotomous verdict which might not be sensitive enough to register the effects of MS. Indeed, when investigating continuous guilt related dependent variables, results were more promising. For example, Nelson, Moore, Olivetti, and Scott (1997) found that in a case involving a car accident, blame placed on the car manufacturer increased as a function of mortality salience and nationality of the manufacturer: Americans blamed a Japanese car company more than the American car company, under MS, using a continuous scale of guilt assessment. The nature of the investigator’s decision making is much more nuanced than this guilty/not guilty decision jurors must make. A police investigator might eventually have to make a decision of whether to forward the case to a prosecutor. However, the most important decisions for investigators are whether to pursue different lines of investigations or more subtle impressions of suspects that might influence the information gathering process.
The second distinction relates to the context of the decision making. Participants in my studies took on the role of the police investigator in an investigation. This role, as the police investigator, is qualitatively different from that of the juror. For a juror, the primary purpose should be justice and this might prime concepts of fairness to a higher extent. Conversely, a police investigator might have different motivations and might have different norms they should abide by as a police investigator. And TMT research shows that priming different norms can interact with MS to increase behavior congruent with primed norms (Gailliot, Stillman, Schmeichel, Maner, & Plant, 2008; Jonas et al., 2008). Furthermore, findings from basic research on TMT emphasize the importance of out-group members being a threat to target’s worldview. This is key because a guilty suspect going free should be more of a threat to a police investigator’s worldview than that of a journalist (the comparison group used in my second study).
Chapter 7: Decision Making in Investigations

Although at times difficult to identify, mistakes in investigator decision making are at the root of many miscarriages of justice (Innocence Project Report, 2000; Kassin, Dror, & Kukucka, 2013; Simon 2012). Research on this fairly new but important field spans from discussing the overall process that police undergo during an investigation, to factors (internal and external) that can impair the quality or increase the accuracy of the decisions. The research on this topic is reviewed below.

Decision Making in Investigations – The Process

Drawing from Gollwitzer, Heckhausen, and Steller’s conception of decision making phases (1990), O’Brien and Oyserman (2009) proposed that there were two distinctive stages of investigatory decision making. The authors suggested that police investigators might start out in a deliberative mindset, searching for information and evidence surrounding a crime without a specific goal. However, once a potential suspect is found, they switch to an implemental mindset, trying to prove that this suspect did indeed commit the crime (O’Brien & Oyserman, 2009). Although both deliberative and implemental mindsets serve their purpose and are necessary to solve a crime, issues in the process could arise in two ways. First, people in the implemental mindset tend to be less open-minded and objective than when in the deliberative mindset (Gollwitzer, Fujita, & Oettingen, 2004). Thus, switching mindsets could be problematic if done prematurely, before plausible alternative suspects have been properly ruled out. Second, once in the implemental mindset, investigators would be less likely to consider criticism of their theory about the crime and exculpating evidence. Consequently, engaging in this mindset in general could lead to confirmation bias and tunnel vision (see Findley, 2012; Findley & Scott, 2006).

Timing of decisional tipping point. Because the timing of the decisional tipping point
(i.e., switch between the aforementioned two mindsets) is so important, researchers have explored when it occurs and what factors can set it in motion. For example, Fahsing and Ask (2013) interviewed a sample of British and Norwegian investigators and found that they indeed made decisions according to these two phases. All investigators who were interviewed identified naming, arresting, or charging a suspect as a decisional tipping point in their investigations. Slightly over half of the investigators also reported their decision to use a certain type of investigatory technique to gather case information as a potential tipping point. Finally, investigators acknowledged that several factors had the potential to influence the timing of the tipping point, including the availability of evidence and pressure (both external and internal).

Fahsing and Ask (2016b) tested whether the decision to arrest a suspect was a tipping point but failed to find empirical support for their self-reported data. The presence of the information about a suspect’s arrest did not result in the generation of fewer hypotheses, as entering the implemental mindset would suggest.

**Issues of bias in the implemental phase.** When scrutinizing the quality of investigatory decision making, much research with both lay people and actual investigators, focuses on potential for confirmation bias (Evans, 1989; Nickerson, 1998) in the evaluation of investigative information (Ask & Granhag, 2005). Criminal cases are typically investigated in a theory-driven manner, establishing an initial hypothesis (when in the deliberative mindset) that is then tested in a confirmatory way (during the implemental phase), guiding subsequent decisions about the investigation (Innes, 2003; Trope & Liberman, 1996; Wagenaar, van Koppen, & Crombag, 1993). Because the fact-finding mission is almost entirely the responsibility of police, it is important that they do not disregard important and potentially exonerating information. Such information could be harder to find by the defense or could even be destroyed by the time a
defendant goes to trial.

Experimentally testing this idea, O’Brien (2009) found that stating a hypothesis, and effectively switching from deliberative to implemental mindset, increased confirmation bias – as measured by the propensity to seek out confirmatory evidence and disregard disconfirmatory evidence. In two studies, she found that stating a hypothesis about a particular suspect’s guilt made participants more likely to choose to pursue lines of investigation that would result in evidence confirming that suspect’s guilt. Rassin, Eerland, and Kuijpers (2010) also found that when holding the hypothesis that a suspect is guilty, participants chose to pursue more incriminating than exonerating lines of investigation. These findings suggest that initial ideas can affect investigators’ interpretations of ensuing information in a consistent way, as seen in the aforementioned studies.

Other studies have found evidence of confirmation bias investigations (see Eerland & Rassin, 2012; Wallace, 2015). Taking these findings further, Eerland and Rassin (2012) found a Feature Positive Effect (FPE; Newman, Wolff, & Hearst, 1980) where participants judged incriminating evidence as more incriminating than exonerating evidence was exonerating. That is to say, when presented with incriminating evidence participants increased their judgements of guilt more so than they reduced them when faced with similarly exonerating evidence. If investigators do indeed place more weight in incriminating than in exonerating evidence, this would lead to an anti-suspect bias, increasing susceptibility to tunnel vision.

Of note, certain types of evidence are less prone to the influence of bias. Ask, Rebelius, and Granhag (2008) were the first to explore this idea by measuring the elasticity of different types of evidence. Elasticity is measured by providing investigators with a case for which they are asked to form a judgement. They are then given either a consistent or inconsistent piece of
evidence and asked to rate the reliability of said evidence. Ask and his colleagues (2008) found that police officers showed signs of asymmetrical skepticism – judging inconsistent evidence as less reliable than consistent evidence. Furthermore, this judgment spread to the evidence class in general, not only for the specific evidence used in the experiment. Importantly, the authors found that certain pieces of evidence were considered more “elastic” (e.g., eyewitness evidence) than others (e.g., DNA).

**Characteristics of Good Investigators**

Some researchers have investigated what individual characteristics make an effective investigative decision maker. Westera, Kebbell, Milne, and Green (2016) interviewed detectives from Australia and New Zealand about their beliefs of what would make a competent detective. Westera and her colleagues (2016) found that the skill rated as most useful was the ability to communicate (i.e., that a detective can show empathy, easily establish rapport with people of different backgrounds, and can achieve whatever their goal is through communication). Also deemed important were motivation (e.g., being passionate about their role as a detective and having a desire to seek out justice), thoroughness (e.g., attention to detail and all aspects of the job), and decision making skills (e.g., ability to make clear decisions under pressure, open-mindedness, and ability to consider the big picture; p.10). Interestingly, Fahsing and Ask (2013) found that Norwegian investigators mentioned using their intuition as an important tool for good decision making, while British investigators did not – and even cited it as source of error. Although this difference could be due to variations in policy and training, it still begs the question of how individual differences in law enforcement could affect decision making quality.

Dean, Fahsing, and Gottschalk (2006) surveyed law enforcement about the techniques they used when making decisions and classified them according to styles that were considered
more or less cognitively complex. For instance, the “skill” style, defined as “driven by personal qualities and abilities of relating to people at different levels” (Dean et al., 2006, p. 224) is considered higher level compared to the “method” style, which was “driven by procedural steps and conceptual processes for gathering information” (Dean et al., 2006, p. 224). Investigators reported using more sophisticated styles (e.g., skill and risk, being “driven by creativity in discovering and developing information into evidence”; Dean et al. 2006, p. 224) when they were more experienced. These higher investigative thinking styles were also correlated with more creativity in detectives (Dean, Fahsing, & Gottschalk, 2007). More research showed that professional experience increased the amount of investigative hypotheses and the number of alternative explanations that investigators generated (Fahsing & Ask, 2016b). Other studies have also shown benefits of experience (Santtila, Korpela, & Hakkanen, 2004; Wallace, 2015). However, factors such as quality of initial training and amount of refresher trainings could also be moderating the effect of experience on performance (Fahsing & Ask, 2016b).

In terms of cognitive ability, Fahsing and Ask (2016a) found that neither inductive nor deductive reasoning ability was related to generation of “gold standard” hypotheses. Ask and Granhag (2005) found that criminal investigators’ level of Need For Cognitive Closure (NFCC) increased the tendency to ignore alternative explanations in a case where a hypothesis was already given. Rassin (2010) replicated these effects with samples of police, district attorneys, and judges but did not find the same association between NFCC proneness to bias; instead he found an association between a scale of confirmation proneness (TSS) and blindness to alternatives.

**Motivational Factors Affecting Decision Making in Investigations**

In addition to internal factors that could affect an investigators’ ability to make decisions
accurately, researchers have also studied the effects of external motivational factors. For example, Ask and Granhag (2007a) found that there were differences in information processing when investigators were sad or angry. Whereas sad investigators were sensitive to consistencies between facts of a case and a witness statement, angry investigators were not. This suggested that the angry investigators were processing information heuristically, which would make them more prone to error. In another study, anger increased punitiveness compared to sadness and a neutral emotion condition (Ask & Pina, 2011).

Prior knowledge about an investigation can also bias investigators’ assessment of a situation. This is a problem that Kerstholt and Eikelboom (2007) tackled in their study evaluating crime analysts in the Netherlands. Crime analysts have a devil’s advocate role (Kray & Galinsky, 2003) in Dutch investigations. They are to be a neutral party that comes in to provide their opinion of a crime and avoid issues of tunnel vision and group think. However, even this supposedly neutral party can be influenced by knowledge of their team’s hypothesis. Kerstholt and Eikelboom (2007) found that if crime analysts were informed of the hypothesis that their team favored, they in turn favored it (i.e., mentioned it more, thought it more likely, and considered the suspect of interest as an important person for further investigation).

Ask and Granhag (2007b) manipulated time pressure to examine its effect on interpretation of evidence. The authors hypothesized and found support for the fact that time pressure increased NFCC and asymmetrical skepticism. Alison, Doran, Long, Power, and Humphrey (2013) also tested the effect of time pressure on police officers’ decision making. In their study, officers who were told they had less time to complete their task, generated fewer hypotheses meaning they would be less likely to think of alternative (potentially exculpatory) explanations. Time urgency moderated this effect: Officers who perceived that time passes
quickly were more affected by the authors’ time pressure manipulation.

Finally, Ask, Granhag, and Rebelius (2011) non-consciously activated goals of efficiency or thoroughness to examine their effect on investigations. The authors had criminal investigators read statements (e.g., “A good investigator often sees the solution to a crime early in the investigation”, to prime the goal of efficiency and “a good investigator has the ability to avoid premature conclusions about a crime” to prime the goal of thoroughness; Ask et al., 2011, p. 549) and were told that their colleagues had previously rated and agreed upon these statements. Participants in the efficiency condition were not as open to exonerating information as those in the thoroughness condition. This was the first study examining non-conscious goal activation and the rationale is similar to that of my studies. Because motivational factors have the power to affect decision making, even non-consciously, it is important to investigate the effects of death, especially given previous findings of TMT research.
Chapter 8: The Current Studies

As an extension of prior TMT research, in this dissertation I examined the effect of a potentially powerful biasing factor: death. Specifically, drawing from the findings of TMT research, I explored how thoughts of death affected people’s feelings about what they might consider an unfair outcome in a case they investigated and how MS affected people’s perceptions of a suspect from their in-group or out-group and a suspect who represents certain stereotypes. Unconscious influences on the interpretation of evidence are an important issue, one that requires research. Knowing what factors can bias the outcome of a case can help prevent these factors from impeding investigations in the future and can help educate police officers. This research will help understand how MS affects decision making during an investigation.

The objective of this research was to study the role of MS when lay people, adopting the role of police investigators, evaluate case information. Research on the effects of death priming on investigatory processes is important for two reasons: Firstly, investigations often involve death, which could be affecting investigators. Indeed, thinking about another person’s death can cause similar effects as thinking about one’s own death (Pickel & Brown, 2002). However, it is true that others found smaller effects when thinking about someone else’s death (Greenberg et al., 1994; see also Nelson et al., 1997) and Jones and Weiner (2011) found entirely different effects when asking participants to focus on their own death, a victim’s death and a defendant’s death. Secondly, and importantly, investigations are performed by law enforcement officers who have a very dangerous job. The peril associated with their job might make officers contemplate their own mortality to a higher extent than others with safer occupations, leading them to be regularly death primed. Finally, this research will increase the applicability of Terror Management Theory to yet another setting with severe consequences. The proposed research will
answer the questions brought forth in the introductory review by evaluating the variables discussed below.

Variables of Interest

This research will attempt to answer the following questions: Does thinking about one’s own death increase negative affective responses to an unfair outcome for a case that one has investigated (Study 1)? Do these negative emotions then increase motivational bias (specifically, confirmation bias) in future investigations (Study 1)? Also, does thinking about one’s own death increase out-group derogation of the suspect (when considering one’s own race and professional group membership) in an investigation (Study 2)? Finally, does considering one’s own death increase the use of the Black criminal stereotype when considering the suspect in an investigation (Study 2)? The three main variables of interest when considering these questions were adopted from TMT research as they are typically strongly affected by death priming (Burke et al., 2010): affective responses to a worldview threat (i.e., unfairness), attitude toward an out-group member, and stereotypic thinking.

The first measure of interest in this work was affect. I was interested in whether participants became angry in response to a worldview threat, here an unfair outcome of the case they were just investigating. I asked participants their opinion about a case after evaluating the evidence. Following this assessment, participants were provided with a narrative of the actual outcome of the case (as found by a court of law). I then asked participants to report their affective reactions (both positive and negative) to this verdict. The assumption here was that when a participant made a judgment about the suspect’s guilt, a fair outcome – that the suspect deserved – should be consistent with the participant’s decision about the case. Examining how investigators react to a fair or unfair outcome in a case (i.e., verdict) that they had investigated
will give insight into their motivation to obtain a certain outcome. Failure to obtain this important goal should create negative affect (Kruglanski et al., 2002), and, given that MS should make concepts of fairness particularly salient, unfairness should provoke an increase in negative affect when people are death primed. This is something that needs to be considered carefully.

When evaluating a case, an investigator will probably have the final outcome of the case in mind, at some level. Knowing that an unfair outcome would be displeasing should motivate investigators to avoid this at all costs (Gollwitzer & Bargh, 1996; Higgins, 1997). This would make them more prone to confirmation biases and tunnel vision (Findley, 2012; Findley & Scott, 2006) especially once they have a hypothesis (Ask & Granhag, 2007b), both of which were assessed.

To research attitudes toward out-group members and stereotyping, in the context of a police investigation, I measured participants’ judgments of guilt of a member of their out-group, conceptualized in two different ways. First, the role of investigator should have created an identity for participants in which they were identified as a part of the investigation team. Framing the role of investigator as an identity was manipulated to amplify the salience of this group membership. This type of social identity should have accentuated investigators’ perception of a suspect, any suspect, as an out-group member. If this is the case, MS should increase negative impressions and derogation of suspects in general. Second, the race of the suspect was varied. This served as a second type of out-group manipulation as I was able to compare the participants’ (i.e., investigators’) race to the suspect’s race in order to determine whether they would be considered an in-group or out-group member.

Furthermore, I measured use of racially based criminal stereotypes by assessing how MS and the suspect’s race affected the perceived likelihood of him being guilty. Indeed, if
participants were using the “Black criminal” stereotype, they should have had a higher number of highly confident guilty ratings of Black suspects compared to Hispanic and White suspects. As MS increases the use of stereotypes, this effect of guilty Black suspects should have been greater when people were death primed. Guilt ratings served as a measurement of stereotype activation but also as a measure of out-group derogation. Because the guilt rating was so specific, I also used measures of out-group derogation by asking more standard questions to evaluate participants’ appraisals of the suspect as a person (e.g., how intelligent and likeable the suspect was).

The main independent variable of interest in this work was Mortality Salience. That is, I manipulated how available death thoughts were. For MS to be most effective, death thoughts need to be easily accessible, but below our conscious awareness and not the focus of attention (Pyszczynski et al., 1999). I included a distraction task between the death priming task and the dependent measure(s) to avoid overt reactions to death thoughts (Greenberg et al., 2000). Indeed, when dealing with thoughts of death consciously, we use coping mechanism that are considered more rational than those described above (Epstein, 1995), such as distracting oneself to minimize the thoughts about the threat of death (Arndt, Greenberg, Solomon, et al., 1997; Greenberg et al., 1994). The main dependent variables of interest are affective responses to fair or unfair outcomes, susceptibility to confirmation bias (Study 1), perceived culpability, impressions of a suspect, and use of stereotypes (Study 2).
Chapter 9: Study 1

The purpose of this study was to investigate how MS affected reactions toward the verdict in a case participants had made a judgment about. More specifically, I investigated whether MS increased affective responses to what could be considered a “fair” (consistent with participants’ assessment of the case) or “unfair” (inconsistent with participants’ assessment of the case) outcome. Priming people with the idea of their own mortality should impact reactions to threats to outcome fairness. In this study, participants were required to make a dichotomous decision of whether the main suspect in a case they investigated was guilty or innocent. If, for example a participant decided that the suspect was most likely guilty, a fair outcome was operationalized by telling participants that the suspect was actually convicted by a court of law. An unfair outcome, in this case, was learning that the suspect was cleared of all charges by a court of law. This is important because once an investigator makes a decision about the guilt or innocence of a suspect they should want to pursue what they consider fair, especially when under the influence of MS and in turn be more prone to confirmation bias.

Hypotheses

Main hypotheses. As an extension of TMT research on threats to worldview (Rosenblatt et al., 1989), I expected that a threat to participants’ worldview (here, outcome fairness) should be received with negative affect. Conversely, an outcome that upholds their worldviews should be welcomed positively. These differences should be enhanced by MS. More precisely, I predicted a main effect for the case outcome where participants should react generally more positively (and less negatively) to a fair verdict than to an unfair verdict. This main effect should be qualified by an interaction between prime and case outcome where MS should increase positive ratings of affect toward the outcome of a case (and decrease negative ratings of affect
toward the outcome of a case) when it is fair. MS will also increase negative ratings of affect toward the outcome of a case (and decrease positive ratings of affect toward the outcome of a case) if it is unfair (H1a and H1b). For a graphic representation of this interaction, see Figure 1. Furthermore, because I proposed that negative affective responses to the case outcome should provoke confirmation bias, I hypothesized that affective responses should be related to individuals’ tendency toward confirmation bias (H2). Finally, as an illustration of increased confirmation bias, I predicted that participants in the unfair condition would seek out more incriminating information than exonerating information than those in the fair condition and that this effect should be amplified by MS (H3).

**Moderator hypothesis.** My hypotheses rest on the assumption that we are motivated to see the world as a just place (Lerner, 1980). However, there are individual differences in this motivation (Furnham, 2003). Research on Belief in a Just World (BJW) as an individual difference has shown that the more someone endorses BJW (i.e., the higher they are on a BJW scale) the more likely they are to help to rectify an injustice (e.g., Bierhoff, Klein, & Kramp, 1991). Those high in BJW would be highly motivated to see the world as a just place and be more upset by injustice than those low in BJW, especially if this injustice was made more salient by MS. Thus, I predicted a three-way interaction between prime, outcome, and BJW, where those high in BJW would react more positively to a fair outcome, under MS (compared to those low in BJW; H4a). I also predicted a similar three-way interaction between prime, outcome, and BJW, where those high in BJW would react more negatively to an unfair outcome, under MS (compared to those low in BJW; H4b).
Chapter 10: Study 1 Method

Participants and Design

Participants were 299 community members recruited from Amazon Mechanical Turk (MTurk) and paid $1.00 for approximately 20 minutes of their time ($M = 22.38$ minutes, $SD = 8.68$ minutes). Sample size was determined using a power analysis for an expected small effect based on previous TMT research on affect dependent variables ($r = .21$, 95% CI [.10, .32]; Burke et al., 2010, p. 29), using non-student populations ($r = .25$, 95% CI [.18, .32]; Burke et al., 2010, p. 29). The sample was 50.2% females and 49.5% males, with an age span from 18 to 73 years ($M = 36.71$, $SD = 11.67$), and predominantly White (82.3%), then Black (9.7%), Asian (4.3%), Hispanic (2%), and other (1.7%). The design was a two (prime: MS vs. Dental Pain (DP)) by two (case outcome: fair vs. unfair) between subjects factorial design.

Procedure

After providing informed consent, participants were told that they would be taking part in a study on personality and decision making. They were given the “personality assessment” portion of the study first. This was a mock personality assessment that incorporated the priming manipulation in order to mask its intent. Then, participants were given a case summary to study, which is described below. They were then asked to provide their assessment of the suspect in the case (guilty or not guilty). This was followed by a short statement telling participants that the case was in fact real, that it had gone to court and a jury had provided a verdict (i.e., the outcome of the case). This outcome was manipulated depending on which condition the participant was randomly assigned to. In the fair condition, they were told that the judgment they provided to the court was upheld. In the unfair condition, participants read that the outcome of the case was the opposite of their assessment. The verdict was provided without context so as to limit the
potential for participants to justify the jury’s decision (e.g., a not guilty verdict resulting from a procedural mistake in an otherwise strong case against the suspect might be considered fair for someone who has a strong belief in the legitimacy of legal procedures or might not be considered fair for someone high in nullification). Finally, participants were asked how they felt about the outcome of the case and how they would proceed in the future, given a similar case. The entire procedure was administered through an online survey program (Qualtrics), so that participants had to go through the materials in order and were reminded if they accidentally skipped questions.

Materials

Mock personality assessment. The mock assessment contained questions from the Abbreviated form of the Revised Eysenk Personality Questionnaire (EPQR-A; Francis, Brown, & Philipchalk, 1992), the Belief in a Just World scale (BJW; Dalbert, Montada, & Schmitt, 1987), questions from the five-factor model of personality measurement (OCEAN; McCrae & Costa, 1987), the priming manipulation, followed by a word search task (to distract those in the MS group from overt thoughts of death), and the DTA word fragment completion task as a check for the MS manipulation and to assess the level of death thought accessibility.

EPQR-A and OCEAN. These measures are typically used to assess personality in different ways, but here were used to mask the intent of the MS manipulation and the BJW scale. The entire EPQR-A and OCEAN questionnaires were not used because participants’ responses to these assessments were not important and I was concerned with losing participants’ interest if the personality portion was too lengthy. I only selected 11 questions from the EPQR-A and 14 from the OCEAN. Care was taken to take out questions that assessed similar traits, so that the questions were not considered too repetitive. Those used for the study are listed in Appendix A.
Belief in a Just World (BJW) scale. The BJW scale assesses the extent to which individuals subscribe to the belief that the world is a just place (Dalbert, Lipkus, Sallay, & Goch, 2001; for review, see Hafer & Bègue, 2005). This scale was used to test for individual differences that might have affected how people respond to outcome fairness.

Participants were given the 6 item scale developed by Dalbert and her colleagues (1987) to assess their level of BJW by asking them to agree or disagree with statements such as “I am confident that justice always prevails over injustice” ($\alpha = .90$; Full list of questions is in Appendix A). Participants’ responses were averaged, resulting in a seven point scale from 1 (lowest level of BJW) to 7 (highest level of BJW).

Priming manipulation. For the priming manipulation, I had participants reflect on and write about a topic. Consistent with previous TMT research, the manipulation was framed to minimize suspicion. Participants were told that this open-ended assessment was a new type of personality test (for the details of this description, see Appendix A). The topic of the open-ended questions was either participants’ own death (MS) or another affectively negative experience, dental pain (DP). The MS prime involved participants imagining themselves experiencing their own death. I asked participants to answer two questions, typically used in TMT research (Greenberg et al., 1990, 1993; Rosenblatt et al., 1989): “Please briefly describe the emotions that the thought of [your own death/going to the dentist] arouses in you.” and “Jot down, as specifically as you can, what you think will happen to you as you physically [die/go to the dentist] and once you are physically [dead/at the dentist] (Full manipulation is described in Appendix A).

Distraction task. All participants were given a word search task where they were to find six words in a puzzle (the task is displayed in Appendix A). This task was used in order to
distract participants in the MS condition from thinking about death and allow time for proximal defenses to fade. Participants took on average 110.44 seconds ($SD = 65.34$) on the distraction task.

**Death Though Access (DTA) manipulation check.** After they completed the word search task, participants completed a word fragment completion task, in a manner similar to Greenberg et al. (1994, Study 4) and Harmon-Jones et al. (1997, Study 3). Participants were asked to complete 23 word fragments missing two letters each. Five of these fragments could be filled in as either neutral or death related (“buried”/”burned”, “dead”/”deal”, “grave”/”grape”, “corpse”/”course”, and “coffin”/”coffee”; Greenberg et al. (1994, p. 634); see Appendix A for a list of all the word fragments). For example, coff _ _ could be filled out as coffee or coffin. This word fragment completion task served as a manipulation check to ensure that thoughts of death were accessible for participants in the MS condition. I summed the number of words that were completed in a death related manner in order create a DTA measure with a possible minimum of 0 and a maximum of 5 – if none or all of the word fragments were filled out with death related words.

**Case summary.** The case that was provided to all participants was loosely based on a real robbery case retrieved from the National Registry of Exonerations (www.law.umich.edu/special/exoneration). In my studies, I chose to investigate a case that involved no death, so that no thoughts of death, peripheral or proximal, would interfere with my manipulation. Furthermore, it was a case that damaged the victim’s personal domain as these are typically judged more harshly and given more severe punishments (Florian & Mikulincer, 1997). The case involved a clearly intrapersonal crime: the victim in the study was assaulted and transported to the hospital for traumatic brain injury and the burglar also stole several of her
belongings. The case file included a report that described the facts of the case, statements from the main suspects’ family members providing him with an alibi, and a forensic report detailing DNA evidence found from a mask the robber was thought to be wearing during the robbery. All of these pieces of evidence, except for the forensic report, were somewhat ambiguous, with elements that seemed to implicate the suspect and elements that exculpated him. The forensic report, however, clearly implied the suspect’s guilt so that regardless of any individual differences among participants, they should all judge the suspect as guilty and be confident in this assessment. For the complete case materials, see Appendix B. The case was pilot tested to ensure that we obtained an overwhelming majority of guilty judgments. In a pilot ($n = 38$), I obtained 100% guilty judgments, with fairly high confidence on a scale from 0 to 100 ($M = 87.24$, $SD = 14.13$).

**Dependent Measures**

Except for the BJW measure, the results of the “personality assessment” portion of the study were not used in analyses. In response to the case file, participants provided a dichotomous guilt/innocence judgment and their confidence in their guilt assessment. The guilt/innocence choice forced participants to commit to one or the other so that when presented with the outcome, it clearly contradicted or was consistent with their assessment.

The dependent variables provided after participants were told of the outcome of the case measured positive (see van den Bos & Miedema, 2000) and negative affect (see van den Bos & van Prooijen, 2001) in response to the outcome (“Please rate how you feel about M.'s [conviction/acquittal]”). Participants rated the following emotions about the outcome of the case on 9 point scales (1 = not all; 9 = extremely): happy, content, satisfied, proud, angry, furious, disappointed, guilty, and sad. The negative emotions listed are typically expressed by people in
response to unfair outcomes (Barsky & Kaplan, 2007; Weiss, Suckow, & Cropanzano, 1999). In order to assess generally negative and positive reactions to the outcome, two composites were created, averaging all positive emotions (happy, content, satisfied, and proud, $\alpha = .91$; with 1 being least positive and 9 most positive) and negative emotions (angry, furious, disappointed, guilty, and sad, $\alpha = .89$, with 1 being least negative and 9 most negative). See Table 1 for a correlation matrix of these ratings.

Additionally, in order to gauge participants’ future intentions regarding investigations and potential for motivational bias, I asked them about a hypothetical future case. I asked them whether they would gather more evidence in the future before forwarding a similar case to the prosecutor (1 = very unlikely; 7 = very likely). I then asked them to rate how useful they thought pursuing different types of evidence would be (1 = very useless; 7 = very useful). In order to assess for confirmation bias, I asked specifically about twelve pieces of evidence of three types: incriminating, exonerating, and neutral. For a specific list of what these pieces of evidence were, see Appendix C). Among these lines of investigation, I included the statement: “This is not a line of investigation please select very useful to prove that you are not a robot taking this survey” as an attention check – those who responded anything other than “very useful” to this question were eliminated from my sample.

As a manipulation check to be sure that participants were aware that the verdict in the case matched (in the fair condition) or did not match (in the unfair condition) the guilty decision they made about the case, I asked them “Did the outcome of the case in court match your decision?” Additionally, I asked about participants’ perceptions of the case (how realistic they thought it was, how motivated they were to solve it, how much they identified with the role of lead investigator) and of the outcome of the case (how fair they found the court’s decision, how
deserving they thought the suspect was of the verdict that he received).

Finally participants were asked a series of questions about facts that they remembered about the case and a series of demographic questions. They were then debriefed, thanked and paid through MTurk.
Chapter 11: Study 1 Results

Participants who failed the attention check \((n = 24\) total), judged the suspect as innocent \((n = 20\) total; \(n = 16\) in addition to those who failed the attention check), and the fairness manipulation check \((n = 30\) total; \(n = 21\) in addition to those who failed the attention check and judged the suspect as innocent) were dropped from analyses. This left us with a sample of 238 participants with which all of the analyses were conducted.

**Outcome Fairness Manipulation**

The manipulation of outcome fairness was successful as participants in the fair condition \((M = 6.08, SD = 1.04)\) thought that the verdict was fairer than those in the unfair condition \((M = 3.16, SD = 1.39), t (216.57) = 18.30, p < .001, d = 2.38, 95\% CI [2.05, 2.72]. Further, those in the fair condition \((M = 6.10, SD = .99)\) also thought that the suspect was more deserving of the verdict than those in the unfair condition \((M = 2.88, SD = 1.42), t (208.68) = 20.24, p < .001, d = 2.63, 95\% CI [2.29, 2.98].

**MS Manipulation Check (DTA)**

I ran an independent samples \(t\)-test on DTA to compare the MS group to the DP group. Results showed that there was no effect on the overall DTA measure, with no significant difference between the MS group \((M = 1.32, SD = .88)\) and the DP group \((M = 1.30, SD = .87), t (236) = .16, p = .88, d = .02, 95\% CI [-.23, .28]. Upon further inspection, none of the individual word fragments showed any differences between groups (for more detailed results, see Table 2).

**Main Hypothesis Test (Affect)**

In order to test my main hypothesis about the effect of MS on affective reactions to a fair or unfair outcome \((H1)\), I ran two-way ANOVAs on both positive and negative affect ratings. On the positive affect composite, there was a significant main effect for fairness manipulation, \(F (1,
234) = 175.50, \( p < .001 \), \( \eta_p^2 = .43 \), but no effect for priming, \( F (1, 234) = .83, p = .61, \eta_p^2 = .001 \), \( d = .06 \), 95\% CI [-.19, .32], and no significant interaction between manipulations, \( F (1, 234) = .83, p = .36, \eta_p^2 = .004 \). Pairwise comparisons for the ANOVA showed that participants in the fair outcome condition responded more positively than those in the unfair condition, \( d = 1.78 \), 95\% CI [1.48, 2.08]. No other differences were significant. Bayesian analyses confirmed these findings, showing decisive support (Jeffereys, 1961) in favor of the alternative hypothesis for the fairness main effect, \( BF_{10} = 1.35e + 27 \), but only anecdotal evidence for the priming main effect, \( BF_{10} = .16 \), and the interaction between the two, \( BF_{10} = .28 \). However, even though there is substantial evidence for the null hypothesis when considering the main effect of priming (\( BF_{01} = 6.33 \)), the results were fairly weak when considering the null hypothesis for the interaction (\( BF_{01} = 3.62 \)). Descriptives for these tests are displayed in Table 3.

On the negative affect composite, there was a significant main effect for the fairness manipulation, \( F (1, 234) = 111.00, p < .001, \eta_p^2 = .32 \), but again no effect for priming, \( F (1, 234) = 1.57, p = .21, \eta_p^2 = .007 \), \( d = .13 \), 95\% CI [-.13, .38], and no significant interaction between manipulations, \( F (1, 234) = .50, p = .48, \eta_p^2 = .002 \). Pairwise comparisons showed that participants in the fair outcome condition responded less negatively than those in the unfair condition, \( d = 1.36 \), 95\% CI [1.08, 1.65]. No other differences were significant. Again, Bayesian analyses confirmed these findings, with decisive evidence in favor of the alternative hypothesis concerning the fairness main effect, \( BF_{10} = 1.81e + 18 \), but only anecdotal evidence for the priming main effect, \( BF_{10} = .22 \), and the interaction, \( BF_{10} = .24 \). Again however there was some evidence for the null hypothesis when considering the priming main effect (\( BF_{01} = 4.53 \)) and the interaction effect (\( BF_{01} = 4.23 \)). Thus, although there was an effect of fairness on the affect measures, H1a and H1b were not supported. Descriptives for these tests are displayed in Table 3.
(Overall) and Table 4 (broken down by condition).

**Confirmation Bias**

Results of a 2 by 2 ANOVA showed that generally, participants reported wanting to gather more information in the unfair condition ($M = 5.72, SD = 1.35$) compared to the fair condition ($M = 3.37, SD = 1.72$), $F (1, 234) = 138.14, p < .001, \eta^2_p = .37, d = 1.52, 95\%$ CI [1.23, 1.81], but there were no significant effects for prime or the interaction between prime and outcome. There was also a general tendency toward confirmation bias, illustrated by a weak but significant positive correlation between confidence in verdict and incriminating information ($r (238) = .16, p = .017$) and a weak but significant negative correlation between confidence and exonerating information ($r (238) = -.15, p = .025$). See correlation matrix in Table 5.

In order to test my proposition that confirmation bias would be engendered by affective responses to case outcome (H2), I ran correlations between affect measures and ratings of evidence. Ratings of negative affect were significantly positively related to ratings of usefulness of incriminating evidence ($r (236) = .25, p < .001$), exonerating evidence ($r (236) = .22, p = .001$), and neutral evidence ($r (236) = .38, p < .001$). Further, ratings of positive affect were slightly significantly negatively correlated with ratings of usefulness of neutral evidence ($r (236) = -.24, p < .001$). Full correlation matrix is displayed in Table 5.

To examine the effect of my manipulations on my measures of confirmation bias (and to test H3), I ran a 2 by 2 by 3 mixed-measures ANOVA on ratings of usefulness of evidence with prime and outcome manipulations as between subject variables and type of evidence as a within-subjects variable. There was a main effect for the outcome manipulation, $F (1, 234) = 21.21, p < .001, \eta^2_p = .083$. Participants in the unfair condition were more likely to find gathering all types of evidence useful, $d = .60, 95\%$ CI [.34, .86]. There was also a main effect for evidence type, $F$
(2, 468) = 90.66, \( p < .001, \eta_p^2 = .28 \). Pairwise comparisons showed that all participants thought that gathering incriminating information would be more useful than neutral evidence, \( d = .60, 95\% \text{ CI } [.41, .78] \) and exonerating evidence, \( d = .88, 95\% \text{ CI } [.69, 1.07] \). They also thought that gathering neutral evidence would be more useful than exonerating evidence, \( d = .35, 95\% \text{ CI } [.17, .53] \). There was also a significant interaction between outcome manipulation and evidence type, \( F (2, 468) = 3.37, p = .035, \eta_p^2 = .01 \). Pairwise comparisons showed that all differences were significant. However, because there was no interaction with my prime manipulation, H3 was not supported. Descriptives for pieces of evidence by condition are in Table 6.

The Role of Belief in a Just World

ANOVAs. In order to examine the effects of BJW (H4a and H4b), I performed a median split of participants’ BJW scores. I then conducted two (BJW: High vs. Low) by two (prime: MS vs. DP) by two (case outcome: fair vs. unfair) ANOVAs on negative and positive affect. For the negative affect composite, again, there was only a main effect for case outcome, where participants felt more negatively in the unfair condition (\( M = 4.75, SD = 1.91 \)) than in the fair condition (\( M = 2.36, SD = 1.59 \)), \( F (1, 230) = 109.87, p < .001, \eta_p^2 = .32, d = 1.36, 95\% \text{ CI } [1.08, 1.64] \). No other effects were significant and thus H4a was not supported. Descriptives for this test are in Table 7.

On the positive affect composite, there was again a main effect of the case outcome manipulation. Participants in the fair condition showed more positive emotions (\( M = 5.98, SD = 1.91 \)) than those in the unfair condition (\( M = 2.98, SD = 1.54 \)), \( F (1, 230) = 184.90, p < .001, \eta_p^2 = .45, d = 1.73, 95\% \text{ CI } [1.43, 2.03] \). There was also a main effect for BJW: Those higher in dispositional BJW generally showed more positive affective responses (\( M = 4.76, SD = 2.40 \)) than those low in BJW (\( M = 4.28, SD = 2.20 \)), \( F (1, 230) = 6.77, p = .010, \eta_p^2 = .03, d = .21, 95\% \text{ CI } [.17, .35] \).
CI [.05, .47]. There was also a marginally significant interaction between BJW and the outcome fairness manipulation, $F (1, 230) = 3.39, p = .067, \eta_p^2 = .015$. Post hoc analyses showed that both high ($d = 2.11, 95\% \text{ CI } [1.63, 2.58]$) and low BJW individuals ($d = 1.51, 95\% \text{ CI } [1.13, 1.90]$) showed more positive emotions in the fair condition compared to the unfair condition. However, high BJW participants showed significantly more positive emotions than those low in BJW in the fair condition ($d = .54, 95\% \text{ CI } [.17, .91]$) but not the unfair condition ($d = .11, 95\% \text{ CI } [-.26, .47]$). No other effects were significant and thus H4b was not supported either. Descriptives for this ANOVA are in Table 8.

**Regressions.** In order to account for the variability in individuals’ level of BJW, I conducted two multiple regressions. I used the same factors as in my ANOVAs (prime and outcome) and included BJW as a continuous predictor of negative and positive affect (on scales from 1 to 9). The model for the negative emotions composite was significant, $F (7, 230) = 18.65, p < .001, R^2 = .36$ and both BJW and outcome fairness significantly predicted negative emotions. Participants in the unfair condition reacted significantly more negatively to the verdict than those in the fair condition by 2.32, $p = .029$, and for every increase on the BJW scale, participants reacted more negatively to the outcome by .40, $p = .028$.

The model for the positive emotions composite was also significant, $F (7, 230) = 28.47, p < .001, R^2 = .46$. BJW was again a significant predictor, with every increase in BJW predicting an increase in positive emotions of .43, $p = .017$. The interaction factors of outcome fairness and BJW was marginally significant, predicting a decrease in positive affect of .45, $p = .070$.

**Follow up Questions**

In order to assess the study for potential confounds and possibly uncover an explanation for the lack of effect of the MS manipulation, I ran two-way ANOVAs using prime and fairness
outcome as the independent variables and as dependent variables, the follow up questions about participants’ assessment of their experience of the case, specifically how realistic the case was, how motivated they were to solve the case, and how much they identified with the role of lead investigator. See Table 9 for descriptives.

**Perceived realism of the case.** There was a main effect for outcome on perceived realism of the case, $F(1, 234) = 11.67, p = .001, \eta^2_p = .048, d = .45, 95\% \text{ CI} [.19, .70]$, where those in the fair outcome condition ($M = 6.38, SD = .93$) thought that the case was more realistic than those in the unfair outcome condition ($M = 5.95, SD = 1.00$). No other effects were significant.

**Motivation to solve the case.** There was a marginally significant main effect for outcome on participants’ motivation to solve the case, $F(1, 234) = 3.55, p = .061, \eta^2_p = .015, d = .24, 95\% \text{ CI} [-.02, .50]$. Participants in the fair condition ($M = 6.05, SD = 1.14$) reported being marginally more motivated to solve the case than those in the unfair condition ($M = 5.78, SD = 1.10$). No other effects were significant.

**Level of identification with role of the investigator.** Again, there was a marginally significant main effect for outcome on identification with the investigator role, $F(1, 234) = 3.32, p = .07, \eta^2_p = .014, d = .23, 95\% \text{ CI} [-.03, .49]$. Participants reported identifying more with the role of the investigator in the fair condition ($M = 5.53, SD = 1.43$) compared to the unfair condition ($M = 5.19, SD = 1.51$). No other effects were significant.
Chapter 12: Study 1 Discussion

For Study 1, I predicted a main effect for case outcome on affective responses to the outcome of a case that participants had investigated – this was supported. Participants reacted more positively and less negatively to the fair verdict than to the unfair verdict in the case for which they judged a suspect. However, there was no interaction between outcome and prime and thus H1 was not supported. There was no significant interaction between conditions on the confirmation bias measures, thus H2 was also rejected. BJW interacted with case outcome but not with prime, thus also contradicting the idea that dispositional BJW might moderate the effect of MS on reactions to unfairness.

The main effects that the case outcome had on the follow up questions regarding realism of the case, motivation to solve the case, and identification with the role of the investigator could partially explain the lack of effects in the unfair condition. If participants did not see the case they read as real, were not motivated to solve it, and did not identify with the investigator, they might not have seen the unfair outcome as an actual worldview violation. This is especially true because lack of realism has been seen as an attenuator of threats to BJW (e.g., Anderson, 1992; Gruman & Sloan, 1983). Furthermore, in previous literature, MS had effects on people’s reactions to unfair events that affected them personally. It is possible that being personally removed from the unfairness mitigated participants’ reactions. It could also be that seeing an injustice done to someone else does not threaten an individual’s concept of fairness.

The lack of effect of the MS manipulation on DTA is also problematic and suggests that participants were not properly death primed. An overview of what participants wrote in response to the manipulation questions showed that participants were indeed writing (and thus thinking) about their own death. Conversely, those in the DP condition did not write about their death, thus
the MS manipulation and control (DP) should have resulted in different levels of DTA. The lack of effect of the prime manipulation could possibly be explained by an insufficient distraction time. Participants might not have had enough time during the word search task to engage in the proximal defenses that are necessary to observe distal defenses such as those I was expecting (see Greenberg et al., 1994). Perhaps this potential lack of suppression for those in the MS group, coupled with the possibility of those with high DTA in the DP group being death primed through the word completion task could have diluted the predicted effects of MS. The word completion task could have also brought thoughts of death back to MS participants’ attention, not giving them enough time to suppress them again (see Arndt, Greenberg, Solomon, et al., 1997). This is especially true since word completion tasks have been successfully used as a death prime (Zhou, Liu, Chen, & Yu, 2008), although these researchers used ten word fragments that could only be filled in with death related terms.

The lack of effect could also be an issue with the use of affect as a dependent variable. As reported by Burke and his colleagues, effects of the MS manipulation on affect measures are not as strong as other dependent variables (Burke et al., 2010, p.184) and using a sample of participants other than college students also results in smaller effects. Power analyses were adjusted for this expected smaller effect size, yet Bayesian analyses found weak support for the null hypothesis when testing the interaction between prime and outcome fairness. In contrast with previous research on this topic, although my study targeted fairness conceptually, the injustice was not experienced by the participants themselves.

Finally, one last reason for the lack of effect could be that our fairness manipulation did not expose the alternative: In the unfair condition, participants were not explicitly told of the alternative to the not guilty verdict (i.e., that the jury could have found the suspect guilty, but did
not), although it was implied. This might have made the threat to fairness not as salient for participants. Perhaps a better fairness manipulation would have explicitly stated that the jury could have chosen to exonerate the suspect but they did not, they convicted him. This would be in line with previous research where participants were cognizant of the outcome/procedures that the other students experienced (e.g., van den Bos, 2001; van den Bos, & Miedema, 2000). This could reflect the findings of Greenberg and his colleagues (1990) where they did not find effects when participants were not reminded of the threatened dimension.

Given these findings, MS appears not to have affected my mock investigators in the predicted ways. However, several limitations may have been caused by the procedures necessary to set up the study itself, such as the perceived lack of realism of the unfair verdict. Based on my results, several methodological changes were made to the MS manipulation in Study 2 (i.e., removing the DTA, adding a distraction task after the MS manipulation). However, I still thought it important to investigate the potentially biasing effect of MS on the role of the investigator and the identity of the suspect.
Chapter 13: Study 2

The purpose of Study 2 was to examine another possible way thoughts of death could impact decision making in investigations: the effect of MS on evaluations of the suspect in a case. TMT research typically finds that under the threat of thoughts of death, people increase their out-group derogation (e.g., Greenberg et al., 1990; Greenberg, Simon, et al., 1992), in-group favoritism (e.g., Jonas et al., 2002) and stereotype usage (e.g., Schimel et al., 1999). With Study 2, I applied the findings of TMT research to investigatory decision making to answer the following questions: How do death-primed participants respond to a suspect who is a member of their out-group? How do death-primed people respond to a suspect who represents a certain stereotype?

I investigated group membership on two levels: The suspect’s and the investigator’s group membership. I manipulated what race the suspect was, both because racial identity can be a relevant group membership and because I wanted to test for a change in the use of the Black criminal stereotype, as discussed above. In order to control for racial in-group/out-group status, I asked participants to disclose their race, among other demographics (for more details, see Appendix D) and randomly assigned race of the suspect accordingly. Another group that participants might have identified with is that of the investigator. By increasing the salience of participants’ group membership I attempted to mimic the identity and group membership that law enforcement officers experience.

One notable difference between Study 1 and Study 2 is that the case that participants assessed. All pieces of evidence, including the DNA report, were ambiguous (i.e., did not obviously indicate guilt or innocence). Ambiguity of the case was important for several reasons. Judgments under ambiguous circumstances are susceptible to biases (Kahneman, Slovic, &
Tversky, 1982, see also Devine, Clayton, Dunford, Seyer, & Pryce, 2001) that stem from motivated cognition (Fiske & Taylor, 2013; Kunda, 1990; Trope & Liberman, 1996). As such, judgments of an ambiguous case are best for an initial test of the effect of MS on perceptions of the suspect. Another reason for the ambiguity of the case was in terms of external validity, when considering miscarriages of justice such as innocent suspects being erroneously convicted. One would hope that straightforward cases – where a suspect’s guilt or innocence is clear due to the amount of incriminating or exculpating evidence – are solved accurately and with little risk of false conviction. In cases with potentially ambiguous information, an innocent suspect might run the risk of being seen as guilty due to extraneous factors. For an example of the updated case used for Study 2, see Appendix E.

Hypotheses

Main hypotheses. Following the results of the TMT research on out-group derogation, I predicted that people who were explicitly told to embrace the role of investigator would consider the suspect an out-group member to a higher extent than those who were not explicitly engulfed in the role. Thus, I predicted a main effect for group membership where participants told to embrace the role of police investigator should have more negative and disfavorable views toward the suspect and give higher guilt ratings (H1a). This main effect would be amplified by an interaction between MS and group membership, in which MS should increase the negative perceptions investigators have of the suspects (H1b). Furthermore, there should be a three-way interaction of MS, salience of group membership and racial group membership (when considering race of participants with race of the suspect) on measures of derogation (H1c). Participants for whom mortality is salient and are in the investigator group should be assessing the suspect negatively in general, however when the suspect belongs to the participants' racial in-
group, participants will be motivated to distance themselves from their racial in-group (see Arndt, Greenberg, Schimel, Pyszczynski, & Solomon, 2002) and thus rate in-group suspects even more negatively than suspects of their racial out-group. This will be contrasted with the interaction of the journalist group membership and MS where, participants will not be motivated to assess the suspects in their in-group negatively. For a graph of the three-way interaction predicted by H1c, see Figure 3.

Research on TMT and stereotypes shows that people have a preference for people who conform to the stereotypes they hold. The stereotype of African-Americans being criminals is prominent (Bodenhausen, 1988; Duncan, 1976; Rector, Bagby, & Nicholson, 1993), more so than for Hispanic and White people (Dixon & Rosenbaum, 2004; Smith & Dempsey, 1983; Wilson, 1996). Furthermore, as participants will be given an ambiguous case, this should increase their reliance on stereotypes to inform their decision. Thus, I predicted that when death primed and given the opportunity to stereotype, participants will use existing stereotypes to the highest extent (H2): There should be an interaction between race of the suspect and prime where participants find the Black suspect guilty to a higher extent than other races when participants are primed with MS (compared to when primed with DP). For a graph of the interaction predicted in H2, see Figure 4.

**Moderator hypotheses.** Several moderating variables have shown effects in TMT research and I investigated those most relevant to this study. Self-esteem is at the core of TMT, predicting that those low in self-esteem should derogate out-group members to a higher extent than those high in self-esteem (e.g., Harmon-Jones et al., 1997). Thus, I predicted that under MS, my participants who are low in self-esteem would derogate an out-group suspect (professional or racial) more than those high in self-esteem. This should result in three-way interactions between
prime, self-esteem, and professional group membership (H3a) and prime, self-esteem, and racial
group membership (H3b) on measures of out-group derogation.

I also hypothesized that following the research on group identification (e.g., Hohman &
Hogg, 2015b) the effects of MS on out-group derogation will be seen most for those high in in-
group identification, whether it be their level of identification with their assigned professional
group membership or with their racial in-group. Thus I predicted an interaction between prime,
professional group membership, and level of identification with their assigned professional group
(H4a) and another interaction between prime, racial group membership, and level of
identification with their own race (H4b).

Past TMT research has also found that the order in which participants rate their own in-
group and an out-group member moderates MS effects (Greenberg et al., 1990). Reminding
participants of the dimension being threatened by having them rate their own in-group first
should increase out-group derogation under MS. Thus, when rating their level of identification
with their own in-group (either professional or racial) first participants should increase their
derogation of the suspect. Accordingly, I predicted an interaction between professional group
membership, order of presentation (i.e., whether participants rated their in-group first or not), and
prime where those in the police investigator group under MS who rated their professional in-
group first will derogate the suspect to a higher extent than those in the journalist group under
DP and those who rated the suspect first (H5a). I predicted a similar interaction for those who
rated their racial in-group first, where those under MS will derogate the (racial) out-group
suspect to a higher extent than those under DP, rating an out-group suspect first (H5b).

**Secondary hypotheses.** Given previous results examining the effect of MS on
punitiveness (Arndt et al., 2005), I predicted that MS would increase punitiveness in general and
thus there would be a main effect of prime on punitiveness (H6). As an extension of punitiveness, I also predicted that MS would increase predictions of recidivism, and there would be a main effect of prime on this variable as well (H7).
Chapter 14: Study 2 Method

Participants

Participants were 403 community members recruited from Amazon Mechanical Turk (MTurk). Sample size was determined using a power analysis for an expected medium effect based on previous TMT research using attitudinal dependent variables ($r = .42$, 95% CI [.37, .46]; Burke et al., 2010, p. 29) on non-student populations ($r = .25$, 95% CI [.18, .32]; Burke et al., 2010, p. 29). Participants were paid $2.00 for approximately 30 minutes of their time ($M = 23.23$, $SD = 8.44$). The sample was 52.1% females and 46.9% males, between the ages of 19 and 68 years ($M = 37.51$, $SD = 11.78$). Racial breakdown was as follows: 79.4% White, 8.4% Black, 6.2% Asian, 4.5% Hispanic, and 1.5% other.

Design

This study was a two (prime: MS vs. DP) by two (professional group membership: investigator vs. journalist) by three (suspect race: Black vs. Hispanic vs. White). The suspect race manipulation was collapsed into two conditions (racial group membership: in-group vs. out-group) for certain analyses. This was done by considering participants’ race as well as the race of the suspect to which they had been assigned to (e.g., a participant who is White in the Black suspect race condition would be in the racial out-group condition).

Procedure

The procedure was similar to Study 1 with several small differences: Participants’ were given a mock personality assessment (including the prime manipulation), but after they were given feedback on their assessment (to manipulate professional group membership), they were then given a case summary to evaluate (that was slightly modified from Study 1), they were then asked to provide their judgement of the suspect’s guilt, and impressions of him along with
measures of racial and professional group identification. Additionally, I did not manipulate fairness of the outcome in this study and thus participants were not informed of the final verdict in the case. Details of the procedure are described below.

MS was manipulated in the same manner as in Study 1 but the personality assessment was slightly different: it started with a demographics survey (including a question about the race of the participant), questions from the EPQR-A (Francis et al., 1992), the Rosenberg self-esteem scale (Rosenberg, 1965) and questions from the five-factor personality assessment (OCEAN; McCrae & Costa, 1987), after which feedback was given, providing the manipulation of professional group membership. The police investigator group membership manipulation was used to increase the salience of participants’ group identification as a police investigator. This was done by providing them with bogus feedback for the personality test telling them that their personality fit that of a law enforcement investigator. The personality feedback was given before the MS to avoid any effects of potentially positive feedback boosting participants’ self-esteem, thus nullifying the effects of the MS manipulation (see Arndt & Greenberg, 1999; Harmon-Jones et al., 1997, Study 1).

After the personality feedback, I gave the priming manipulation – in the same manner as in Study 1, followed by both the PANAS (Watson, Clark, & Tellegen, 1988) and the word search (same as in Study 1). This additional task (the PANAS) was given to allow for further distraction from thoughts of death, which might have been needed given the lack of effects in Study 1. Indeed, research shows that more distraction tasks between prime and dependent measures increase the effects of MS (Burke et al., 2010). Furthermore, because of the concern raised in the discussion of Study 1, I did not ask participants to respond to the DTA.

Once participants completed the mock personality assessment described above, they were
informed that the personality portion was over and that they would now be asked to assess a case file. The bogus feedback was followed by short immersion instructions asking participants to imagine themselves in the role as the police investigator or the journalist. These instructions were used to help ensure that participants assimilated their identity (police investigator or journalist) when evaluating the case. The profession of journalist was chosen because it had a similar investigative tone to it, without the hypothesized group membership of the police investigator identity. To see the exact instructions, see Appendix H.

The case used in Study 2 was ambiguous, including the forensic report about the DNA evidence found on the perpetrator’s mask. The case summary was pilot tested using MTurk workers \( (n = 71) \), in order to be sure it was fairly ambiguous in terms of probability of guilt \( (M = 61.42\%, SD = 26.37; \) on a scale from 0\% to 100\%). The case summary was identical for all participants except for the suspect race manipulation. Participants were randomly assigned to either a suspect that was of their racial in-group or out-group. Within the group of participants assigned to their racial out-group, half were assigned to a suspect of either race (e.g., if a participant was White and assigned to a suspect that was in his or her out-group they had an equal likelihood of being assigned to a Black or Hispanic suspect). Participants who reported their race as anything other than “Black”, “Hispanic”, or “White”, were randomly assigned to race as any race would be considered an outgroup member. The suspect’s racial information was subtly incorporated in the case by using stereotypically Black (Jerome, Terrell, and Tyrone), Hispanic (Miguel, Ramiro, and Ramon), and White (Marty, Hank, and Brad) names. This type of unobtrusive race manipulation has been used successfully in other studies (e.g., Glaser et al., 2015). Further, the race (Black, Hispanic, or White) was indicated discreetly among other
suspect demographic information at the top of the police report to bolster the race manipulation.3

**Materials**

**Self-esteem measure.** Self-esteem was measured in order to assess for its effects on out-group derogation, given the mixed results in previous research (see Burke et al., 2010). The Rosenberg self-esteem scale (Rosenberg, 1965) was used as it is a highly reliable scale that measures global self-worth (Gray-Little, Williams, & Hancock, 1997), and is used very often in TMT research (e.g., Greenberg, Solomon, et al., 1992; Burke et al., 2010, p. 185). The scale is comprised of 10 items gauging participants’ feelings about themselves (e.g., “On the whole, I am satisfied with myself”). Participants were asked to respond to these items on 4-point Likert scales from “strongly agree” to “strongly disagree”. Self-esteem scores were calculated by adding all items to each other resulting in scores ranging from 10 to 50 with higher scores indicating higher self-esteem (α = .94). For the full scale, see Appendix F.

**Personality feedback manipulation.** This feedback was provided to participants after they answered the mock personality assessment and informed participants that given their responses to our questions, their personality matched that of a police investigator or a journalist. The exact feedback scripts are displayed in Appendix H. The feedback was written to be fairly vague and neutral, and was pilot tested (n = 148 MTurk workers) in order to ensure that it did not boost participants’ self-esteem and that it did indeed increase identification with the intended professional group (i.e., police investigator or journalist).

Feedback was piloted in a similar manner as the feedback in Arndt and Greenberg (1999) 3

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3 Pilot testing indicated that although using stereotypically Black and Hispanic names was enough to clearly indicate race for Black and Hispanic suspects, the stereotypically White names were not perceived as White the majority of the time. Adding the mention of race on its own was also not enough to ensure identification of the suspect’s race. However the combination of name and race mention increased pilot participants’ correct identification of the suspect’s race, without them being suspicious of the race manipulation.
and Harmon-Jones et al. (1997) using Arndt and Greenberg’s single item (“How good did the personality feedback make you feel about yourself?”; 1999, p. 1334), appropriate elements from Heatherton and Polivy’s state self-esteem scale (1991)\(^4\) and Rosenberg’s self-esteem scale (1965). Although Rosenberg’s scale has historically not been a valid measure of changes in state self-esteem, I thought it important to measure for changes in this scale after my feedback since this was the measure used to assess global self-esteem in my study. I also used items from the state self-esteem scale because this scale is more sensitive to temporary changes and thus might detect changes that Rosenberg’s scale would not have. Items from these scales were split in half by even (Rosenberg, \(\alpha = .87\); State self-esteem, \(\alpha = .82\)) and odd numbered questions (Rosenberg, \(\alpha = .89\); State self-esteem, \(\alpha = .78\)). I used one half as a pretest and the other half as a posttest after the feedback was given (order was counterbalanced). The specific items used are listed in Appendix F.

Results from the pilot showed that the feedback significantly increased identification with the group. Participants who were given personality feedback (\(M = 5.96, SD = 2.16\)) identified significantly more with their group than those who were not given personality feedback (\(M = 4.04, SD = 2.02\)). \(F\) (1, 144) = 9.84, \(p = .002\), \(\eta_p^2 = .06\), \(d = .50\), 95% CI [.17, .83]. There was no significant main effect for group (police investigator vs. journalist, \(F\) (1, 144) = 2.10, \(p = .149\), \(\eta_p^2 = .01\), \(d = .22\), 95% CI [-.11, .55]) and no significant interaction between group and feedback, \(F\) (1, 144) = 2.36, \(p = .126\), \(\eta_p^2 = .02\), thus people did not feel more affiliated with one group more than the other. Results from the pilot also showed that there were no significant differences on either self-esteem measure, pre and post feedback. Participants’ scores on Rosenberg’s pretest

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\(^4\) In their study, Heatherton and Polivy (1991) used elements that asked specifically about academic performance (e.g., “I feel that I am having trouble understanding things that I read”, p. 898) and appearance (e.g., “I feel unattractive”, p. 898) that were not appropriate here as the interest was more general perceptions of the self.
\((M = 9.69, SD = 3.46)\) were no different than their scores on the posttest \((M = 9.76, SD = 3.30)\), \(t(76) = -0.23, p = .817, d = .02, 95\%\ CI [-.21, .25]\). Participants’ scores on State self-esteem questions were no different on the pretest \((M = 3.69, SD = .77)\) than on the posttest \((M = 3.62, SD = .88)\), \(t(76) = 1.13, p = .262, d = .08, 95\%\ CI [-.14, .31]\).

**PANAS.** Immediately after the prime, participants were given a PANAS questionnaire. The PANAS is a tool that assesses participants’ positive and negative affect by asking them to rate on 5-point scales \((1 = \text{very slightly or not at all}; 5 = \text{extremely})\) to what extent they are experiencing, at the moment, each of twenty words that describe different feelings and emotions \((\text{e.g., “strong”, “active”, “nervous”, etc.}; \text{Watson et al., 1988})\). Scores for this measure were calculated by averaging negative and positive items into two scales: the Positive Affect scale \((\text{from 1 to 5 with higher scores meaning more positive affect, } \alpha = .92)\) and the Negative Affect scale \((\text{from 1 to 5 with higher scores meaning more negative affect, } \alpha = .93)\). This was to serve as a filler task, so thoughts of death were not the focal point of attention by the time participants viewed the case. It also served to make the personality assessment more plausible and to control for differences between priming conditions \((\text{typically, research finds no differences in affect between MS and DP manipulations, Greenberg et al., 2008})\).

**Race (name) manipulation.** To manipulate race within the case summary, I changed the name of the suspect that participants read about, using three stereotypically Black, Hispanic, and White names. Past research has used stereotypical names of different races as a successfully unobtrusive manipulation of race \((\text{e.g., Bertrand & Mulainathan, 2004}; \text{Cotton, O'Neill, & Griffin, 2008}; \text{Greenwald, McGhee, & Schwartz, 1998})\). However, the literature does raise several issues that were taken into account when choosing names for this study. Research has indicated that Black names might prime concepts other than just race such as socio-economic
class. Indeed sociologic research shows that the stereotypical names that are used in research (e.g., Lamar, Darnel) were not always used in the African-American culture and that their emergence was fairly recent. Data also shows that these types of names are more prevalent in Black and African-American males who are of lower socio-economic status (Fryer & Levitt, 2004). Furthermore, from a simple numbers perspective, it is more likely that Black and Hispanic names will be less common than stereotypically White names. This could impact perceptions of uniqueness and likeability of an individual since familiarity breeds liking (Bornstein, 1989).

These three factors (socio-economic status, uniqueness, and likeability) were taken into account when choosing the names to use in my study. I created a list from names previously used in the literature and informally polled people on what stereotypically White, Black, and Hispanic names might be. I then consulted the 1990 census list ranking male name popularity (http://www2.census.gov/topics/genealogy/1990surnames/dist.male.first) and rejected names that were very popular. For example, Peter had been used in previous research but was ranked 43rd, whereas the most popular stereotypically Black name (Leroy) was ranked 144th. I produced a list of 25 names that I then pilot tested with 50 MTurk participants who were each given 6 names to rate on 11 items to assess different characteristics of each name that might be a concern for this study (i.e., likeability, uniqueness, perceived wealth/class, and perceived race) of each name. Questions and response items for each name are displayed in Appendix G.

I matched names in terms of perceived likeability, uniqueness, and wealth as well as distinctive racial implication (e.g., for a Black name, how Black of a name it was viewed as, compared to Hispanic and White). The final names I chose based on this pilot were Jerome, Tyrone, Terrell (Black), Miguel, Ramiro, Ramon (Hispanic), and Marty, Hank, and Brad
(White), because they were distinctively representative of their racial identity (see Table 10) and together they did not differ significantly based on perceived likeability ($F(2, 103) = 1.56, p = .22, \eta_p^2 = .03$), uniqueness ($F(2, 103) = 1.51, p = .23, \eta_p^2 = .03$) or wealth ($F(2, 103) = .72, p = .49, \eta_p^2 = .01$), see Table 11 for descriptives.

**Dependent Measures**

In Study 2, I was interested in the effect of MS on participants’ assessment of a member of their out-group that was a suspect in a crime. Furthermore, I was interested in how participants assessed people who fulfill certain stereotypes, regardless of group membership. Thus, my primary dependent variables assessed judgment and impressions of the suspect in the case. Unlike in Study 1, I did not measure a dichotomous guilt measure, rather I used a continuous measure of probability of guilt (0% = not at all guilty; 100% = completely guilty).

The subsequent ratings about the suspect were mapped after Ask and Granhag’s research (2005, 2007a, 2007b): “To what extent does the available evidence link the suspect to the crime?” (1 = to a very low degree; 9 = to a very high degree); “To what extent were the criteria for probable cause fulfilled?” (1 = not at all fulfilled; 9 = completely fulfilled); “How adequate was the evidence to prosecute the suspect?” (1 = not at all adequate; 9 = completely adequate). These items were highly related and were averaged into a legal decision making scale ($\alpha = .92$).

Further assessing participants’ impressions of the suspect, I asked them to rate him on 9-point scales of honesty, likeability, intelligence, success, wealth, and dangerousness, adapted from Cook and her colleagues’ investigation of jury decision making under MS (2004). In addition to these traits I had participants rate traits that could reflect a more stereotypical assessment of the suspect, adapted from Graham and Lowery (2004): vulnerability, violence and badness. I also added several questions to assess identification with the suspect (adapted from
Hohman & Hogg, 2011): “How much would you stand up for the suspect?”, “How much do you identify with the suspect?”, and “How similar do you feel to the suspect?”

Salience of identity is important for self-categorization purposes (Oakes, 1987; Stets & Burke, 2000) and my hypotheses for out-group derogation were based on the fact that police investigators should view suspects as out-group members, more so than others (here, journalists). I measured the extent to which participants identified with the professional in-group they were assigned to during the study and own racial in-group.

I evaluated identification with professional group (i.e., journalist or police investigator depending on random assignment to condition) using a scale of 8 items, adapted from Hohman and Hogg (2011). Participants responded to items such as “How much of a feeling of belonging do you have as a [police investigator/journalist]?” on 9-point scales. An additional question was added as an attention check (“This is just a test question, select six to show you are not robot.”). For the list of specific questions, see Appendix I. Both scales were highly reliable (For the police investigator scale, $\alpha = .94$, and for the journalist scale, $\alpha = .95$). To assess racial in-group identification, I had participants respond to the same items as for professional in-group adapted for their racial in-group (i.e., as they reported, Black ($\alpha = .97$), Hispanic ($\alpha = .93$), or White ($\alpha = .94$)).

Order in which people judge a target and their own in-group has shown some effects in the past (Greenberg et al., 1990): Making a target out-group (and threat to in-group) salient is important for the threat to be perceived. This can be done by asking people to rate their in-group first, before the target. Thus, the order in which the scales were presented was counterbalanced with the judgment of the suspect. Half of the time, the suspect was rated first, and the other half the suspect was rated second, after either the professional identification scale (a quarter of the
time) or the racial identification scale (a quarter of the time).

Finally as most reliable results of TMT research have been found on punitiveness, I asked participants the severity of the punishment they would recommend for the suspect in the event they were found guilty: Participants responded to the question “If found guilty of the armed robbery, how severe should the suspect’s punishment be?” on a 7-point scale (1 = very light punishment, 7 = very heavy punishment; Florian & Mikulincer, 1997). Further, mapped onto Graham and Lowery’s likelihood of recidivism scale (2004), I asked participants how likely they thought it was that the suspect would commit similar or worse crimes in the future, averaged into a measure of likelihood of recidivism (from 1 to 7 with higher values meaning higher likelihood of recidivism, $\alpha = .91$).

As manipulation checks, participants were asked which profession the personality feedback said they matched with. Participants were also asked how accurate the feedback from the personality assessment was, how the feedback made them feel, how motivated they were to solve the case, how realistic the case was. They were also asked if they had any prior or current law enforcement/investigation experience or if they had ever been a suspect in a crime, and if so, whether they were convicted. Finally, participants were asked a series of questions about facts that they remembered about the case, including what race the suspect (as a manipulation check) and victim were. They were then debriefed, thanked, and paid through MTurk.
Chapter 15: Study 2 Results

Participants who failed the attention check \( (n = 10 \text{ total}) \), failed the professional group manipulation \( (n = 5 \text{ total}; \ n = 4 \text{ in addition to those who failed the attention check}) \), and those who failed the suspect race manipulation \( (n = 55 \text{ total}; \ n = 50 \text{ in addition to those who failed the attention check and the suspect race manipulation only}) \) were dropped from analyses. All analyses were conducted with this reduced sample of 339 participants.

**PANAS**

Concordant with TMT research, there were no differences between MS and DP conditions on either the Positive \( (t(337) = .27, \ p = .791, \ d = .02, \ 95\% \ CI [-.20, .23]) \) or the Negative PANAS Scale \( (t(337) = .14, \ p = .890, \ d = .03, \ 95\% \ CI [-.18, .24]) \). Thus, the MS manipulation had no effect on participants’ reported emotions after thinking about death.

**Suspect Ratings**

Because the items that I used to assess participants’ impressions of the suspect were taken from different research, I thought it necessary to evaluate which variables, if any, formed coherent subsets. I performed a principal components analysis with orthogonal (Varimax) rotation. Inspection of eigenvalues revealed three components with values higher than 1. The correlation matrix is displayed in Table 12 and factor loadings are in Table 13. The first component (Negative impressions, \( \alpha = .94 \)) accounted for 45% of the total variance of the original variables and included ratings of dangerousness, violence, and badness. The second component (Positive impressions, \( \alpha = .81 \)) accounted for 16% of the variance and included ratings of honesty, likeability, intelligence, success, and wealth. The third component (Perceived similarity, \( \alpha = .86 \)) accounted for 10% of the variance and contained the three answers to questions about similarity to suspect. Given the results of this factor analysis I averaged items of
each component to analyze them separately. Only perceived vulnerability was left out of these scales (and subsequent analyses) because this characteristic did not map well onto any of the components.

**Main Hypotheses Testing – Outgroup Derogation**

In order to test for increased outgroup derogation under MS (H1a, H1b, and H1c), I ran 2 (prime: MS vs. DP) by 2 (professional group membership: investigator vs. journalist) by 2 (racial group membership: in-group vs. out-group) ANOVAs on the probability of guilt, legal decision making measure, positive impression measure, negative impression measure, and perceived similarity to suspect.

**Probability of guilt.** There was only a significant interaction between professional group and prime on probability of guilt ratings, $F(1, 331) = 4.45, p = .036, \eta^2_p = .01$. Post hoc tests indicated that probability of guilt was lower for mock police investigators under MS ($M = 50.99, SD = 25.07$) than under DP ($M = 60.78, SD = 24.60$), $d = .39$, 95% CI [.09, .70]. Furthermore, mock police investigators also had lower probability of guilt under MS than mock journalist under MS ($M = 60.13, SD = 24.48$), $d = .37$, 95% CI [.07, .67]. No other effects were significant. Results did not support any of my hypotheses: although prime and professional group interacted, the effect was not in the predicted direction as MS decreased probability of guilt ratings for mock police investigators, compared to mock journalists and mock police investigators under DP. See descriptives for this test in Table 14.

**Legal decision making measure.** There were no significant effects of the same 2 by 2 by 2 ANOVA as above on the legal decision making measure, thus H1a, H1b, and H1c were not supported using this dependent variable either. See descriptives in Table 14.
Positive impressions of the suspect. There was a marginally significant main effect for professional group membership, where those acting as police investigators ($M = 3.09, SD = 1.20$) had more positive impressions than those in the journalist group ($M = 2.88, SD = 1.19$), $F(1, 331) = 3.06, p = .081, \eta_p^2 = .01, d = .18, 95\% CI [-.04, .39]$. There was also a marginally significant interaction between professional group membership and prime, $F(1, 331) = 3.60, p = .059, \eta_p^2 = .01$. Post hoc tests revealed that those evaluating the case as a journalist in DP condition ($M = 2.68, SD = 1.07$) viewed the suspects significantly less positively than those in the police investigator DP condition ($M = 3.14, SD = 1.19$), $d = .41, 95\% CI [.10, .71]$. Those in the journalist DP condition also viewed the suspect less positively than the mock journalists in the MS condition ($M = 3.05, SD = 1.27$), $d = .31, 95\% CI [.01, .62]$. No other effects were significant, and thus, again H1a, H1b, and H1c were not supported, and again, results were trending in the opposite direction of what I had predicted. For descriptives, see Table 15.

Negative impressions of the suspect. On negative impressions of the suspect, there was a main effect for professional group membership, $F (1, 331) = 9.13, p = .003, \eta_p^2 = .03, d = .31, 95\% CI [.09, .52]$. Again, mock journalists ($M = 5.58, SD = 2.21$) viewed the suspect more negatively than mock police investigators ($M = 4.91, SD = 2.13$). There was also an interaction between prime and racial group membership, $F (1, 331) = 5.57, p = .019, \eta_p^2 = .02$. Post hoc tests revealed that those who responded to an out-group member under MS ($M = 4.97, SD = 2.27$) rated the suspect significantly less negatively than those in the DP group ($M = 5.56, SD = 2.10$), $d = .27, 95\% CI [-.02, .56]$. There was also a marginally significant effect where participants had less negative impressions of racial in-group member under DP ($M = 4.97, SD = 2.25$) than of racial out-group member under DP, $d = .27, 95\% CI [-.04, .58]$. No other effects were significant, and similarly to with positive impressions of the suspect, there was no support for H1a, H1b, or
H1c. In fact, there was again a seemingly ironic effect of MS where it decreased negative ratings of out-group suspects (compared to out-group members rated under DP). See descriptives in Table 15.

**Perceived similarity to suspect.** Participants rating how similar they felt to the suspect showed a main effect for professional group membership, $F (1, 331) = 9.41, p = .002, \eta^2_p = .03, d = .34, 95\% CI [.12, .55]$. Those who were told they matched with the personality profile of a police investigator ($M = 2.90, SD = 1.56$) identified with the suspect to a higher extent than those who matched with the profile of a journalist ($M = 2.39, SD = 1.47$). No other effects were significant, thus again H1a, H1b, and H1c were not supported. See descriptives in Table 15.

**Main Hypotheses Testing – Stereotypes**

In order to test for the enhanced use of the Black criminal stereotype under MS (H2), I ran two 2 (prime: MS vs. DP) by 2 (professional group membership: investigator vs. journalist) by 3 (suspect race: Black vs. Hispanic vs. White) ANOVAs on probability of guilt and legal decision making measures.

**Probability of guilt.** There was a significant interaction between prime and professional group membership, $F (1, 327) = 7.16, p = .008, \eta^2_p = .02$. Post hoc tests revealed that mock police investigators under MS ($M = 50.99, SD = 25.07$) thought that it was significantly less likely that the suspect was guilty than the mock journalists under MS ($M = 60.13, SD = 24.48$), $d = .37, 95\% CI [.07, .67]$. Furthermore, mock police investigators under MS rated the suspect as less guilty than when primed with DP ($M = 60.78, SD = 24.60$), $d = .39, 95\% CI [.09, .70]$. There was also a significant three-way interaction between all independent variables on probability of guilt, $F (2, 327) = 3.34, p = .037, \eta^2_p = .02$. Post hoc tests revealed a marginally significant effect in the journalist under DP group, where White suspects ($M = 64.23, SD = 24.50$)
were viewed as more guilty than Hispanic suspects \((M = 51.05, SD = 24.35), d = .54, 95\% CI [-.03, 1.11]\). Hispanic suspects rated by mock police investigators were viewed as less guilty under MS \((M = 47.93, SD = 27.71)\) than under DP \((M = 60.66, SD = 23.75), d = .50, 95\% CI [-.04, 1.03]\). Hispanic suspects rated by mock journalists saw the opposite trend where mock journalists rating them under MS \((M = 64.25, SD = 17.69)\) saw them as more guilty than under DP \((M = 51.05, SD = 24.35), d = .62, 95\% CI [-.02, 1.27]\). And, under MS, mock police investigators rated Hispanic suspects as significantly less guilty than mock journalist did, \(d = .68, 95\% CI [.09, 1.28]\). Furthermore, Black suspects were rated significantly less guilty by mock police investigators when under MS \((M = 49.16, SD = 21.99)\) than when they were under DP \((M = 64.32, SD = 27.14), d = .60, 95\% CI [.01, 1.20]\). There was also a marginally significant difference between mock journalists under MS \((M = 61.91, SD = 28.19)\) and mock police investigators under MS, with the latter rating Black suspects lower on probability of guilt, \(d = .49, 95\% CI [-.09, 1.06]\). None of the existing effects supported H2 and no other effects were significant. Descriptives are in Table 16 and a graph of the three-way interaction can be seen in Figure 4.

**Legal decision making measures.** The only noteworthy effect on the same ANOVA on the legal decision making measure was a marginally significant interaction of prime and professional group membership, \(F (1, 327) = 3.13, p = .078, \eta_p^2 = .01\). Post hoc tests revealed only one similar simple effect as above: Under MS, mock police investigators \((M = 4.65, SD = 2.18)\) thought that the evidence against the suspect was not as strong as mock journalists did \((M = 5.33, SD = 2.27), d = .31, 95\% CI [.01, .61]\). No other effects were significant, and again these findings did not support H2. Descriptives can be found in Table 16.
The Effect of Self-Esteem on Out-group Derogation

**MANOVA.** In order to assess how self-esteem affected propensity to derogate out-group members, I performed a median split of participants based on self-esteem. Scores ranged from 10 to 39 \( (M = 19.42, SD = 6.62) \) with a median score of 20. Low self-esteem participants had scores between 10 and 19 and in the high self-esteem group participants had scores of 20 and above. Because the suspect rating measures were correlated (see Table 17 for correlation matrix) and I was more interested in the overall effect of self-esteem on general impression of the suspect, than each individual dependent variable, I conducted a 2 (self-esteem: low vs. high) by 2 (prime: MS vs. DP) by 2 (professional group membership: investigator vs. journalist) by 2 (racial group membership: in-group vs. out-group) MANOVA on the ratings of the suspect to test H3a and H3b.

There was a significant main effect for professional group membership, \( F(3, 321) = 4.14, p = .007 \), Wilks’ \( \lambda = .96, \eta_p^2 = .04 \). Multivariate contrasts showed significant effects for negative impressions of the suspect, \( F(1, 323) = 8.43, p = .004, \eta_p^2 = .03, d = .31, 95\% CI [.10, .53] \), perceived similarity to the suspects, \( F(1, 323) = 8.43, p = .003, \eta_p^2 = .03, d = .34, 95\% CI [.12, .55] \), and a marginally significant effect on positive impressions of suspect, \( F(1, 323) = 3.24, p = .073, \eta_p^2 = .073, d = .18, 95\% CI [-.04, .39] \). Participants assigned to the police investigator group rated suspects less negatively \( (M = 4.91, SD = 2.00) \) than those in the journalist condition \( (M = 5.57, SD = 2.21) \) identified with the suspect more \( (M = 2.90, SD = 1.56) \) than in the journalist condition \( (M = 2.39, SD = 1.47) \) and gave the suspect more positive ratings \( (M = 3.09, SD = 1.20) \) than those in the journalist group \( (M = 2.88, SD = 1.19) \).

There was also a significant interaction between prime and professional group membership, \( F(3, 321) = 3.39, p = .018 \), Wilks’ \( \lambda = .97, \eta_p^2 = .03 \). Multivariate contrasts showed
that there was only a significant effect for positive impressions of suspect, $F (1, 323) = 4.97, p = .026, \eta^2_p = .02$. Post hoc tests were similar to those in the main analyses: Mock journalists rated the suspect less positively under DP ($M = 2.68, SD = 1.07$) than under MS ($M = 3.05, SD = 1.27$), $d = .31, 95\% CI [.01, .62]$ and mock police investigators under DP ($M = 3.14, SD = 1.19$) rated suspects more positively compared to mock journalists under DP, $d = .41, 95\% CI [.10, .71]$.

There was another significant interaction between prime and self-esteem, $F (3, 321) = 2.82, p = .039$, Wilks’ $\lambda = .97, \eta^2_p = .03$. Multivariate contrasts showed significant effects for positive impressions of the suspect, $F (1, 323) = 6.47, p = .009, \eta^2_p = .02$, and perceived similarity with the suspect, $F (1, 323) = 6.86, p = .011, \eta^2_p = .02$. Those high in self-esteem under MS showed more positive impressions of the suspect than under DP ($M_{MS} = 3.23, SD_{MS} = 1.20$ and $M_{DP} = 2.83, SD_{DP} = 1.15$), $d = .34, 95\% CI [.04, .64]$. They also showed an increase in perceived similarity with the suspect when compared to those in the DP condition ($M_{MS} = 3.06, SD_{MS} = 1.66$ and $M_{DP} = 2.53, SD_{DP} = 1.49$), $d = .34, 95\% CI [.03, .64]$. Ratings of positive characteristics ($M_{low} = 2.86, SD_{low} = 1.24$), $d = .30, 95\% CI [.00, .60]$ and perceived similarity ($M_{low} = 2.40, SD_{low} = 1.49$), $d = .42, 95\% CI [.12, .72]$ were also higher for those high in self-esteem when primed with MS (compared to those low in self-esteem). This was not the interaction I had predicted in H3a or H3b. However, because those high in self-esteem showed less derogation of the suspect under MS when compared to DP and those low in self-esteem, this interaction could be viewed as support for my hypotheses, if all participants viewed the suspect as an out-group member.

Finally there was a marginally significant three-way interaction between professional group membership, self-esteem, and racial group membership, $F (3, 321) = 2.30, p = .078,$
Wilks’ $\lambda = .98$, $\eta_p^2 = .02$. Multivariate contrasts showed only a significant effect for identification with the suspect, $F (1, 323) = 4.86$, $p = .028$, $\eta_p^2 = .02$. Those high in self-esteem who rated racial out-group suspects, identified more with the suspect when taking on the role of police investigators ($M = 3.01$, $SD = 1.64$) than when taking on the role of journalists ($M = 2.18$, $SD = 1.31$), $d = .55$, 95% CI [.13, .97]. Those low in self-esteem, rating in-group members identified more with the suspect when taking on the role of the police investigator ($M = 2.98$, $SD = 1.79$) than when taking on the role of the journalist ($M = 2.21$, $SD = 1.41$), $d = .48$, 95% CI [.02, .95]. For mock journalists rating in-group members, those with low self-esteem identified less with the suspect ($M = 2.21$, $SD = 1.41$) than those high in self-esteem ($M = 3.05$, $SD = 1.81$), $d = .52$, 95% CI [.06, .98]. Finally mock journalists with high-self-esteem identified more with the suspect when he was an in-group member then when he was an out-group members, $d = .55$, 95% CI [.09, 1.02]. However, again, this was not the three-way interaction predicted by H3a or H3b.

Descriptives for the dependent variables evaluated in this MANOVA, broken down by conditions, are displayed in Tables 18 (positive impressions), 19 (negative impressions), and 20 (perceived similarity to suspect).

**Regressions.** In order to account for the variability in individuals’ self-esteem, I also conducted three multiple regressions using the same factors as above (prime, professional group membership, and racial group membership), including self-esteem and interactions as factors to predict positive and negative impressions of suspect and perceived similarity to the suspect (all on scales from 1 to 9).

**Positive impressions of the suspect.** This model was not significant, $F (15, 323) = 1.48$, $p = .111$, $R^2 = .02$, and prime, professional group membership, racial group membership, and self-esteem did not predict positive impressions of the suspect.
**Negative impressions of the suspect.** This model was marginally significant, $F (15, 323) = 1.57, p = .079$, $R^2 = .03$. Only the interaction between prime and racial group membership significantly predicted an increase in of 4.22 in negative impressions of the suspect ($p = .035$).

**Perceived similarity to the suspect.** This model was significant, $F (15, 323) = 2.20, p = .007$, $R^2 = .05$. Prime significantly predicted perceived similarity to the suspect ($p = .018$) where those in the MS condition saw themselves as less similar to the suspect than those in the DP condition by 2.61. The interaction between prime and self-esteem also significantly predicted an increase of 1.27 in perceived similarity to the suspect ($p = .027$). The three-way interaction between professional group membership, racial group membership and self-esteem was also marginally significant ($p = .093$) and predicted a decrease in perceived similarity to the suspect of .86.

The Effect of Identification with Professional Group Membership on Out-group Derogation

**MANOVA.** In order to account for participants’ level of identification with the professional group they were assigned to, scores on the professional identification scale were divided by a median split to assess the effect of identification. Scores ranged between 1 and 9 ($M = 4.41, SD = 2.13$) with a median score of 4.00. Low identification participants had scores between 1 and 4 and the high identification group had scores of 4.13 and above. Because the order in which participants rate their in-group and the target is also important (see Greenberg et al., 1990) it was included in the analyses. In order to test H4a and H5a, I ran a 2 (prime: MS vs. DP) by 2 (professional group membership: investigator vs. journalist) by 2 (identification level: high vs. low) by 2 (order of presentation: suspect first vs. suspect second) MANOVA on positive and negative impressions and identification with the suspect, including only participants who rated their level of professional identification first or second ($n = 185$).
There was a significant main effects for level of professional group membership, $F(3, 167) = 3.41, p = .019$, Wilks’ $\lambda = .94, \eta_p^2 = .06$, and a marginal main effect for identification with profession, $F(3, 167) = 2.65, p = .051$, Wilks’ $\lambda = .96, \eta_p^2 = .05$. Multivariate contrasts showed that the main effect of level of identification was significant for negative characteristics only, $F(1, 169) = 7.97, p = .005, \eta_p^2 = .05$. Participants who identified highly with their assigned profession ($M = 5.55, SD = 2.16$) rated suspects more negatively than those who did not identify highly with their assigned profession ($M = 4.67, SD = 2.23$), $d = .40, 95\% CI [.11, .7]$. The main effect on professional group membership was significant for negative impressions of the suspect, $F(1, 169) = 6.27, p = .013, \eta_p^2 = .04$, and perceived similarity with the suspect, $F(1, 169) = 6.89, p = .009, \eta_p^2 = .04$. Mock police investigators ($M = 4.82, SD = 2.20$) rated suspects less negatively than mock journalists ($M = 5.47, SD = 2.23$), $d = -.29, 95\% CI [-.51, -.08]$. Mock police investigators ($M = 2.77, SD = 1.56$) also identified more with suspects than did the mock journalists ($M = 2.30, SD = 1.41$), $d = .32, 95\% CI [.10, .53]$.

There was also an interaction between prime and order of presentation, $F(3, 167) = 3.26, p = .023$, Wilks’ $\lambda = .95, \eta_p^2 = .06$. Multivariate contrasts showed that there was a significant effect for perceived similarity with the suspect, $F(1, 169) = 12.58, p = .016, \eta_p^2 = .03$, and there was a marginally significant effect for negative impressions of the suspect, $F(1, 169) = 16.41, p = .057, \eta_p^2 = .02$. Post hoc tests showed significantly higher ratings in perceived similarity with the suspect for participants who rated the suspect second in the MS condition ($M = 2.99, SD = 1.75$) compared to the DP condition ($M = 2.36, SD = 1.51$), $d = .39, 95\% CI [-.01, .78]$. Similarly, those rating the suspect second in the MS condition also rated the suspect marginally less negatively ($M = 4.81, SD = 2.34$) than those in the DP condition ($M = 5.42, SD = 2.07$), $d = .28, 95\% CI [-.12, .67]$. Participants under MS who rated the suspect first ($M = 2.21, SD = 1.13$)
also perceived themselves as less similar to them than those who rated him second, under MS, $d = .52, 95\% \text{ CI [.10, .95]}. And, again there was a similar marginal effect for negative perceptions, where participants who rated the suspect first, perceived him more negatively than if they rated him second, under MS ($M = 5.41, SD = 2.30), $d = .26, 95\% \text{ CI [.16, .68]}

There was also a marginally significant interaction between professional group membership and level of identification, $F (3, 167) = 2.13, p = .098$, Wilks’ $\lambda = .96$, $\eta_p^2 = .04$, driven by significant effects on positive impressions, $F (1, 169) = 5.43, p = .021$, $\eta_p^2 = .03$, and perceived similarity with the suspect, $F (1, 169) = 4.53, p = .035$, $\eta_p^2 = .03$. Post hoc tests revealed that for both dependent variables, mock police investigators showed significant differences from mock journalists among those low in professional identification. Mock police investigators in the low identification group rated the suspect more positively ($M = 3.25, SD = 1.01$) than mock journalists in the low identification group ($M = 2.78, SD = 1.25), $d = .41, 95\% \text{ CI [.04, 86]}$. They also saw themselves as more similar to the suspect ($M = 3.16, SD = 1.64$) than the mock journalists in the low identification group ($M = 2.13, SD = 1.18$), $d = .74, 95\% \text{ CI [.28, 1.20]}$. Post hoc tests also revealed that, again, for both dependent variables there were similar differences between high and low identification for participants assigned to the police investigator role. Mock police investigators in the high identification group ($M = 2.76, SD = 1.16$) rated the suspect less positively than those in the low identification group, $d = .45, 95\% \text{ CI [.01, .89]}$ and reported feeling less similar to the suspect ($M = 2.50, SD = 1.45$) than those in the low identification group, $d = .43, 95\% \text{ CI [.01, .87]}$. Finally there was a significant four-way interaction between prime, professional group membership, order of presentation, and level of identification, $F (3, 167) = 4.96, p = .003$, Wilks’ $\lambda = .92, \eta_p^2 = .08$, driven by an effect on negative impressions, $F (1, 169) = 10.68, p = .001, \eta_p^2 =
.06. This interaction is graphed in Figure 5, and, very briefly summarized, post hoc tests showed very few effects under DP but several complex effects under MS, suggesting that although results were not according to my predictions (neither H4a nor H5a) MS caused interaction effects with all variables of interest.

For descriptives, see Table 21 (ratings of positive impressions), Table 22 (ratings of negative impressions), and Table 23 (perceived similarity to suspect).

**Regressions.** In order to account for the variability in individuals’ level of identification with their assigned profession, I conducted three multiple regressions in a similar way as for self-esteem. I used the same factors as in my MANOVA (prime, professional group membership, order of presentation) and included level of identification with their profession as a continuous predictor of predict positive and negative impressions of suspect and perceived similarity to the suspect (again, all on a scale from 1 to 9).

**Positive impressions of the suspect.** This model was not significant, $F (15, 169) = .93, p = .534, R^2 = .01$, and prime, professional group membership, order of presentation, and level of group identification did not predict positive impressions of the suspect.

**Negative impressions of the suspect.** This model was significant, $F (15, 169) = 2.58, p = .002, R^2 = .11$. Two-way interaction factors prime by professional group membership interaction ($p = .042$) and prime by level of group identification ($p = .053$) were significant and predicted increases in negative impressions of the suspect of respectfully 5.89 and 2.55. The three-way interaction factors of prime by professional group membership by level of group identification ($p = .016$), prime by professional group membership by order of presentation ($p = .016$) significantly predicted increases in negative impressions of the suspect by respectfully 6.90 and 2.97. The three-way interaction factor of professional group membership by level of group
by order of presentation ($p = .061$) marginally significantly predicted an increase in negative impressions of the suspect by 6.56. Finally, the four-way interaction term also significantly predicted an increase in negative impressions of the suspect by 3.46, $p = .002$.

**Perceived similarity to the suspect.** The model was not significant, $F(15, 169) = 1.31, p = .20, R^2 = .02$, and prime, professional group membership, order of presentation, and level of group identification did not predict perceived similarity to the suspect.

**The Effect of Identification with Racial Group Membership on Out-group Derogation**

**MANOVA.** Scores on the racial identification scale were divided by median split to assess for the effect of participants’ level of identification with their own race. Scores ranged between 1 and 9 ($M = 6.56, SD = 1.79$) and a median score of 6.75. Low identification participants had scores between 1 and 6.75 and the high identification group had scores of 6.88 and above. To test H4b and H5b, I ran a 2 (prime: MS vs. DP) by 2 (racial group membership: in-group vs. out-group) by 2 (identification level: high vs. low) by 2 (order of presentation: suspect first vs. suspect second) MANOVA, including only participants who rated their level of racial identification first or second ($n = 154$).

There was a main effect for order of presentation, $F(3, 136) = 3.05, p = .031$, Wilks’ $\lambda = .94, \eta_p^2 = .06$. Multivariate contrasts showed that this effect was significant for participants’ positive impressions of suspects, $F(1, 138) = 8.27, p = .005, \eta_p^2 = .06$, perceived similarity with the suspect, $F(1, 138) = 6.15, p = .014, \eta_p^2 = .04$, and marginally significant for negative impressions. $F(1, 138) = 3.17, p = .077, \eta_p^2 = .02$. Those rating the suspect second rated him more positively ($M = 3.35, SD = 1.25$) than those rating the suspect first ($M = 2.79, SD = 1.15$), $d = .47$, 95% CI [.14, .79]. Similarly, they identified more with him ($M = 3.13, SD = 1.62$) than those who rated him first ($M = 2.45, SD = 1.45$), $d = .44$, 95% CI [.12, .76], and rated the suspect
marginally less negatively ($M = 5.10, SD = 2.21$) than those rating him first ($M = 5.56, SD = 2.08$), $d = -.21$, 95% CI [-.53, .11].

There was another main effect for level of racial identification, $F (3, 136) = 3.44, p = .019$, Wilks’ $\lambda = .93$, $\eta^2_p = .07$. Multivariate contrasts showed a significant effect for ratings of negative impressions only, $F (1, 138) = 9.82, p = .002$, $\eta^2_p = .07$. Those who identified highly with their own race ($M = 5.80, SD = 2.47$) rated suspects more negatively than those who did not identify highly with their own race ($M = 4.90, SD = 1.75$), $d = .43$, 95% CI [.10, .75].

Lastly, there was a three-way interaction between racial group membership, identification level, and order of presentation, $F (3, 136) = 2.84, p = .040$, Wilks’ $\lambda = .94$, $\eta^2_p = .06$. Multivariate contrasts showed that this effect was significant for positive impression, $F (1, 138) = 6.27, p = .013$, $\eta^2_p = .04$, and perceived similarity with the suspect, $F (1, 138) = 5.69, p = .018$, $\eta^2_p = .04$. Post hoc tests showed similar simple effects for both dependent variables and are respectively illustrated in Figures 6 and 7. No other effects were significant, thus, again, there was no support for H4b or H5b. Descriptives for these tests are displayed in Table 24 (for ratings of suspect on positive characteristics), Table 25 (ratings of negative characteristics), and Table 26 (perceived similarity to suspect).

**Regressions.** In order to account for the variability in individuals’ level of identification with their race, I conducted three multiple regressions. I used the same factors as in my MANOVA (prime, racial group membership, and order of presentation) and included level of identification with their race as a continuous predictor of positive and negative impressions of suspect and perceived similarity to the suspect (on scales from 1 to 9).

**Positive impressions of the suspect.** This model was significant, $F (15, 138) = 1.78, p = .043$, $R^2 = .07$; however no factors significantly predicted positive impressions of the suspect.
**Negative impressions of the suspect.** This model was not significant, \( F (15, 138) = 1.45, p = .134, R^2 = .04 \).

**Perceived similarity to the suspect.** The model was significant, \( F (15, 138) = 1.91, p = .027, R^2 = .08 \). Racial group membership significantly predicted perceived similarity to the suspect where participants rating an out-group member viewed themselves as more significantly more similar to them (\( p = .044 \)) than the suspect in their in-group by 4.09. The two-way interaction factor of racial group membership by level of racial identification significantly predicted an increase in perceived similarity to the suspect by 6.26, \( p = .040 \). Finally, the prime by level racial identification (\( p = .088 \)) and prime by level of racial identification by order of presentation (\( p = .093 \)) interaction factors were marginally significant and respectfully predicted increases in .58 and 6.06 in perceived similarity to the suspect.

**The Effect of MS on Punitiveness**

I ran a 2 (prime: MS vs. DP) by 2 (professional group membership: investigator vs. journalist) by 2 (racial group membership: in-group vs. out-group) ANOVA on proposed severity of punishment to test H6. There was only a marginally significant interaction between prime and professional group membership, \( F (1, 331) = 3.70, p = .055, \eta_p^2 = .01 \). The trend was driven by a significant difference between mock police investigators (\( M = 5.50, SD = 1.15 \)) who suggested a higher punishment than mock journalists (\( M = 5.11, SD = 1.28 \)) under DP, \( d = .32, 95\% CI [.02, .63] \). No other effects were significant, thus H6 was not supported. Descriptives can be found in Table 27.

**The Effect of MS on Recidivism**

I also ran a 2 (prime: MS vs. DP) by 2 (professional group membership: investigator vs. journalist) by 2 (racial group membership: in-group vs. out-group) ANOVA on the recidivism
composite to test H7. Results supported this hypothesis, showing a significant main effect for prime, $F(1, 331) = 5.01, p = .026, \eta^2_p = .02, d = .24, 95\% \text{ CI } [.02, .45]$, where participants under MS ($M = 2.91, SD = 1.48$) thought that the suspect was more likely to recidivate than those in the DP condition ($M = 2.58, SD = 1.32$).

There was also a marginally significant interaction effect between prime and professional group membership, $F(1, 331) = 3.54, p = .061, \eta^2_p = .01$. This trend was driven by mock police investigators thinking that if found guilty, the suspect was more likely to recidivate ($M = 3.15, SD = 1.54$) than mock journalists ($M = 2.70, SD = 1.48$) under MS, $d = .30, 95\% \text{ CI } [-.002, .60]$, and mock police investigators under MS thinking that recidivism was more likely than police investigators under DP ($M = 2.51, SD = 1.22$), $d = .46, 95\% \text{ CI } [.16, .77]$. Descriptives are displayed in Table 37.

**Follow up Questions**

In an attempt to understand the counter-intuitive findings that MS decreased probability of guilt and increased positive impressions and perceived similarity with the suspect in several of my main analyses, I ran analyses directed at assessing potential confounds in the design. I used my manipulations as independent variables to run 2 (prime: MS vs. DP) by 2 (professional group membership: investigator vs. journalist) by 3 (suspect race: Black vs. Hispanic vs. White) ANOVAs, on the follow up questions about the case and the feedback. Descriptives for these variables are displayed in Table 28.

**Perceived realism of the case.** Unlike in Study 1, there were no effects for perceived realism of the case.

**Motivation to solve the case.** The participants’ motivation to solve the case could have been a potential moderator, affecting participants’ assessment of the suspect in the case, as
someone playing the role of police investigator might be more motivated to solve the case and somehow evaluate evidence more rigorously, giving more weight to exonerating information. However, although it might have affected mock police investigators in general, it is unlikely that motivation would be affected by MS. And indeed, there was a marginally significant main effect for professional group membership, $F(1, 327) = 3.60, p = .059, \eta^2_p = .01, d = .15, 95\% \text{ CI } [-.07, .36]$, where mock police investigators ($M = 5.70, SD = 1.35$) were more motivated to solve the case than mock journalists ($M = 5.49, SD = 1.49$). However, there was no significant interaction between prime and professional group membership, $F(1, 327) = .40, p = .529, \eta^2_p = .001$.

Interestingly, there was a significant interaction between race of the suspect and professional group membership, $F(1, 327) = 3.20, p = .042, \eta^2_p = .02$. Post hoc tests showed that for cases concerning a Black suspect, mock police investigators ($M = 6.00, SD = 1.23$) reported being more motivated than mock journalists ($M = 5.39, SD = 1.61$), $d = .42, 95\% \text{ CI } [.03, .82]$. Mock police investigators also reported being less motivated to solve the case when the suspect was White ($M = 5.39, SD = 1.47$) compared to when he was Black, $d = .44, 95\% \text{ CI } [.07, .82]$.

Finally, there was also a marginally significant simple effect where mock police investigators reported being more motivated to solve the case with a Black suspect than for a case with a Hispanic suspect ($M = 5.84, SD = 1.22$) and a White suspect, $d = .33, 95\% \text{ CI } [-.03, .69]$.

There was also a marginally significant interaction between race of the suspect and prime, $F(1, 327) = 2.67, p = .070, \eta^2_p = .02$. The trend was driven by participants who were less motivated to solve the case with a White suspect under MS ($M = 5.24, SD = 1.27$) than when under DP ($M = 5.79, SD = 1.49$), $d = .40, 95\% \text{ CI } [.07, .73]$. Further, participants under MS given a case with a White suspect were less motivated to solve the case than when the suspect was Black ($M = 5.75, SD = 1.38$), $d = .39, 95\% \text{ CI } [.03, .75]$. 
**Perceived accuracy of the personality feedback.** There were no significant effects for perceived accuracy of the personality feedback.

**Reaction to the personality feedback.** There was a significant interaction effect between prime and professional group membership, $F(1, 327) = 4.11, p = .043, \eta^2_p = .01$. Post hoc tests showed a significant simple effect between mock police investigators and mock journalist under DP where mock police investigators ($M = 5.61, SD = 2.10$) reported feeling better about the feedback than mock journalists ($M = 4.93, SD = 1.96$), $d = .33$, 95% CI [.03, .64]. There was also a marginally significant simple effect for mock police investigators who felt better about the feedback in the DP condition than in the MS ($M = 5.06, SD = 2.05$), $d = .27$, 95% CI [-.04, .57].
Chapter 16: Study 2 Discussion

For Study 2, I had predicted a main effect of professional group membership, where participants told to act like police investigators would view the suspect more negatively and have higher guilt ratings than those acting as journalists, and that this effect would be enhanced by an interaction with MS. This hypothesis was not supported, as I found that there was no effect of professional group membership on the measures of guilt. Furthermore there was a reverse effect where participants acting as police investigators had more positive (and less negative) views of the suspect and even identified to a higher extent with the suspect than those playing the part of a journalist. The interaction effects seen in the analyses were also opposite to what I had predicted. Indeed the only significant effect on the guilt dependent variable was an interaction driven by mock police investigator participants who showed much lower probability of guilt ratings under MS (compared to mock journalists under MS and mock police investigators under DP). Furthermore, there was no evidence of the predicted three-way interaction.

I had also predicted an interaction between race of the suspect and prime. This interaction was not significant. However, there was a significant three-way interaction between race of the suspect, professional group membership, and prime, driven by mock police investigators under MS assigning lower probability of guilt to Black and Hispanic suspects (compared to mock journalists under MS and mock police investigators under MS).

Several of the measures that were expected to moderate the effects of MS (e.g., self-esteem, level of group identification, and order of presentation of suspect rating) did indeed interact with MS; however these effects were not always straightforward. For example, there were interactions between prime and self-esteem (in both MANOVA and regression analyses), where high self-esteem increased positive ratings of the suspect. However, there were no three-
way interaction involving group membership and thus, there seemed to be no effect for high or low self-esteem increasing or decreasing out-group derogation. Given these results, it is possible that all participants, regardless of their racial or assigned professional group membership could have conceptualized the suspect as an out-group member, taking away the power of my group membership manipulations.

Furthermore, the main effects of level of group identification replicated in both analyses of professional and racial group identification. Those high in professional identification and racial identification viewed the suspect more negatively thus generally derogating the suspect (perhaps again suggesting that all participants considered the suspect an out-group member) and only interacting with prime or group membership in regression analyses. The differences between results found between the MANOVA and regression analyses could indicate issues with median split technique but could have also indicated that each dependent variable might have played significant parts in the MANOVAs, despite not being individually significant.

Measures of punitiveness also did not show typical MS effects as there was no increased demand for severity of punishment under MS. On the other hand, predicted recidivism was higher for participants in the MS group as compared to those in the DP group.

These results are interesting and seem to indicate a more prevalent role of Mortality Salience in this study than in Study 1. However, the exact meaning of these results could be understood in several ways. When interpreting the results of my analyses on the probability of guilt measure, one should consider that the case was piloted at 61.42% probability of guilt and thus the recurrent interaction effects seen between prime and professional group membership should be interpreted as MS causing a decrease in guilt ratings for those in the police investigator condition. One explanation for this effect might be that, unlike what seems to have happened in
Study 1, and contrary to what I predicted, taking on the role of a police investigator primed thoughts of fairness, made more salient by MS. This in turn might have made mock police investigators more attuned to exonerating information and led them to rate the suspect lower on probability of guilt. However, this does not fully explain the effects of professional group membership on ratings of the suspect. If participants were more attuned to exonerating information, why would this result in an increase in perceived similarity with the suspect?

Given the results of the analyses examining the effects of the race manipulation, it is clear that MS had an effect on participants’ assessments’ of the minority suspects (i.e., Black and Hispanic). Again, however, this was contingent on professional group membership, where asking participants to take on the role of a police investigator somehow made them rate minorities (but not White suspects) lower in probability of guilt under MS. It is true that most of my sample was White, and therefore this effect might be interpreted as an out-group effect, however the same three-way interaction was not significant when analyzing probability of guilt and taking into account strictly participants’ racial group membership (as was done in the first set of analyses).

Alternative explanations for the counter-intuitive findings of the police investigator group were explored by analyzing follow up questions. However, findings regarding participants’ motivation to solve the case and feelings about the feedback, although interesting did not provide an explanation for my results.
Chapter 17: General Discussion

Results from these studies provide limited support for the idea that thinking about one’s own death can affect a police investigation. In my first study, I wanted to determine whether thinking about death would increase mock police investigators’ negative reaction to an unfair outcome for a case they had investigated and if these negative emotions would then lead to increased confirmation bias in future investigations. Contrary to my main hypotheses, there were no effects at all for my MS manipulation. Participants who were asked to think about their own death did not show an increase of negative affect in response to an unfair outcome of the case they investigated when compared to those asked to think about going to the dentist. There was also limited evidence of increased confirmation bias when faced with an unfair outcome. I did find evidence of confirmation bias generally in response to my case – that had been piloted for the suspect to be found guilty, however the unfair outcome only increased the likelihood to search for any information, not specifically incriminating information. Finally, I had hypothesized that individuals’ BJW would moderate my MS effects, however BJW only interacted with my fairness manipulation showing that those high in BJW responded more positively to a fair outcome than those low in BJW. This finding supports the connection between dispositional BJW and differential reactions to outcome fairness, however the lack of interaction with MS sheds doubt on the role of dispositional BJW as a moderator for MS.

In my second study, I attempted to answer questions concerning the role of MS on out-group derogation (when considering one’s own race and professional group membership) and the use of the Black criminal stereotype when considering the suspect in an investigation. In this study, I did find effects for MS, however not in the hypothesized direction. Indeed, I had hypothesized that taking on the role of police investigator would create a group membership for
my participants who would then view all suspects as out-group members, more so than journalists. However, participants who acted as police investigators were generally less harsh toward the suspect and viewed him more positively than mock journalists did. Furthermore, there was no evidence of increased use of stereotypes as I had predicted. Race of the suspect did interact with the prime and professional group; however this interaction seemed to indicate harsher treatment of minorities for mock journalists under MS and less harsh treatment of minorities for mock police investigators under MS.

This counter-intuitive effect of the participants in the police investigator condition could be due to participants being primed with fairness within this context. They could have been taking on a “justice role” and as such be primed with consistent norms, promoting them to a higher extent under MS (see Gailliot et al., 2008; Jonas et al., 2008). This could explain why they would have judged suspects less harshly under MS and could be a potential explanation for their treatment of minority suspects. Participants might have been aware of the current climate of police-minority relations and want to remedy by taking on their role. Interestingly, however, this would mean that I would have primed fairness through my professional group membership manipulation in Study 2. This primed norm would have interacted with MS to produce effects on my probability of guilt dependent variable, where in Study 1 my fairness manipulation did not interact with MS.

My predictions regarding moderators in this study were also mostly not supported by the analyses. There were some effects of MS interacting with moderators. However, these effects were inconsistent and not perfectly aligned with my hypotheses. Self-esteem interacted with the prime showing increased derogation of the suspect, in general, but this was not contingent on the group membership of the suspect. This, again, might indicate that all participants were regarded
as out-group members. It is clear from this second study that MS interacted with several of the variables I predicted it would. However, these interactions were rarely in the direction expected, and the explanation for these effects has yet to be elucidated.

The reason for the difference of MS effects in Study 1 and 2 could be explained by the methodological adjustments made to the MS manipulation (removal of the DTA measure and adding a second distraction task) or the difference in dependent variables, as past research does show smaller effects of MS on affective measures compared to attitudinal measures (see Burke et al., 2010). Of note, Study 1 took place a month after the terrorist attacks in Paris and thus, this could have resulted in a general increase in DTA for both MS and DTA groups, as has been seen in past research (e.g., Das et al., 2009; Landau, Solomon, et al., 2004). However there is no way to know if the DTA scores in my study are particularly high as DTA scores vary widely between studies and there is no standardized measure of what is considered “high” or “low” DTA.

Because of the difference in dependent variables and rationale between my two studies, the lack of effect in Study 1 could be more than just due to methodological adjustments. It could also be an indication that the effects seen in previous research on TMT and fairness (e.g., van den Bos, 2001) could indeed be due to the confounding effects of being primed with uncertainty when contemplating one’s own death. The results of my first study could be seen as more support for the idea that the effects seen in past TMT research on reactions to unfairness were due to the concept of fairness being particularly important for people facing uncertainty specifically, but not death. Reviewing participants’ open-ended responses to the MS manipulation, not all participants evoked uncertainty when writing about death. Additionally, several participants in the DP condition referred to uncertainty when writing about going to the dentist. This overlap could have interfered with my ability to replicate previous findings. A
clearer distinction between the thoughts brought about by the control condition and thoughts of uncertainty might have been responsible for the past effects of MS on reactions to outcome fairness (see van den Bos et al., 2005).

**Limitations and Future Direction**

This body of work is a starting point for examining the effects of MS in police investigations. This research, of course, is not without flaws. As stated above, the lack of realism in the unfair condition in Study 1 could have been responsible for the lack of effects of MS, which would not be an issue if this research was conducted with real cases. Indeed, in reality, a police investigator would not question the realism of a case based on an unlikely outcome in court. For Study 2, participants were mostly community members asked to take on the role of a police investigator (or a journalist) and thus they would have acted in a way that they think a police investigator would act, which obviously might be different from the way that police investigators actually act. Some doubts have been raised about there being a true police personality (Balch, 1972) and research on law enforcement decision making using law enforcement samples has found similar effects as studies using lay people (e.g., Ask & Granhag, 2005; Correll et al., 2007). Thus the way police investigators behave and people think that they do might not be that different, however this has yet to be tested. There is however, some evidence for organizational socialization, during the police academy and over the years of working as a police officer, where motivation declines (e.g., van Maanen, 1975). It is possible that my participants acted as enthusiastic young idealistic police investigators motivated to seek out justice and primed with fairness which might have made them more conscientious in their assessment of the case facts, more careful in guarding against bias, and less likely to ascribe guilt, especially toward minorities.
The issues in these studies can be addressed in several ways. Taking on the role of police investigator did affect participants, and the effects of the role taken, although opposite of my predictions, were amplified by MS. The role of police investigator could have affected these participants’ responses by priming fairness norms, which would have been enhanced by MS (see Gailliot et al., 2008). Future research could seek to identify what norms taking on the role of police investigator primed, using a simpler design aimed at examining only MS and possible norms that playing the role of a police investigator could prime. A simpler design might also help understand the seemingly complex effects of race in this context. Furthermore, a more diverse sample might help to understand the racial group dynamics at play.

Simpler designs and more experimental control would be helpful to resolve the issues in my second study. On the other hand, issues with both studies (i.e., lack of realism of the unfair outcome in Study 1 and the potentially inaccurate conceptualization of the police investigator’s role in Study 2) underscore the importance of pursuing this research in more externally valid environments with more specialized populations (i.e., actual law enforcement officers). Although this would not allow for as much experimental control, it would be very interesting to consider how actual police investigators react to unfair outcomes in cases that they investigate, and how their identity as law enforcement influences their assessments of suspects and, of course, whether thinking about their own death affects these processes.

Taking into consideration actual law enforcement populations does raise the question of whether or not they would be subject to the effects of MS in the same way that civilians are. Indeed, if they are contemplating their own death at higher rates than other populations, law enforcement officers could be constantly subject to the effects of death priming. It is also possible that they could develop alternative coping mechanism such as dealing with death in a
rational manner – which decreases the typical effects of MS as predicted by TMT (e.g., Simon et al., 1997). Some research has shown similar effects of MS on active duty military as on general population (e.g., van den Berg & Soeters, 2009) however, there is limited research on this topic. Further, when considering law enforcement populations and how MS affects them, one would have to also take into account factors such as their role in the institution (i.e., beat cop, detective in homicide, detective in a white-collar crime division, etc.) and the relative dangerousness of the neighborhood they work in to assess the extent to which their job might increase their daily MS and change their reactions to death priming.

Concluding Remarks

This body of work is the first to examine Terror Management Theory in the context of decision making in police investigations, thus filling a gap in the literature. Ultimately, bringing these two literatures together could be used to create safeguards against the biasing effects of MS. Indeed, this type of work has the potential to identify a source of motivational bias (i.e., MS) likely to affect decision making, which is particularly important for law enforcement officers considering their work environment. Finding that the effects generally observed in TMT research are corroborated for investigative decision making could lead to a deeper understanding of the source of bias in context, and improved decision making for law enforcement. In turn, knowledge about how MS interacts with factors important to the law enforcement decision making process could then help create methods to prevent the influence of MS.

Nevertheless, it is also important to contemplate the utility of such an endeavor. If it is true that thoughts of death bias decision making in investigation, are the types of effects found in the literature (and even some found in this research, e.g., order of target rating) really important to consider? Would the situations set up in the present body of work arise in the real world? For instance, would the concept of a police investigator’s own in-group(s) be particularly salient
before he or she judges a suspect, and would this impression of the suspect in turn affect the investigator’s decision making about the case? These questions are important to consider when thinking about the value of applied research.

Regardless, it is difficult to imagine that sources of motivational bias, especially those like death priming, would not arise in law enforcement contexts, which are reputed to be particularly dangerous and likely to provoke thoughts of death. In fact, past TMT research has found effects of MS on a large amount of variables, beyond those considered in this dissertation (e.g., Burke et al., 2010). With this many different ways that thoughts of death could affect decision making, this type of research is invaluable and should be pursued beyond this dissertation.
Table 1

Correlation matrix for affect composites and individual affect ratings

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Positive affect</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Happy</td>
<td>.91*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Content</td>
<td>.90*</td>
<td>.72*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Satisfied</td>
<td>.91*</td>
<td>.77*</td>
<td>.85*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Proud</td>
<td>.85*</td>
<td>.77*</td>
<td>.65*</td>
<td>.62*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6. Negative affect</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Anger</td>
<td>-.52*</td>
<td>-.45*</td>
<td>-.54*</td>
<td>-.57*</td>
<td>-.27*</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>8. Fury</td>
<td>-.47*</td>
<td>-.41*</td>
<td>-.51*</td>
<td>-.53*</td>
<td>-.21*</td>
<td>.92*</td>
<td>.90*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Disappointment</td>
<td>-.67*</td>
<td>-.59*</td>
<td>-.66*</td>
<td>-.69*</td>
<td>-.42*</td>
<td>.87*</td>
<td>.81*</td>
<td>.76*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Guilt</td>
<td>-.05</td>
<td>-.01</td>
<td>-.07</td>
<td>-.09</td>
<td>.02</td>
<td>.61*</td>
<td>.46*</td>
<td>.42*</td>
<td>.31*</td>
<td></td>
</tr>
<tr>
<td>11. Sadness</td>
<td>-.45*</td>
<td>-.41*</td>
<td>-.46*</td>
<td>-.50*</td>
<td>-.22*</td>
<td>.86*</td>
<td>.76*</td>
<td>.77*</td>
<td>.71*</td>
<td>.36*</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.01 level (2-tailed).
Table 2

_Descriptives and comparisons of DTA measure and all word fragment between priming groups_

<table>
<thead>
<tr>
<th></th>
<th>Mortality Salience (MS)</th>
<th>Dental Pain (DP)</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 122</td>
<td>n = 116</td>
<td></td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td><strong>SD</strong></td>
<td><strong>Mean</strong></td>
<td><strong>SD</strong></td>
</tr>
<tr>
<td><strong>DTA</strong></td>
<td>1.32</td>
<td>1.30</td>
<td>1.60</td>
</tr>
<tr>
<td><strong>Buried</strong></td>
<td>0.79</td>
<td>0.74</td>
<td>0.83</td>
</tr>
<tr>
<td><strong>Dead</strong></td>
<td>0.32</td>
<td>0.34</td>
<td>-0.41</td>
</tr>
<tr>
<td><strong>Grave</strong></td>
<td>0.03</td>
<td>0.08</td>
<td>-1.51</td>
</tr>
<tr>
<td><strong>Corpse</strong></td>
<td>0.16</td>
<td>0.11</td>
<td>1.16</td>
</tr>
<tr>
<td><strong>Coffin</strong></td>
<td>0.02</td>
<td>0.03</td>
<td>-0.51</td>
</tr>
</tbody>
</table>

*Note. For these tests, Levene's test for equality of variances was significant, thus equal variances was not assumed*
Table 3

*Descriptives for composites and individual emotions, overall (n = 238)*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>4.49</td>
<td>2.30</td>
</tr>
<tr>
<td>Happy</td>
<td>4.21</td>
<td>2.44</td>
</tr>
<tr>
<td>Content</td>
<td>5.13</td>
<td>2.57</td>
</tr>
<tr>
<td>Satisfied</td>
<td>4.88</td>
<td>2.79</td>
</tr>
<tr>
<td>Proud</td>
<td>3.76</td>
<td>2.50</td>
</tr>
<tr>
<td>Negative</td>
<td>3.54</td>
<td>2.12</td>
</tr>
<tr>
<td>Angry</td>
<td>3.50</td>
<td>2.43</td>
</tr>
<tr>
<td>Furious</td>
<td>3.33</td>
<td>2.48</td>
</tr>
<tr>
<td>Disappointed</td>
<td>4.21</td>
<td>2.81</td>
</tr>
<tr>
<td>Sad</td>
<td>3.64</td>
<td>2.43</td>
</tr>
<tr>
<td>Guilty</td>
<td>3.03</td>
<td>2.54</td>
</tr>
</tbody>
</table>

*Note.* Higher values indicate higher levels of each dependent variable.
Table 4

*Descriptives for composites broken down by condition*

<table>
<thead>
<tr>
<th></th>
<th>Mortality Salience (MS)</th>
<th>Dental Pain (DP)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fair (n = 62)</td>
<td>Unfair (n = 60)</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Positive affect</td>
<td>6.14</td>
<td>1.85</td>
</tr>
<tr>
<td>Negative affect</td>
<td>2.57</td>
<td>1.73</td>
</tr>
</tbody>
</table>
Table 5

*Correlation matrix for affect composites, evidence ratings, and confidence in verdict*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Affect composite</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Negative affect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Positive affect</td>
<td></td>
<td></td>
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*Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).*
Table 6

*Descriptives of ratings of the utility of pursuing different evidence types broken down by condition*

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Descriptives of negative affect composite broken down by condition and Belief in a Just World

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Table 8

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Table 9

*Descriptives for Study 1 follow up questions, broken down by condition*

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Table 10

*Descriptives for perceived racial identity of names, broken down by stereotypically Black, Hispanic, and White names*

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Table 11

*Descriptives for perceived characteristics of names, broken down by stereotypically Black, Hispanic, and White names*

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<td>Ian</td>
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<td>0.92</td>
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<td>Hank</td>
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<td>158</td>
<td>3.92</td>
<td>1.32</td>
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Table 12

*Correlation matrix for impressions of suspects (n = 339)*

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<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
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<td></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>2. Likeable</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3. Intelligent</td>
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<td>.55**</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>4. Successful</td>
<td>.43**</td>
<td>.49**</td>
<td>.43**</td>
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<td></td>
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<td>5. Wealthy</td>
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<td>.32**</td>
<td>.26**</td>
<td>.65**</td>
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<td></td>
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<td></td>
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<td>6. Dangerous</td>
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<td>-.46**</td>
<td>-.18**</td>
<td>-.19**</td>
<td>-0.09</td>
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<td></td>
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<td>.14*</td>
<td>.22**</td>
<td>.25**</td>
<td>-.14*</td>
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<tr>
<td>8. Violent</td>
<td>-.59**</td>
<td>-.45**</td>
<td>-.18**</td>
<td>-.18**</td>
<td>-0.08</td>
<td>.90**</td>
<td>.14*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Bad</td>
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<td>-.44**</td>
<td>-.25**</td>
<td>-.21**</td>
<td>-0.11</td>
<td>.80**</td>
<td>-.13*</td>
<td>.83**</td>
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<td>10. Stand up</td>
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<td>.54**</td>
<td>.31**</td>
<td>.30**</td>
<td>.25**</td>
<td>-.55**</td>
<td>.31**</td>
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<td>-.51**</td>
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<td>11. Identify</td>
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<td>.35**</td>
<td>.32**</td>
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<td>.21**</td>
<td>-.30**</td>
<td>-.26**</td>
<td>.62**</td>
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<td>12. Similar</td>
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<td>.43**</td>
<td>.29**</td>
<td>.36**</td>
<td>.33**</td>
<td>-.31**</td>
<td>.20**</td>
<td>-.29**</td>
<td>-.26**</td>
<td>.56**</td>
<td>.91**</td>
</tr>
</tbody>
</table>

*Note.* *Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).*
Table 13

*Rotated component matrix for impressions of suspects*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Negative characteristics</th>
<th>Positive characteristics</th>
<th>Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Honest</td>
<td>0.61</td>
<td>0.52</td>
<td>0.32</td>
</tr>
<tr>
<td>2. Likeable</td>
<td>0.46</td>
<td>0.62</td>
<td>0.26</td>
</tr>
<tr>
<td>3. Intelligent</td>
<td>0.19</td>
<td>0.66</td>
<td>0.09</td>
</tr>
<tr>
<td>4. Successful</td>
<td>0.06</td>
<td>0.84</td>
<td>0.13</td>
</tr>
<tr>
<td>5. Wealthy</td>
<td>-0.07</td>
<td>0.76</td>
<td>0.16</td>
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<tr>
<td>6. Dangerous</td>
<td>0.92</td>
<td>0.07</td>
<td>0.16</td>
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<tr>
<td>7. Vulnerable</td>
<td>0.10</td>
<td>0.39</td>
<td>0.17</td>
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<tr>
<td>8. Violent</td>
<td>0.93</td>
<td>0.06</td>
<td>0.14</td>
</tr>
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<td>9. Bad</td>
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<td>0.08</td>
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<td>10. Stand up</td>
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<td>0.27</td>
<td>0.58</td>
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<tr>
<td>11. Identify</td>
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<td>0.24</td>
<td>0.92</td>
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<tr>
<td>12. Similar</td>
<td>0.14</td>
<td>0.24</td>
<td>0.91</td>
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</table>

*Note.* Extraction method: Principal component analysis. Rotation Method: Varimax with Kaiser normalization.
Table 14

Descriptives for probability of guilt and legal decision making composite broken down by prime, professional group membership and racial group membership

<table>
<thead>
<tr>
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<th>Mortality Salience (MS)</th>
<th></th>
<th>Dental Pain (DP)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Police investigator</td>
<td>Journalist</td>
<td></td>
</tr>
<tr>
<td>Probability of guilt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-group</td>
<td>43</td>
<td>53</td>
<td></td>
</tr>
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<td>48.58</td>
<td>60.87</td>
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<tr>
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<td>24.39</td>
<td>24.19</td>
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<tr>
<td>Total</td>
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<td>53</td>
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<tr>
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<td>5.23</td>
<td>5.25</td>
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<td>5.47</td>
<td>4.93</td>
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<td>2.16</td>
<td>1.96</td>
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<tr>
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</tr>
<tr>
<td></td>
<td>4.65</td>
<td>5.33</td>
<td>5.11</td>
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<td>2.27</td>
<td>2.16</td>
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Table 15

*Descriptives for ratings of the suspect broken down by condition*

<table>
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<th>Condition</th>
<th>Positive characteristics</th>
<th>Negative characteristics</th>
<th>Level of identification</th>
<th>Mortality Salience (MS)</th>
<th>Dental Pain (DP)</th>
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<tr>
<td></td>
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<td>Police investigator</td>
<td>Journalist</td>
<td>Police investigator</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
<td>SD</td>
<td>n</td>
<td>Mean</td>
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<tr>
<td>Out-group</td>
<td>43</td>
<td>3.13</td>
<td>1.17</td>
<td>53</td>
<td>2.97</td>
</tr>
<tr>
<td>In-group</td>
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<td>2.95</td>
<td>1.28</td>
<td>38</td>
<td>3.15</td>
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<tr>
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<td>3.05</td>
<td>1.22</td>
<td>91</td>
<td>3.05</td>
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<tr>
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<td>53</td>
<td>5.42</td>
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<td>4.97</td>
<td>2.10</td>
<td>38</td>
<td>5.93</td>
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<tr>
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<td>82</td>
<td>4.67</td>
<td>2.20</td>
<td>91</td>
<td>5.63</td>
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<tr>
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<td>1.67</td>
<td>53</td>
<td>2.38</td>
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<td>2.78</td>
<td>1.59</td>
<td>38</td>
<td>2.79</td>
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<tr>
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<td>1.63</td>
<td>91</td>
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Table 16

Descriptives for culpability measures broken down by race of suspect

<table>
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<th>Dental Pain (DP)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td>Probability of guilt</td>
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<td></td>
</tr>
<tr>
<td>Black</td>
<td>19</td>
<td>49.16</td>
<td>21.99</td>
<td>32</td>
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<tr>
<td>Hispanic</td>
<td>27</td>
<td>47.93</td>
<td>27.71</td>
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<td>White</td>
<td>36</td>
<td>54.25</td>
<td>24.80</td>
<td>39</td>
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<td>Total</td>
<td>82</td>
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<td>25.07</td>
<td>91</td>
</tr>
<tr>
<td>Legal decision making composite</td>
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<td></td>
</tr>
<tr>
<td>Black</td>
<td>19</td>
<td>4.91</td>
<td>1.46</td>
<td>32</td>
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<tr>
<td>Hispanic</td>
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<td>4.23</td>
<td>2.46</td>
<td>20</td>
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<td>White</td>
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<td>4.81</td>
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<td>2.18</td>
<td>91</td>
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Table 17

_Correlation matrix for impressions of suspects (n = 339)_

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<tr>
<td>2. Negative impression</td>
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</tr>
<tr>
<td>3. Perceived similarity to suspect</td>
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<td>-0.45**</td>
</tr>
</tbody>
</table>

*Note.* **Correlation is significant at the 0.01 level (2-tailed).**
Table 18

Descriptives for ratings of suspect's positive characteristics broken down by conditions and participants' self-esteem levels

<table>
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<th>Mortality Salience (MS)</th>
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<th>Dental Pain (DP)</th>
<th></th>
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</thead>
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<td></td>
<td>Police investigator</td>
<td>Journalist</td>
<td>Police investigator</td>
<td>Journalist</td>
</tr>
<tr>
<td>n</td>
<td>Mean</td>
<td>SD</td>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>Participants with high self-esteem</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-group suspect</td>
<td>23</td>
<td>3.30</td>
<td>1.24</td>
<td>24</td>
</tr>
<tr>
<td>In-group suspect</td>
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<td>3.26</td>
<td>1.22</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>3.28</td>
<td>1.21</td>
<td>42</td>
</tr>
<tr>
<td>Participants with low self-esteem</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-group suspect</td>
<td>20</td>
<td>2.95</td>
<td>1.09</td>
<td>29</td>
</tr>
<tr>
<td>In-group suspect</td>
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<td>2.54</td>
<td>1.28</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
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<td>2.76</td>
<td>1.18</td>
<td>49</td>
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</table>


Table 19

Descriptives for ratings of suspect's negative characteristics broken down by conditions and participants' self-esteem levels

<table>
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<th>Mortality Salience (MS)</th>
<th></th>
<th>Dental Pain (DP)</th>
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</tr>
</thead>
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<tr>
<td></td>
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<td>Journalist</td>
<td>Police investigator</td>
<td>Journalist</td>
</tr>
<tr>
<td></td>
<td>$n$</td>
<td>Mean</td>
<td>SD</td>
<td>$n$</td>
</tr>
<tr>
<td><strong>Participants with high self-esteem</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-group suspect</td>
<td>23</td>
<td>4.23</td>
<td>2.15</td>
<td>24</td>
</tr>
<tr>
<td>In-group suspect</td>
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<td>Total</td>
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<td>4.42</td>
<td>2.01</td>
<td>42</td>
</tr>
<tr>
<td><strong>Participants with low self-esteem</strong></td>
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<td>Out-group suspect</td>
<td>20</td>
<td>4.62</td>
<td>2.45</td>
<td>29</td>
</tr>
<tr>
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<td>5.41</td>
<td>2.34</td>
<td>20</td>
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<tr>
<td>Total</td>
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<td>2.40</td>
<td>49</td>
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</table>
### Table 20

*Descriptives for ratings of perceived similarity to the suspect broken down by conditions and participants' self-esteem levels*

<table>
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<th>Mortality Salience (MS)</th>
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<th>Dental Pain (DP)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Police investigator</td>
<td>Journalist</td>
<td>Police investigator</td>
<td>Journalist</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td><strong>Participants with high self-esteem</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-group suspect</td>
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<td>3.43</td>
<td>1.79</td>
<td>24</td>
</tr>
<tr>
<td>In-group suspect</td>
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<td>2.98</td>
<td>1.43</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>3.21</td>
<td>1.62</td>
<td>42</td>
</tr>
<tr>
<td><strong>Participants with low self-esteem</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-group suspect</td>
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<td>2.65</td>
<td>1.44</td>
<td>29</td>
</tr>
<tr>
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<td>2.51</td>
<td>1.78</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
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<td>2.59</td>
<td>1.59</td>
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</tbody>
</table>
Table 21

Descriptives for ratings of positive characteristics broken down by conditions, level of professional group identification, and order of presentation

<table>
<thead>
<tr>
<th></th>
<th>Mortality Salience (MS)</th>
<th></th>
<th>Dental Pain (DP)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Police investigator</td>
<td>Journalist</td>
<td>Police investigator</td>
<td>Journalist</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
<td>SD</td>
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<tr>
<td>Participants with high professional group identification</td>
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<td></td>
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<tr>
<td>Suspect rated first</td>
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<td>1.15</td>
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<td>1.22</td>
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<tr>
<td>Participants with low professional group identification</td>
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<td></td>
</tr>
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<td>2.64</td>
<td>1.06</td>
<td>10</td>
</tr>
<tr>
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<td>7</td>
<td>3.91</td>
<td>1.06</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>3.16</td>
<td>1.21</td>
<td>24</td>
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</table>
Table 2

Descriptives for ratings of negative characteristics broken down by conditions, level of professional group identification, and order of presentation

<table>
<thead>
<tr>
<th></th>
<th>Mortality Salience (MS)</th>
<th>Dental Pain (DP)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Police investigator</td>
<td>Journalist</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
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<tr>
<td>Participants with high professional group identification</td>
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<td></td>
</tr>
<tr>
<td>Suspect rated first</td>
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<td>6.56</td>
</tr>
<tr>
<td>Suspect rated second</td>
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<td>4.48</td>
</tr>
<tr>
<td>Total</td>
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<td>5.57</td>
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<tr>
<td>Participants with low professional group identification</td>
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<td></td>
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<td>Suspect rated first</td>
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<td>3.50</td>
</tr>
<tr>
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<tr>
<td>Total</td>
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Table 23

Descriptives for perceived similarity to the suspect broken down by conditions, level of professional group identification, and order of presentation

<table>
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<th>Condition</th>
<th>Mean (SD)</th>
<th>n</th>
<th>Condition</th>
<th>Mean (SD)</th>
<th>n</th>
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</thead>
<tbody>
<tr>
<td>Suspect rated first</td>
<td>Mortality Salience (MS)</td>
<td>Police investigator</td>
<td>1.81 (0.86)</td>
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<td>Journalist</td>
</tr>
<tr>
<td></td>
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<td>Police investigator</td>
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<td>Journalist</td>
</tr>
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<td>Mortality Salience (MS)</td>
<td>Police investigator</td>
<td>2.79 (1.71)</td>
<td>11</td>
<td>Journalist</td>
</tr>
<tr>
<td></td>
<td>Dental Pain (DP)</td>
<td>Police investigator</td>
<td>2.78 (1.64)</td>
<td>17</td>
<td>Journalist</td>
</tr>
<tr>
<td>Total</td>
<td>Mortality Salience (MS)</td>
<td>Police investigator</td>
<td>2.28 (1.40)</td>
<td>23</td>
<td>Journalist</td>
</tr>
<tr>
<td></td>
<td>Dental Pain (DP)</td>
<td>Police investigator</td>
<td>2.69 (1.50)</td>
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<td>Journalist</td>
</tr>
<tr>
<td>Suspect rated first</td>
<td>Mortality Salience (MS)</td>
<td>Police investigator</td>
<td>3.07 (1.15)</td>
<td>10</td>
<td>Journalist</td>
</tr>
<tr>
<td></td>
<td>Dental Pain (DP)</td>
<td>Police investigator</td>
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<td>9</td>
<td>Journalist</td>
</tr>
<tr>
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<td>Police investigator</td>
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<td>Journalist</td>
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<td></td>
<td>Dental Pain (DP)</td>
<td>Police investigator</td>
<td>2.89 (2.07)</td>
<td>9</td>
<td>Journalist</td>
</tr>
<tr>
<td>Total</td>
<td>Mortality Salience (MS)</td>
<td>Police investigator</td>
<td>3.45 (1.67)</td>
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<td>Journalist</td>
</tr>
<tr>
<td></td>
<td>Dental Pain (DP)</td>
<td>Police investigator</td>
<td>2.89 (1.62)</td>
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Table 24

Descriptives for ratings of suspect's positive characteristics broken down by prime, racial group, level of racial group identification, and order of presentation

<table>
<thead>
<tr>
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<th>Mortality Salience (MS)</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In-group suspect</td>
<td>Out-group suspect</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>Participants with high racial group identification</td>
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<td></td>
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<tr>
<td>Suspect rated first</td>
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<td>3.84</td>
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<td>Suspect rated second</td>
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<td>2.56</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>2.96</td>
</tr>
<tr>
<td>Participants with low racial group identification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspect rated first</td>
<td>10</td>
<td>2.64</td>
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<td>11</td>
<td>3.64</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>3.16</td>
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Table 25

Descriptives for ratings of suspect's negative characteristics broken down by prime, racial group, level of racial group identification, and order of presentation

<table>
<thead>
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<th></th>
<th>Mortality Salience (MS)</th>
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<th>Dental Pain (DP)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In-group suspect</td>
<td>Out-group suspect</td>
<td>In-group suspect</td>
<td>Out-group suspect</td>
</tr>
<tr>
<td></td>
<td>$n$</td>
<td>$Mean$</td>
<td>$SD$</td>
<td>$n$</td>
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<td><strong>Participants with high racial group identification</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Suspect rated first</td>
<td>5</td>
<td>6.13</td>
<td>1.99</td>
<td>5</td>
</tr>
<tr>
<td>Suspect rated second</td>
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<td>5.82</td>
<td>2.81</td>
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<tr>
<td>Total</td>
<td>16</td>
<td>5.92</td>
<td>2.52</td>
<td>19</td>
</tr>
<tr>
<td><strong>Participants with low racial group identification</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspect rated first</td>
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<td>5.20</td>
<td>1.74</td>
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<td>Suspect rated second</td>
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<td>5.03</td>
<td>1.19</td>
<td>11</td>
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<tr>
<td>Total</td>
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<td>5.11</td>
<td>1.44</td>
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Table 26

Descriptives for ratings of suspect's perceived similarity with the suspect broken down by prime, racial group, level of racial group identification, and order of presentation

<table>
<thead>
<tr>
<th></th>
<th>Mortality Salience (MS)</th>
<th>Dental Pain (DP)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In-group suspect</td>
<td>Out-group suspect</td>
</tr>
<tr>
<td></td>
<td>n  Mean  SD</td>
<td>n  Mean  SD</td>
</tr>
<tr>
<td><strong>Participants with high racial group identification</strong></td>
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<td></td>
</tr>
<tr>
<td>Suspect rated first</td>
<td>5  3.87  2.12</td>
<td>5  1.47  0.73</td>
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<td>11  2.91  1.89</td>
<td>14  3.62  1.88</td>
</tr>
<tr>
<td>Total</td>
<td>16  3.21  1.95</td>
<td>19  3.05  1.90</td>
</tr>
<tr>
<td><strong>Participants with low racial group identification</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspect rated first</td>
<td>10  2.30  1.45</td>
<td>16  2.19  1.31</td>
</tr>
<tr>
<td>Suspect rated second</td>
<td>11  3.45  1.74</td>
<td>11  2.91  1.43</td>
</tr>
<tr>
<td>Total</td>
<td>21  2.90  1.68</td>
<td>27  2.48  1.38</td>
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</table>
### Descriptives for punitiveness and recidivism broken down by condition

<table>
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<th>Dental Pain (DP)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Police investigator</td>
<td>Journalist</td>
<td>Police investigator</td>
<td>Journalist</td>
</tr>
<tr>
<td></td>
<td>n  Mean     SD</td>
<td>n  Mean     SD</td>
<td>n  Mean     SD</td>
<td>n  Mean     SD</td>
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<td><strong>Punitiveness</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-group</td>
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<td>52  5.40  1.21</td>
<td>40  4.98  1.25</td>
</tr>
<tr>
<td>In-group</td>
<td>39  5.18  1.05</td>
<td>38  5.55  1.18</td>
<td>38  5.63  1.08</td>
<td>36  5.25  1.54</td>
</tr>
<tr>
<td>Total</td>
<td>82  5.29  1.19</td>
<td>91  5.38  1.25</td>
<td>90  5.50  1.15</td>
<td>76  5.11  1.39</td>
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<td><strong>Predicted receidivism</strong></td>
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<td></td>
<td></td>
<td></td>
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<tr>
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<td>53  2.60  1.34</td>
<td>52  2.43  1.01</td>
<td>40  2.84  1.59</td>
</tr>
<tr>
<td>In-group</td>
<td>39  3.35  1.40</td>
<td>38  2.83  1.48</td>
<td>38  2.62  1.45</td>
<td>36  2.49  1.23</td>
</tr>
<tr>
<td>Total</td>
<td>82  3.15  1.54</td>
<td>91  2.70  1.39</td>
<td>90  2.51  1.22</td>
<td>76  2.67  1.43</td>
</tr>
</tbody>
</table>
Table 28

Descriptives for Study 2 follow up questions broken down by condition

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<td>Journalist</td>
</tr>
<tr>
<td>n</td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td>Perceived case realism</td>
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</tr>
<tr>
<td>Black</td>
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<td>32</td>
</tr>
<tr>
<td>Hispanic</td>
<td>27</td>
<td>20</td>
</tr>
<tr>
<td>White</td>
<td>36</td>
<td>39</td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
<td>91</td>
</tr>
<tr>
<td>Motivation to solve case</td>
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<tr>
<td>Hispanic</td>
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<td>20</td>
</tr>
<tr>
<td>White</td>
<td>36</td>
<td>39</td>
</tr>
<tr>
<td>Total</td>
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<td>91</td>
</tr>
<tr>
<td>Ratings of feedback accuracy</td>
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<td>32</td>
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<tr>
<td>Hispanic</td>
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<td>20</td>
</tr>
<tr>
<td>White</td>
<td>36</td>
<td>39</td>
</tr>
<tr>
<td>Total</td>
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<td>91</td>
</tr>
<tr>
<td>Reaction to feedback</td>
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<tr>
<td>Hispanic</td>
<td>27</td>
<td>20</td>
</tr>
<tr>
<td>White</td>
<td>36</td>
<td>39</td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
<td>91</td>
</tr>
</tbody>
</table>
Figure 1. Graph of predicted main effect of case outcome and interaction between prime and case outcome on affective reactions to the outcome of the case, in Study 1.
Figure 2. Graph of predicted three-way interaction for Study 2 between prime, group membership, and racial group membership on measures of derogation of the suspect.
Figure 3. Graph of the predicted two-way interaction for Study 2 between prime and race of the suspect on judgment of guilt.
Figure 4. Graph of the three-way interaction found in Study 2 between prime, suspect race, and professional group membership on probability of guilt.
Figure 5. Graph of the four-way interaction found in Study 2 between prime, order of presentation, level of professional identification, and professional group membership on negative impressions of the suspect.

Note. Shared superscripts indicate significant differences at $p < .05$
Figure 6. Graph of the three-way interaction found in Study 2 between racial group membership, order of presentation, and level of professional identification on positive impressions of the suspect.
Figure 7. Graph of the three-way interaction found in Study 2 between racial group membership, order of presentation, and level of professional identification on perceived similarity to the suspect.

Note. Shared superscripts indicate significant differences at $p < .05$. 

Out-group

<table>
<thead>
<tr>
<th>Suspect first</th>
<th>Suspect second</th>
</tr>
</thead>
<tbody>
<tr>
<td>High ID</td>
<td>Low ID</td>
</tr>
<tr>
<td>1.48</td>
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</tr>
<tr>
<td>2.68</td>
<td>3.1</td>
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In-group

<table>
<thead>
<tr>
<th>Suspect first</th>
<th>Suspect second</th>
</tr>
</thead>
<tbody>
<tr>
<td>High ID</td>
<td>Low ID</td>
</tr>
<tr>
<td>2.95</td>
<td>3.42</td>
</tr>
<tr>
<td>2.51</td>
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</tbody>
</table>

Figure 7. Graph of the three-way interaction found in Study 2 between racial group membership, order of presentation, and level of professional identification on perceived similarity to the suspect.
APPENDIX A. Bogus Personality Assessment

EPQR-A questionnaire (Francis, Brown, & Philipchalk, 1992)

Please select Yes or No to answer each question about yourself in general.

1. Does your mood often go up and down? **
2. Are you a talkative person?
3. Would being in debt worry you? **
4. Are you rather lively?
5. Were you ever greedy by helping yourself to more than your share of anything?
6. Would you take drugs which may have strange or dangerous effects?
7. Have you ever blamed someone for doing something you knew was really your fault? **
8. Do you always practice what you preach? **
9. Do you prefer to go your own way rather than act by the rules? **
10. Do you often feel ‘fed-up’? **
11. Have you ever taken anything (even a pin or button) that belonged to someone else?
12. Would you call yourself a nervous person?
13. Do you think marriage is old-fashioned and should be done away with? **
14. Can you easily get some life into a rather dull party?
15. Are you a worrier?
16. Do you tend to keep in the background on social occasions? **
17. Does it worry you if you know there are mistakes in your work?
18. Have you ever cheated at a game?
19. Do you suffer from ‘nerves’?
20. Have you ever taken advantage of someone? **
21. Are you mostly quiet when you are with other people? **
22. Do you often feel lonely?
23. Is it better to follow society’s rules than go your own way?
24. Do other people think of you as being very lively? **

Belief in a Just World Scale (Dalbert, Montada, & Schmitt, 1987)

Please indicate whether you agree or disagree with the following statements by choosing the item on the scale corresponding to your belief.

1. I am confident that justice always prevails over injustice.
2. I firmly believe that injustices in all areas of life (e.g., professional, family, politics) are the exception rather than the rule.
3. I think that people try to be fair when making important decisions.
4. I am convinced in the long run people will be compensated for injustices.
5. I believe that, by and large, people get what they fairly deserve.
6. I think basically the world is a just place.

5 Questions that were included in Study 1 are marked **. All questions were included in Study 2.
6 Participants responded on a 7-point scale from “totally disagree” to “totally agree”
OCEAN questionnaire (McCrae & Costa, 1987)

Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age\(^7\).

1. I am the life of the party **
2. I feel little concern for others **
3. I am always prepared **
4. I get stressed out easily **
5. I have a rich vocabulary
6. I don't talk a lot **
7. I am interested in people **
8. I leave my belongings around **
9. I am relaxed most of the time **
10. I have difficulty understanding abstract ideas **
11. I feel comfortable around people **
12. I insult people
13. I pay attention to details **
14. I worry about things **
15. I have a vivid imagination **
16. I keep in the background
17. I sympathize with others' feelings
18. I make a mess of things
19. I seldom feel blue
20. I am not interested in abstract ideas
21. I start conversations
22. I am not interested in other people's problems
23. I get chores done right away
24. I am easily disturbed
25. I have excellent ideas **
26. I have little to say
27. I have a soft heart
28. I often forget to put things back in their proper place
29. I get upset easily
30. I do not have a good imagination

\(^7\) Participants responded on a 5-point scale from “very accurate” to “very inaccurate”
**Priming manipulation**

The Projective Life Attitudes Assessment

This assessment is a recently developed, innovative personality assessment. Recent research suggests that feelings and attitudes about significant aspects of life tell us a considerable amount about the individual’s personality. Your responses to this survey will be content-analyzed in order to assess certain dimensions of your personality. Your honest responses to the following questions will be appreciated.

1. Please briefly describe the emotions that the thought of [your own death/going to the dentist] arouses in you.

2. Jot down, as specifically as you can, what you think will happen to you as you physically [die/go to the dentist] and once you are physically [dead/at the dentist].

**Word search distraction task**

Find and write down 6 words in this puzzle that have more than 3 letters. The words can be in any direction.

```
S R E T U P M O C O
W P H O N E R E E B
A M U S I C P Z S N
B T N R O T C A S K
B M R K S E D E A O
R F O A G O L B R O
E L G V I Z B O G B
P A N U I N E L W Q
A G T A B E T G D O
P S C H O O L N I T
```
Word stem completion task (Manipulation check for the MS manipulation)

Please complete the following by filling letters in the blanks to create words. Please fill in the blanks with the first word that comes to mind, as fast as you can. If you cannot think of a word, move on to the next word. Some words may be plural.

1. BUR _ _ D (buried)  
2. PL _ _  
3. _ _ OK  
4. WAT _ _  
5. DE _ _ (dead)  
6. MU _ _  
7. _ _ NG  
8. B _ T _ LE  
9. M _ J _ R  
10. P _ _ TURE  
11. FL _ W _ R  
12. GRA _ _ (grave)  
13. K _ _ GS  
14. CHA _ _  
15. CO _ _ SE  
16. TAB _ _  
17. W _ _ DOW  
18. TR _ _  
19. P _ P _ R  
20. COFF _ _ (coffin)  
21. _ O _ SE  
22. POST _ _  
23. R _ DI _
APPENDIX B. Study 1 – Case File

The personality portion of the survey is now over.

You are now going to read the case file for a police investigation of an armed robbery case. All names in this case have been removed for anonymity purposes. Suspect #1 is referred to as M.

While reading through the materials, please imagine that you are the lead investigator in this case. You responded to the initial call with your partner, Officer Young. You are responsible for making the decisions in the investigation and you are responsible for the outcome of this case.

The materials you are about to read are what you have collected so far.

Please review the pages carefully, as the website does not permit you to go back to previously viewed pages.

As you review the case, feel free to take notes to help with your investigation.
# NEW YORK CITY POLICE DEPARTMENT
## INCIDENT/OFFENSE REPORT

<table>
<thead>
<tr>
<th>CR #</th>
<th>Type of Offense(s)</th>
<th>Code or Statute</th>
<th>Reporting Officer</th>
<th>Asst. Officer</th>
<th>Transport, Offr.</th>
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</thead>
<tbody>
<tr>
<td>06-9754</td>
<td>Armed Robbery</td>
<td></td>
<td></td>
<td>D. Young</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Occurred From:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 / 16 / 09</td>
<td></td>
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<table>
<thead>
<tr>
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<th>Occurred To:</th>
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<tbody>
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<td></td>
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<thead>
<tr>
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<table>
<thead>
<tr>
<th>Exact Location of Crime:</th>
<th>Tabulation (Office use city)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Area:</td>
</tr>
</tbody>
</table>

| LOCATION CODE |
|---------------|----------------|
| 1. Air/Bus/Train | 8. Department/Discount Store |
| 3. Bar/Night Club | 10. Field/Words |
| 4. Church/Synagogue | 11. Government/Public Building |
| 6. Construction Site | 13. Highway/Road/Alley |
| 7. Convenience Store | 14. Hospital/Hotel |
| 21. Restaurant | PHONE#: Home ( ) |

<table>
<thead>
<tr>
<th>Name of Victim(s)</th>
<th>PHONE#: Home ( )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Victim's Address:</th>
<th></th>
</tr>
</thead>
</table>

| CITY: New York | STATE: NY | ZIP: 10017 |
### SUSPECT INFORMATION

<table>
<thead>
<tr>
<th>NAME:</th>
<th>PHONE # Home</th>
<th>PHONE # Work</th>
<th>ADDRESS:</th>
<th>CITY: Brooklyn</th>
<th>STATE: NY</th>
<th>ZIP: 11221</th>
<th>ALIAS:</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### STATUS CODE:

### DESCRIPTION CODE
- 01 Alcohol
- 02 Computer
- 03 Firearms
- 10 Heavy Equipment
- 11 Household Goods
- 12 Jewelry/Precious Metals
- 13 Merchandise
- 14 Money
- 15 Office Equipment
- 16 Small Electronic
- 17 Structure
- 18 Tools/Powers/
- 19 Trucks
- 20 Vehicle Parts/Accessories
- 21 88-Pending Inventory
- 22 90-Special Category
- 99 Other

### STATUS

<table>
<thead>
<tr>
<th>STATUS</th>
<th>Desc. #</th>
<th>QTY</th>
<th>Serial #</th>
<th>Brand/Name</th>
<th>Model/Name</th>
<th>Size, Kind, Etc.</th>
<th>Color</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>01</td>
<td>14</td>
<td>400</td>
<td>N/A</td>
<td>N/A</td>
<td>Cash</td>
<td></td>
<td>$400</td>
<td></td>
</tr>
<tr>
<td>01</td>
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<td>Laptop</td>
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<tr>
<td>01</td>
<td>16</td>
<td>1</td>
<td>LG</td>
<td>Classic</td>
<td>Cell phone</td>
<td>Blue</td>
<td>$150</td>
<td></td>
</tr>
</tbody>
</table>

### NARRATIVE/ACTION TAKEN

On Thursday, June 18th at 3:15PM, Officer Young and I were dispatched to [redacted] Street in reference to a reported robbery. Upon arrival at the address, we spoke to the occupant, [redacted], a 23 year old female. She stated that around 1:00PM a masked and gloved male kicked in the door and entered her apartment. He pointed a gun at her head and yelled "Where's the money?" before forcing her to the ground. He kicked her in the stomach and head several times. He told her to keep her head down and stay down, unless she wanted more. She stated that the perpetrator used duct tape to restrain her and cover her mouth. She didn't move while he heard him ransack her apartment for about 5 minutes.
Once she was sure that he was gone, [redacted] struggled out of the duct tape and called 911. [redacted] stated that the perpetrator had left with approximately $400 in cash from her purse, her cell phone, and brand new laptop computer. She identified [redacted] as the perpetrator.

He used to be her neighbor, and she had known and casually socialized with him for about 3 years. She stated that she recognized [redacted]'s voice when he threatened her, before he forced her to the ground. Although [redacted] was not able to see the perpetrator’s entire face, she did see his skin tone when he lifted his mask slightly to cool down. She said that the perpetrator’s skin tone, build, size and height matched that of [redacted].

After her statement was provided, [redacted] was transported to the closest hospital and treated for traumatic brain injury that she suffered from the perpetrator kicking her in the head.

Officer Young and I searched the apartment and surroundings and discovered pieces of duct tape on the front porch of [redacted]'s apartment and a black ski mask and gloves on the sidewalk outside, to the east. Neither the duct tape nor the gloves contained latent fingerprints, bodily fluids or hair and were sent to the evidence room for processing and storage. Hairs were found inside the ski mask and it was placed in a sealed and brown paper envelop at the scene and transported to the crime laboratory.

**ADDENDUM:**

On Friday, June 19th at approximately 1:00PM, Officer Young and I visited the residence of [redacted]. He agreed to return to the station to provide a sample of his DNA for testing. At the station, [redacted]'s cheek was swabbed for DNA. The cheek swab was placed in a sealed sterile brown paper envelop and transported to the laboratory for DNA testing.

When questioned about the crime, [redacted] denied his involvement in the robbery. He said that he had borrowed his sister’s car on the morning of the robbery to attend a class at an unemployment center. He then visited his aunt with two of his cousins, on the other side of town.

[redacted]'s sister and both of his cousins corroborated this alibi when they were contacted (see witness statements on page #3)
<table>
<thead>
<tr>
<th>Reporting Officer:</th>
<th>Badge #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Supervisor:</th>
<th>Badge #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td></td>
</tr>
</tbody>
</table>

ADDITIONAL FIELD NOTES: YES ___ NO ___

NO. OF ATTACHMENTS: 4 _____

WITNESS/VICTIM STATEMENT

CASE No. 06-0754

STATEMENT OF: B

I am the sister of M. On Thursday, June 18th at approximately 9:30AM, M came to my apartment to borrow my car. It was my day off and he asked me if he could use it to go to the unemployment center. He told me that he might go visit our aunt later and asked if I wanted to come along. But I told him I wanted to rest so I just gave him the keys. He was gone with the car all day and came back around 6:00PM to give it back to me. He seemed perfectly normal when he left and when he came back, I didn't notice anything strange about him, at all.

WITNESS/VICTIM STATEMENT

CASE No. 06-0754

STATEMENT OF: M

I am M's cousin. M picked me up on June 18th to go to our Aunt's house. She hadn't been feeling well and she was complaining she never saw us. So we decided to go. B was off and lent us her car, so M picked us up around 1:00-1:30PM to go see Aunt. He had to go to a class for his unemployment before then but he picked us up as soon as it was done. He drove us to Aunt's and we hung out there for a while. It was around 6:00PM when we left, and he just dropped us off and said he was heading back to B's to bring the car back.
WITNESS/VICTIM STATEMENT

Date 6/19/09  Page No. 3-3

CASE No. 06-0754

STATEMENT OF: 

My name is [Redacted] and I am [Redacted]'s cousin. We went to see our Aunt together on the 18th of June, with our other cousin. [Redacted] picked us up and dropped us off from maybe 1:00PM to 5:00-5:30PM? He drove us and we were there for a while just keeping my Aunt [Redacted] company. She was happy to see us, it was fun. [Redacted] totally seemed cool, nothing out of the ordinary.
Forensic DNA STR Typing Report Summary

Report Date: 03 July 2009
Examiner Name: Cheryl Wilson, Crim III
Case File No.: 754-DR-562-01-01

Description of evidence samples tested

The specimens listed below arrived to the laboratory in separate sealed paper evidence bags marked with the evidence numbers indicated.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Evidence bag number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>754-DR-562-51-03</td>
<td>Hair, partial follicle intact, recovered from ski mask</td>
</tr>
<tr>
<td>E2</td>
<td>754-DR-562-51-04</td>
<td>Hair, partial follicle intact, recovered from ski mask</td>
</tr>
<tr>
<td>E3</td>
<td>754-DR-562-51-05</td>
<td>Hair, partial follicle intact, recovered from ski mask</td>
</tr>
</tbody>
</table>

Description of reference samples tested

The specimen listed below arrived to the laboratory in a sealed paper evidence bag marked with the evidence number indicated. This item was processed separately under a clean hood, cleaning the working surface before beginning.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Evidence bag number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>754-DR-562-59-01</td>
<td>Cup-Shure® Cotton swab, recovered from suspect S1</td>
</tr>
</tbody>
</table>

Conclusions for STR typing results

- The STR typing profiles of samples E1, E2, and E3 were all identical, and are also identical to the profile of S1.
- This particular DNA profile was not present in the New York City Local DNA database, nor the NYC technician/CSI/PO database.
- The DNA profile from S1 is suitable for submission to DNA databases at all levels, including the Combined DNA Index System (CODIS).
- The random match probability of this profile in the general population is 1 in >100 trillion among nonrelated individuals.
- Therefore, it can be said with a high degree of certainty that suspect #1 was the source of the DNA profiles obtained from evidence samples E1, E2, and E3.
APPENDIX C. Study 1 – Lines of Investigation Dependent Variables

If you had to investigate this case over again, knowing what you now know, would you gather more evidence before sending this case to the prosecutor? (Very Unlikely to Very Likely, 7-point scale)

If you could investigate this case over, how useful would you find pursuing each of the following lines of evidence?

**Incriminating lines:**
1. Interrogating M. to try to get him to confess to committing the crime.
2. Looking through J.’s apartment for more physical evidence tying M. to the crime.
3. Questioning M.’s cousins further to poke holes in his alibi.
4. Searching M.’s criminal record to find similar past offenses.

**Exonerating lines:**
1. Asking M. if he had any enemies who might have tried to frame him.
2. Questioning J.’s family and friends to find if anyone other than M. might have a motive to hurt her.
3. Having J. tested to identify any residual effects from the traumatic brain injury that might have distorted her memory of the crime.
4. Questioning J. about other potential suspects.

**Neutral lines:**
1. Trying to locate the cell phone and/or laptop.
2. Sending M. for a psychological evaluation.
3. Finding out what the make and model B.’s car was.
4. Interviewing M.’s Aunt.

If you had to investigate this case over again, knowing what you now know, would you gather more evidence before sending this case to the prosecutor? (Open-ended)
Appendix D. Demographics Questionnaire

What is your gender?
○ Male
○ Female
○ Other

What is your age? ________________

What is your race?
○ White/Caucasian
○ Black/African American
○ Hispanic
○ Asian
○ Native American
○ Pacific Islander
○ Other (please specify) ________________

What is the highest level of education you have completed?
○ Less than High School
○ High School / GED
○ Some College
○ 2-year College Degree
○ 4-year College Degree
○ Masters Degree
○ Doctoral Degree
○ Professional Degree (JD, MD)
○ Other

What is your employment status?
○ Full time
○ Part time
○ Student
○ Retired
○ Unemployed
○ Other (please specify) ________________

How would you evaluate your political views?
○ Liberal
○ Slightly Liberal
○ Slightly Conservative
○ Conservative
○ Other
Appendix E. Study 2 – Sample Case File

NEW YORK CITY POLICE DEPARTMENT
INCIDENT/OFFENSE REPORT

<table>
<thead>
<tr>
<th>Initial X</th>
<th>Follow-Up</th>
<th>Arrest</th>
<th>Insurance Report</th>
<th>Juvenile Arrest</th>
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<th>Type of Offense(s)</th>
<th>Code or Statute</th>
<th>Reporting Officer:</th>
<th>Ass't Officer:</th>
<th>Transport, Ofc.</th>
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<tbody>
<tr>
<td>06-0754</td>
<td>1. Armed Robbery</td>
<td></td>
<td></td>
<td>D. Young</td>
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</table>

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<th>Occurred To:</th>
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<td>Date: 6/18/09</td>
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<tr>
<td>Time: 1900</td>
<td>Time: 1345</td>
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EXACT LOCATION OF CRIME:

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</table>

NAME OF VICTIM(S): Jennifer

Victim's Address: 

CITY: New York
STATE: NY
ZIP: 10017

NAME: Terrell
PHONE # Home: 
WORK:

ADDRESS: 
CITY: Brooklyn
STATE: NY
ZIP: 11221

D.O.B.: 9/2/1982
RACE: Black
SEX: M
HT: 5'
WT: 180
HAIR: BLK
EYES: BRN

TATOO/SCARS/MARKS/LOCATION: 
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<thead>
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<th>STATUS</th>
<th>Desc.</th>
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<th>Serial #</th>
<th>Brand/Name</th>
<th>Model/Name</th>
<th>Size, Kind, Etc.</th>
<th>Color</th>
<th>Value</th>
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<tr>
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<td>400</td>
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<td>N/A</td>
<td>N/A</td>
<td>Cash</td>
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<tr>
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<td>LG</td>
<td>Classic</td>
<td>Cell phone</td>
<td>Blue</td>
<td></td>
<td>$150</td>
</tr>
</tbody>
</table>

**NARRATIVE/ACTION TAKEN**

On Thursday, June 18th at 3:15PM, Officer Young and I were dispatched to [redacted] Street in reference to a reported robbery. Upon arrival to the address, we spoke to the occupant, Jennifer [redacted], a 23 year old female. She stated that around 1:00PM a masked and gloved male kicked in the door and entered her apartment. He pointed a gun at her head and yelled “Where’s the money?” before forcing her to the ground. He kicked her in the stomach and head several times. He told her to keep her head down and stay down, unless she wanted more. She stated that the perpetrator used duct tape to restrain her and cover her mouth. She didn’t move while she heard him ransack her apartment for about 5 minutes.

Once she was sure that he was gone, the victim struggled out of the duct tape and called 911.

The victim stated that the perpetrator had left with approximately $400 in cash from her purse, her cell phone, and brand new laptop computer. She identified Torell [redacted] as the perpetrator.

He used to be her neighbor, and she had known and casually socialized with him for about 3 years. She stated that she recognized his voice when he threatened her, before he forced her to the ground. In addition to his voice, she said that the perpetrator’s build, size, and height also matched that of the suspect.
After her statement was provided, the victim was transported to the closest hospital and treated for traumatic brain injury that she suffered from the perpetrator kicking her in the head.

Officer Young and I searched the apartment and surroundings and discovered pieces of duct tape on the front porch of the victim’s apartment and a black ski mask and gloves on the sidewalk outside, to the east. Neither the duct tape nor the gloves contained latent fingerprints, bodily fluids or hair and were sent to the evidence room for processing and storage. Hairs were found inside the ski mask and it was placed in a sealed and brown paper envelop at the scene and transported to the crime laboratory.

**ADDENDUM:**

On Friday, June 19th at approximately 1:00PM, Officer Young and I visited the suspect’s residence. He agreed to return to the station to provide a sample of his DNA for testing. At the station, the suspect’s cheek was swabbed for DNA. The cheek swab was placed in a sealed sterile brown paper envelop, labeled “suspect S1”, and transported to the laboratory for DNA testing.

When questioned about the crime, the suspect denied his involvement in the robbery. He said that he had borrowed his sister’s car on the morning of the robbery to attend a class at an unemployment center. He then visited his aunt with two of his cousins, on the other side of town. The suspect’s sister and one of his cousins corroborated this alibi when they were contacted (see witness statements, attached).

When contacted, staff at the unemployment center were unable to confirm the suspect’s presence at the center for the training he claimed to have attended.

**ADDITIONAL FIELD NOTES: YES ___ NO ___**

**NO. OF ATTACHMENTS: 3 ___**

<table>
<thead>
<tr>
<th>Reporting Officer: ________ Badge #: ________</th>
<th>Supervisor: ________ Badge #: ________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date: ________</td>
<td>Date: ________</td>
</tr>
</tbody>
</table>
WITNESS/VICTIM STATEMENT

Date 6/19/09  Page No. 1-2

CASE No. 06-0754

STATEMENT OF: 

I, [redacted], am the sister of Terrell [redacted]. On Thursday, June 18th at approximately 9:30AM, he came to my apartment to borrow my car. It was my day off and he asked me if he could use it to go to the unemployment center. He told me that he might go visit our aunt later and asked if I wanted to come along. But I told him I wanted to rest so I just gave him the keys. He was gone with the car all day and came back around 6:00PM to give it back to me. He seemed perfectly normal when he left and when he came back, I didn't notice anything strange about him, at all.

WITNESS/VICTIM STATEMENT

Date 6/19/09  Page No. 2-2

CASE No. 06-0754

STATEMENT OF: 

I am Terrell [redacted]'s cousin. He picked me up on June 18th to go to our Aunt [redacted]'s house. She hadn't been feeling well and she was complaining she never saw us. So we decided to go. He picked us up around 1:00-1:30PM to go see Aunt [redacted]. He had to go to a class for his unemployment benefits then but he picked us up as soon as it was done. He drove us to Aunt [redacted]'s and we hung out there for a while. It was around 5:00PM when we left, and he just dropped us off and said he was heading back to his sister's to bring the car back.
Forensic DNA STR Typing Report Summary

Report Date: 03 July 2009
Examiner Name: Cheryl Wilson, Crim III
Case File No.: 754-DR-562-01-01

Description of evidence samples tested

The specimens listed below arrived to the laboratory in separate sealed paper evidence bags marked with the evidence numbers indicated.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Evidence bag number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>754-DR-562-51-03</td>
<td>Hair, partial follicle intact, recovered from ski mask</td>
</tr>
<tr>
<td>E2</td>
<td>754-DR-562-51-04</td>
<td>Hair, partial follicle intact, recovered from ski mask</td>
</tr>
<tr>
<td>E3</td>
<td>754-DR-562-51-05</td>
<td>Hair, partial follicle intact, recovered from ski mask</td>
</tr>
</tbody>
</table>

Description of reference samples tested

The specimen listed below arrived to the laboratory in a sealed paper evidence bag marked with the evidence number indicated. This item was processed separately under a clean hood, cleaning the working surface before beginning.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Evidence bag number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>754-DR-562-59-01</td>
<td>Cap-Shure® Cotton swab, recovered from suspect S1</td>
</tr>
</tbody>
</table>

Conclusions for STR typing results

Evidence sample E1:

- Sample E1 yielded only a partial profile of 6 alleles at 3 loci.
- The source of this profile is male.
- Suspect S1 cannot be excluded as the source of this sample.
- Random match probability of this profile in the general population is 1 in 3500 among nonrelated individuals.
Evidence sample E2:
  • Sample E2 yielded only a partial profile of 7 alleles at 5 loci.
  • The source of this profile is male.
  • Suspect S1 cannot be excluded as the source of this sample.
  • Random match probability of this profile in the general population is 1 in 6000 among nonrelated individuals.

Evidence sample E3:
  • Sample E3 yielded only a partial profile of 5 alleles at 3 loci.
  • The source of this profile is male.
  • Suspect S1 cannot be excluded as the source of this sample.
  • Random match probability of this profile in the general population is 1 in 1500 among nonrelated individuals.
Appendix F. Study 2 and Feedback Pilot – Self-esteem Scales and PANAS

**Rosenberg self-esteem scale (Rosenberg, 1965)**

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.\(^8\)

1. On the whole, I am satisfied with myself.
2. At times I think I am no good at all. (R)
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of. (R)
6. I certainly feel useless at times. (R)
7. I feel that I'm a person of worth, at least on an equal plane with others.
8. I wish I could have more respect for myself. (R)
9. All in all, I am inclined to feel that I am a failure. (R)
10. I take a positive attitude toward myself.

**Social self-esteem subscale of Heatherton and Polivy’s State self-esteem scale (1991)\(^9\)**

This is a questionnaire designed to measure what you are thinking at this moment. There is, of course, no right answer for any statement. The best answer is what you feel is true of yourself at this moment. Be sure to answer all of the items, even if you are not certain of the best answer. Again, answer these questions as they are true for you RIGHT NOW.\(^10\)

1. I feel confident about my abilities.
2. I am worried about whether I am regarded as a success or failure. (R)
3. I feel that others respect and admire me.
4. I feel self-conscious. (R)
5. I feel displeased with myself. (R)
6. I feel good about myself.
7. I am worried about what other people think of me. (R)
8. I feel inferior to others at this moment. (R)
9. I feel concerned about the impression I am making. (R)
10. I am worried about looking foolish. (R)

---

\(^8\) Participants responded on a 4-point scale from “Strongly Agree” to “Strongly Disagree”. In the personality feedback pilot, questions were split between even and odd numbers. Half of the participants were asked the even numbered questions as a pretest and odd numbers as a posttest, the other half saw the odd numbered questions as pretest and even numbered questions as posttest.

\(^9\) Used only to pilot the personality feedback

\(^10\) Participants responded on a 5-point scale (1 = not at all, 2 = a little bit, 3 = somewhat, 4 = very much, and 5 = extremely). Questions were also split in half (by even and odd question numbers) and order of which half was used as a pretest and posttest was counterbalanced.
**PANAS (Watson et al., 1988)**

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you generally feel this way, that is, how you feel at this time. Use the following scale to record your answers:

<table>
<thead>
<tr>
<th>Interested</th>
<th>Strong</th>
<th>Enthusiastic</th>
<th>Ashamed</th>
<th>Attentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distressed</td>
<td>Guilty</td>
<td>Proud</td>
<td>Inspired</td>
<td>Jittery</td>
</tr>
<tr>
<td>Excited</td>
<td>Scared</td>
<td>Irritable</td>
<td>Nervous</td>
<td>Active</td>
</tr>
<tr>
<td>Upset</td>
<td>Hostile</td>
<td>Alert</td>
<td>Determined</td>
<td>Afraid</td>
</tr>
</tbody>
</table>

11 Participants responded on a 5-point scale from “Very slightly or not at all” to “Extremely”.
Appendix G. Names Pilot – Questionnaire

We are trying to gather people's honest first impressions of different names. You will be presented with six different names. Please indicate on the scales presented how much you disagree or agree with the statements about each name.\(^\text{12}\).

1. I dislike this name
2. This name seems different
3. I think that this person is wealthy
4. I think this is a good name
5. This name does not seem unique
6. I believe this individual would be from a lower social class
7. I think this name is unusual
8. I would highly recommend this name
9. I would expect a person with this name to be White
10. I would expect a person with this name to be Black
11. I would expect a person with this name to be Hispanic

\(^{12}\) Participants responded on a 7-point scale from “Strongly agree” to “Strongly disagree”.
Appendix H. Study 2 – Feedback Manipulation and Case Instructions

**Personality feedback for the police investigator group**

Based on your responses to the previous questionnaires we assessed your personality on several factors and found that you would be well matched for a career as a police investigator.

Your personality is similar to others who have gone into law enforcement and related fields and have done extremely well.

Given your personality profile, for this study, we are asking you and others like you to use your natural abilities and play the part of a police investigator.

**Personality feedback for the journalist group**

Based on your responses to the previous questionnaires we assessed your personality on several factors and found that you would be well matched for a career as a journalist.

Your personality is similar to others who have gone into journalism and related fields and have done extremely well.

Given your personality profile, for this study, we are asking you and others like you to use your natural abilities and play the part of a journalist.

**Instructions for the police investigator group**

The personality portion of the survey is now over.

You are now going to read the case file for the investigation of an armed robbery. Last names in this case have been removed for anonymity purposes.

Because of your personality profile, for this study, we are asking you and others like you to use your natural abilities and take on the role of a police investigator.

While reading through the materials, imagine that you are the lead police investigator on this case. Please take a moment to think about what being a police investigator entails.

The materials you are about to read are what you and your partner Officer Young have collected so far.

Please review the pages carefully, as the website does not permit you to go back to previously viewed pages. As you review the case, feel free to take notes to help with your investigation.
Instructions for the journalist group

The personality portion of the survey is now over.

You are now going to read the case file for the investigation of an armed robbery. Last names in this case have been removed for anonymity purposes.

Because of your personality profile, for this study, we are asking you and others like you to use your natural abilities and take on the role of a journalist.

While reading through the materials, imagine that you are a journalist gathering information from the case for a report you are writing about it. Please take a moment to think about what being a journalist entails.

The materials you are about to read are what the investigators have collected so far.

Please review the pages carefully, as the website does not permit you to go back to previously viewed pages. As you review the case, feel free to take notes to help with your report.
Appendix I. Study 2 – Measures of Level of Group Identification

Questions were rated on 9-point scales.
Questions 1-7: 1 = not at all, 9 = very much
Question 8: 1 = not favorable at all, 9 = very favorable

This series of questions was asked using the professional group identification participants were randomly assigned to (i.e., police investigator, or journalist).

1. How much would you stand up for [the police/journalists]?
2. How much do you identify with being a [police investigator/journalist]?
3. How much of a feeling of belonging do you have as a [police investigator/journalist]?
4. How important was being a [police investigator/journalist] to your sense of self?
5. How much did you like being a [police investigator/journalist] as a whole?
6. How similar do you feel to [police investigators/journalists]?
7. How well do you feel you fit as a [police investigator/journalist]?
8. What is your overall impression of [the police/journalists]?

This series of questions was asked using the race participants identified as (i.e., Black, Hispanic, or White).

1. How much would you stand up for [Black/Hispanic/White] people?
2. How much do you identify with being [Black/Hispanic/White]?
3. How much of a feeling of belonging do you have as a [Black/Hispanic/White] person?
4. How important is being [Black/Hispanic/White] to your sense of self?
5. How much do you like being [Black/Hispanic/White] as a whole?
6. How similar do you feel to [Black/Hispanic/White] people?
7. How well do you feel you fit as a [Black/Hispanic/White] person?
8. What is your overall impression of [Black/Hispanic/White] people?
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