



The  
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**Putting the Grim Reaper on the Stand:  
The Impact of Mortality Salience on Juror Decision Making**

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## Abstract

With the unfortunate abundance of mortality salience in the legal domain, the aim of this thesis was to draw upon Terror Management Theory to shed further light and gain new perspectives on the underlying processes that may influence the decisions of jurors in the courtroom. Experiment 1, a cross-sectional study (N = 363), investigated the potential relationship between participants' self-reported death anxiety and their attitudes towards the legal system and legal transgressors. A positive correlation was found between measures of death anxiety and pre-trial attitudes, with a mediation model supporting the proposed terror management mechanism underlying the association. Experiment 2 (N = 80), drew upon experimental methods in which mortality salience was systematically manipulated before mock jurors read a criminal case which was ambiguous to guilt. Defendants were rated more negatively and more aggressive by mortality salient participants than control participants. In line with the Story Model of juror decision making a mediation model demonstrated that it was via these changes to attitudes that mortality salience impacted on juror's final decision making. Experiment 3 (N = 160) and Experiment 4 (N = 80) broadly replicated findings from Experiment 2 with the addition that mortality salience was found to impact on the way in which evidence was interpreted. Mediation analysis demonstrated that it was via changes to attitudes and evidence processing that mortality salience impacted on juror's final decision making. Experiment 5 (N = 75) and Experiment 6 (N = 75) investigated the impact of the mortality of *others* on the juror decision making process. It was found that contemplating the death of another person produced similar mortality salience effects, albeit it significantly weaker, as that when specifically contemplating one's own death. The proposed mechanism through which other mortality salience produces mortality salience effects, via reminding you of your own death, was supported by mediation analysis. Finally, Experiment 7 extended findings reported in the thesis by applying it to the group level. Mortality salient juries were less favourable towards the defendant than juries in the control condition and, most importantly, there was a significant association between mortality salience and whether or not the defendant was found guilty. Taken together, the findings suggest that mortality salience can significantly influence juror decision making.

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# Chapter 1

## Overview of Thesis

### 1.1 Introduction

On October 3<sup>rd</sup> 1995 at 10am (PST) it is estimated that over 150 million viewers worldwide paused in time as the verdict of O.J. Simpson was revealed (Zorthian, 2015). 20 years later the captivating documentary *'Making a Murderer'* is reported to have pulled in over 19.3 million views within just days of its release (Nededog, 2016). As well as capturing the public's interest with tales of true crime these infamous trials are potent examples of the stark reality of a far from perfect American Criminal Justice System (CJS). Likewise, the English CJS is also not immune. Considered to be amongst the biggest instances of miscarriages of justice, the cases of the Birmingham Six and Guilford Four have also brought to the public's attention imperfections within the English CJS (Eddleston, 2000).

At the heart of the English CJS, *'the jewel in the crown'* (Auld, 2001, pg. 135), *'the lamp which shows that freedom lives'* (Lord Devlin, 1956, pg.164), is the idea of 12 good men and true (Slapper & Kelly, 2015); the jury. However, despite its historical significance and strong sense of sentiment amongst the public (Bar Council, 2002; ICM, 2007; Thomas, 2007), the institution of trial by jury is in jeopardy of becoming an endangered species within the CJS with the introduction and implementation of section 43 of the Criminal Justice Act 2003, the right to hold a juryless trial for indictable offences. A key contributing factor to the reduction in trial by jury has been ongoing reports concerning the behaviour of jurors; ordinary citizens placed in the most unusual of contexts tasked with the most extraordinary of jobs.

With its acute focus on human behaviour, the present thesis takes a social psychological perspective on the issue. Specifically, the thesis draws upon the

novel existential social psychological perspective provided by Terror Management Theory (TMT). In essence TMT asserts that much of human behaviour is motivated by thoughts of death (Pyszczynski, Solomon, & Greenberg, 2015). The theoretical and empirical inquiry into TMT so far has demonstrated that thoughts about human death can affect a broad range of socially significant behaviours, which are often unrelated to the issue of death in any superficial or semantic way. Despite the growth of the theory, and its clear link to the courtroom, the application of TMT to the legal domain has been limited, especially in relation to its application to juries.

The aim of this thesis is draw upon social psychological theory, particularly TMT, to shed further light and gain new perspectives on the underlying processes that may influence the behaviour and ultimate decisions of jurors. As will become clear over the course of the thesis, the application of social psychological theory, such as TMT, to the legal domain is bi-directionally beneficial, not only in offering advancement to psychological science but in providing insight into the behaviour of those who are considered to be the cornerstone of the English CJS, the jury.

## **1.2 Overview of Thesis**

### **1.2.1 Chapter 2: Psychology in the Courtroom**

Chapter 2 discusses the motivation and rationale for adopting an interdisciplinary approach in the present thesis. The first section introduces the CJS and highlights a potential '*Achilles' heel*' within the system, the jury. The chapter then leads into a brief discussion on the contribution that psychological science can, and in fact has, made to the legal domain and how such an approach may help better understand and address the issues associated with trial by jury.

### **1.2.2 Chapter 3: An Existential Social Psychological Perspective**

Chapter 3 comprises the main literature review for the thesis, which is organized in three sections. The first section provides a theoretical overview of the existential social psychological perspective of TMT. The second section outlines the empirical assessment of TMT and is focused on three main hypotheses: the anxiety buffering hypothesis, the mortality salience hypothesis and the death thought accessibility hypothesis. The third and final section provides a critical appraisal of TMT.

### **1.2.3 Chapter 4: Putting the Grim Reaper on the Stand**

Chapter 4 draws together Chapter 2 and Chapter 3 to outline the rationale and aims of the thesis. The first section outlines the scope for the application of TMT to the courtroom domain. The second section outlines research to date that has applied the existential social psychological perspective of TMT to a legal framework. The final section identifies key unanswered issues in the application of TMT to juries, which forms the aims, and rationale of the thesis.

### **1.2.4 Chapter 5: Mortality Salience and the Decision Making Process of Jurors**

The first empirical chapter, Chapter 5, presents one cross sectional study (termed Experiment 1 for the ease of continuity in the thesis) and three empirical experiments (Experiments 2, 3 and 4) which examined the influence of mortality salience on juror decision making within an established theoretical framework of how jurors arrive at their final verdict.

### **1.2.5 Chapter 6: Beyond Personal Mortality Salience**

Chapter 6 presents two experiments (Experiments 5 and 6) which examined if mortality salience effects, as observed in Chapter 5, can also be elicited when the mortality of another person is made salient.

### **1.2.6 Chapter 7: Mortality Salience and Jury Decision Making**

The final empirical chapter, Chapter 7, presents the final experiment (Experiment 7) which aimed to enhance the ecological validity of the research presented in this thesis by considering the effect of mortality salience on the jury.

### **1.2.7 Chapter 8: Summary and General Discussion**

The final chapter of the thesis, Chapter 8, assesses the theoretical and practical implications of the research presented in this thesis. The chapter first provides a summary of the research presented in the thesis, then addresses limitations of the research and provides directions for future research.

## Chapter 2

# Psychology in the Courtroom

*'I'm no idealist to believe firmly in the integrity of our courts and in the jury system -- that is no ideal to me, it is a living, working reality. Gentlemen, a court is no better than each man of you sitting before me on this jury. A court is only as sound as its jury, and a jury is only as sound as the men who make it up'*

Harper Lee, *To Kill a Mocking Bird* (1960)

### 2.1 Introduction

Fundamentally, the law deals with human behaviour. It concerns the choices people make every day, be that to do right or wrong, to lie or tell the truth, to vote guilty or not guilty, and the beliefs, attitudes and motivations underlying these choices. Through this acute focus on human behaviour, it is evident that psychological science and law are inextricably bound. The aim of this chapter is to draw upon this bond, discussing the contribution which psychological science can, and in fact has, made to the legal domain. The chapter will illustrate how the application of psychological theory to the legal domain may not only be of benefit to the scientific community, providing a real-world platform for research, but perhaps more importantly for the Criminal Justice System (CJS), providing alternative perspectives into the attitudes, behaviours and ultimately the decisions of those who are considered the '*cornerstone of the Criminal Justice System*' (Auld, 2001, pg. 135), the jury. The chapter begins with a brief introduction to the CJS and highlights a possible '*Achilles' heel*' within the system, trial by jury. The chapter then leads to a brief discussion on the contribution which psychological science can, and in fact has, made to the legal domain and how such an approach may help better understand and address the issues associated with trial by jury.

## 2.2 The Criminal Justice System



Figure 2.1 An illustration of Lady Justice

The ancient Greeks knew the figure depicted above as Themis, ruler of divine law. To the Romans she was Justitia, the goddess of Justice. In the modern world she is Lady Justice, the symbol of the fair and equal administration of the law (Resnik & Curtis, 2011). Typically, Lady Justice is depicted carrying the scales of justice in her left hand, a sword in her right and often appears blindfolded, see Figure 2.1 for an illustration. The scales represent the careful weighting of evidence while the sword represents the enforcement of justice (Resnik & Curtis, 2011). Finally, the blindfold represents the notion of blind justice, justice based upon decisions of objectivity and impartiality that are not influenced by bias or prejudices (Slapper & Kelly, 2015). Adorning courthouses globally, Lady Justice serves as a symbolic reminder of the fundamental principles underlying the CJS.

In the 12 months ending September 2015 a total of 1.69 million people, which includes those in receipt of penalty notices for disorder and cautions as well as those tried in crown and magistrates courts, passed through the English CJS (Ministry of Justice, 2016). As society's formal response to crime, the purpose of the CJS, specifically in England, is to:

*Deliver justice for all, by convicting and punishing the guilty and helping them to stop offending, while protecting the innocent. It is responsible for detecting crime and bringing it to justice; and carrying out the orders of court, such as collecting fines, and supervising community and custodial punishment.* (Crown Prosecution Service, 2016).

The CJS is defined by a series of decisions and actions that are taken by a number of agencies, including the Police, The Crown Prosecution Service, Prison Service

and Probation Service, in response to crime, see Figure 2.2 for an overview of the system. At the heart of the CJS, *'the jewel in the crown'* (Auld, 2001, pg. 135), Lady Justice's blindfold, is the idea of 12 good men and true (Slapper & Kelly, 2015); the jury.

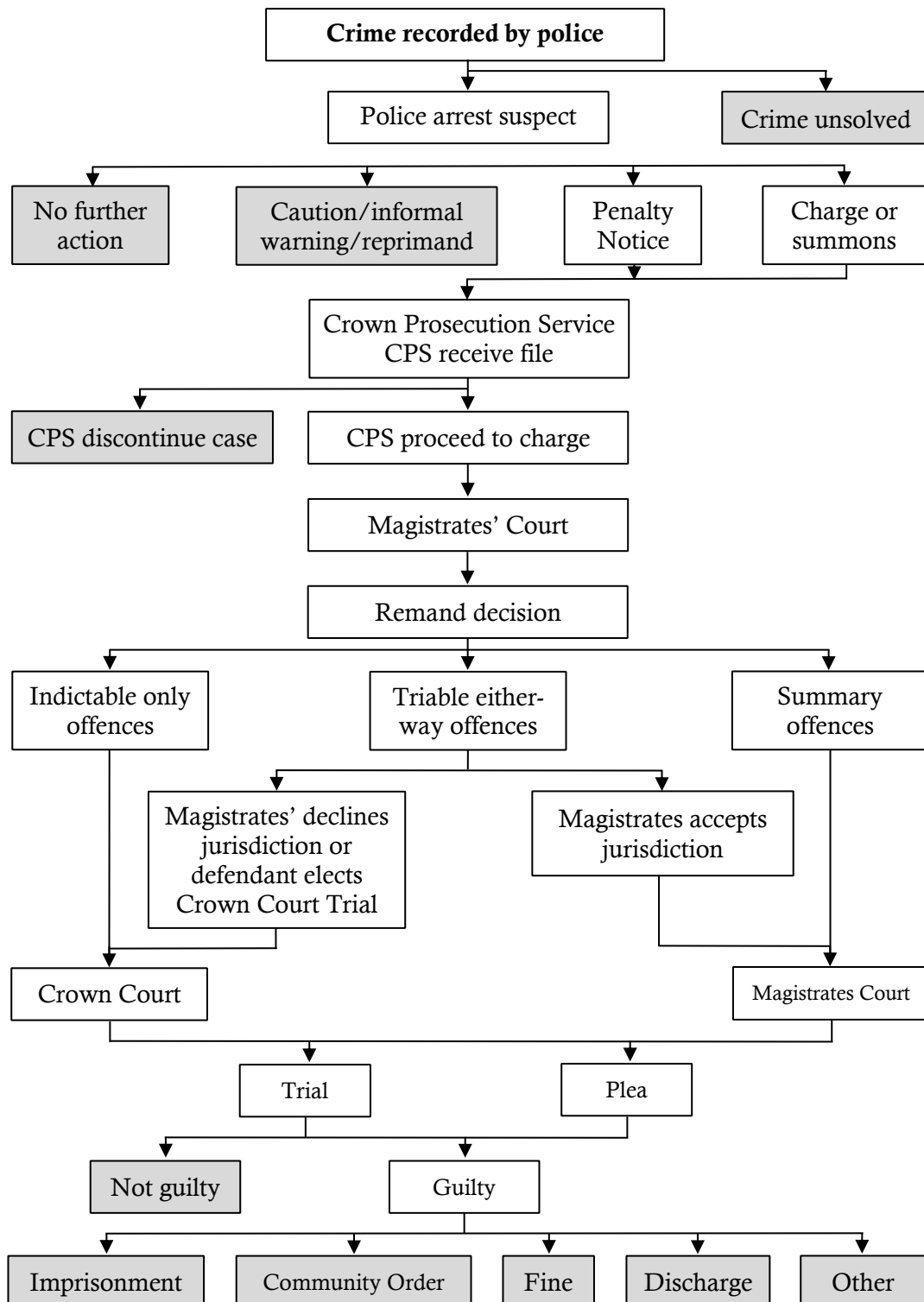


Figure 2.2 An overview of the Criminal Justice process in England and Wales (Hucklesby & Wahidin, 2013).

### 2.3 The Jury

In the English CJS the jury is composed of 12 individuals who affirm to '*solemnly, sincerely and truly declare and affirm that one will faithfully try the defendant and give a true verdict according to the evidence*' (Oaths Act 1978). Imported into England after the Norman Conquest in 1066, the concept of the jury is well established within the English CJS (Lloyd-Bostock & Thomas, 1999). In the modern world the European Convention of Human Rights, and the US Constitution in America, underline the right for the criminally accused to a fair trial by an impartial jury. The idea of trial by jury is based upon the implicit assumption that 12 randomly chosen *ordinary* people to be arbiters of fact strengthen the legitimacy of the CJS since the outcome is not decided by case hardened legal professionals (Slapper & Kelly, 2015). Underlying the independence of the jury is the principle of jury equity. The principle of jury equity was first established in the famous Bushel Case (1670) in which the jury, led by Edward Bushel, chose to acquit the defendant against the judge's direction to convict. The jurors were subsequently sent to prison by the judge until they would choose to convict the defendant. The Lord Chancellor, under the ruling that '*the jury have the right to give their verdict according to their conscience*' eventually released the jurors. As Lord Devlin famously described, the jury system is more than an instrument of justice or constitution, it is '*the lamp which shows that freedom lives*' (Devlin, 1956, pg. 164). Through the adjudication of the law by one's peers it is assumed that this ensures law is just and in tune with popular opinion and thus commands considerable public confidence (Auld, 2001). Indeed, public opinion polls consistently show strong support for trial by jury (ICM, 2007; Thomas, 2007) with over 80% of the British public trusting a jury to come to the right decision and consider trial by jury to be fairer than trial by a judge (Bar Council, 2002).

In England and Wales it is estimated that 1% of criminal cases culminate in trial by jury (Thomas, 2010). Although a small percent this still stands to represent around 30,000 criminal trials per year in the UK alone (Judiciary Online, 2015). These cases represent mid-way 'either-way' offences as well as the most serious 'indictable-only' offences (e.g. murder and rape) that can only be tried at crown court before a judge and jury. Despite a relatively small number of criminal cases in England and Wales culminating in trial by jury the institution remains a

powerful symbol and integral part of the CJS. As discussed, public opinion polls consistently show strong support for trial by jury with calls for reform often met with passionate opposition (Bar Council, 2002; ICM, 2007; Thomas, 2007).

The institution of trial by jury is unique; in no other part of society do ordinary people participate in decisions of such immediate importance that wield real power. In Crown Courts across the country jurors on a daily basis are deciding the fates of their fellow citizens accused of the most serious of crimes. Thus, together with the gravity of the role and the sheer weight of the consequences, despite being small in frequency the institution of trial by jury still to this day remains a powerful one.

### **2.3.1 Have Juries had their day in Court?**

In 2013 the institution of trial by jury came under immense public scrutiny during the highly publicised case of Vicky Pryce. The trial of Vicky Pryce, who was accused of accepting speeding points on behalf of her ex-husband and former cabinet minister Chris Huhne, came to an abrupt end when the jury were dismissed after 14 hours of deliberations over fears they had demonstrated, according to the presiding judge, an '*absolutely fundamental deficit in understanding*' (BBC News Online, 2013a). Concern arose after jurors compiled a damning list of 10 questions querying the very basic but crucial aspects of law, including the meaning of beyond reasonable doubt – the standard of proof used to convict defendants within the English CJS. Arguably of greater importance and concern is that the jury demonstrated a distinct lack of understanding for their fundamental role, to be impartial and fair instead asking if they could '*come to a verdict based on a reason that was not presented in court and has no facts or evidence to support it*' (BBC News Online, 2013a). Although such an unashamed lack of understanding by the jury of their fundamental role appears to be the accumulation of a highly unusual public case, previous media reports of jurors conducting their own investigation and visiting crime scenes (Adetunji, 2008), discussing cases on social media (BBC News Online, 2013b), contacting the defendant via social media (Deans, 2011) and even using an Ouija board to contact the victim (R v Young, 1995) have done little to help the reputation of trial by jury. In 2010 a £1.75 million robbery made history when it was the first indictable offence in over 400 years to be tried without a jury in England (Laville, 2010). The decision was made to hold a juryless trial,



under section 43 of the Criminal Justice Act 2003, after the case had collapsed on three previous occasions due to problems with the jury. The implementation of new legislation restricting trial by jury together with renewed reports concerning juror behaviour has led to a revival of the long debated issue of whether juries have had their day in court (Kirk, 2013; Padfield & Bild, 2015).

## 2.4 A Social Psychological Perspective on Juries

At the very heart of the issue of trial by jury is, ironically, the very thing that defines trial by jury, the random selection of 12 *ordinary citizens*. With the weight of their role, the severity of their decisions and its historical significance it is perhaps often too easy to overlook that ultimately decisions in the courtroom are made by the likes of our friends, our parents, our partners and even ourselves; ordinary citizens. As such, despite their civic duty, jurors are human and like every other human they are fallible.

Defined by Allport as '*an attempt to understand and explain how the thought, feelings and behaviour of individuals are influenced by the actual, imagined or implied presence of others*' (1954, pg. 5) social psychology from its very inception has been concerned with this very issue, the fallible nature of humans. The following section will explore this relationship further, demonstrating how the application of broad social psychological theory to the courtroom can, and undoubtedly has, helped us better understand the behavior of ordinary citizens in this most unique of contexts. Specifically, the section will draw upon what social psychology has informed about the potential for racial discrimination in the courtroom. While research indicates that jurors may display numerous biases which can influence their decision making, including defendant's physical attractiveness (Abwender & Hough, 1999; Mazella & Feingold, 1994), defendant's gender (McCoy & Gray, 2007; Quas, Bottoms, Haegerich & Nysse-Carris, 2002) and defendant's socioeconomic status (Esqueda, Espinoza & Culhane, 2008), the application of social psychological theory to the issue of racial discrimination in the courtroom has not only helped better understand the behaviour of jurors but as a result of understanding the underlying processes has led to significant changes in the American legal system. As such, the topic of racial discrimination in the

courtroom showcases the acute benefits of taking a social psychological approach to understanding the behaviour of jurors in the courtroom.

#### **2.4.1 A Social Psychological Perspective on Race in the Courtroom**

In England, as well as the US, prospective jurors are chosen for jury service primarily through random selection from voter lists (Slapper & Kelly, 2015; Vidmar & Hans, 2007). Such methods are adopted in line with article 6 of the European Convention of Human Rights (ECHR) and US constitution in order to ensure an impartial jury representing a cross section of society. However, despite an increasingly diverse and multicultural society, ethnic minority groups are often absent or underrepresented on juries (Fukurai, Butler, & Krooth, 1993; Zander & Henderson, 1993). The reasons for this include a distinct underrepresentation of ethnic minority groups on the public lists used for summoning (Airs & Shaw, 1999; Diamond & Rose, 2005; Fukurai et al., 1993). Furthermore, procedures used to screen potential jurors may also contribute to the underrepresentation of ethnic minority groups on juries in America (Rose, 1999). The implication is that juries may routinely be a non-representative cross-section of society, with defendants increasingly likely to be tried by an all-White jury (Sommers & Ellsworth, 2001; Thomas, 2007). From a social psychological perspective, the increased likelihood of being tried by an all-White jury poses a significant risk, especially to a non-white defendant's right to a fair trial by an impartial jury.

According to Social Identity Theory (SIT; Tajfel & Turner, 1979), people are generally motivated to see themselves in a positive manner and this arises, in part, from our membership to social groups. If our social groups are seen as being high status and positively valued, then by extension, we as members of that group are also (Abrams & Hogg, 1990). Since a significant part of our sense of identity comes from the groups to which we belong, we are highly motivated to maintain a positive social identity. Given that people are motivated to see themselves in a positive manner and that this arises, in part, from group membership, biased intergroup comparisons can serve as a means of achieving and maintaining a positive identity and thus contributing to a positive self-concept (Tajfel & Turner, 1979; Tajfel & Turner, 1986). Empirical research consistently demonstrates how the *mere categorisation* of individuals into groups, even on the flip of a coin, results in a persistent tendency of individuals to allocate more rewards to members of

their own group (“heads”) vs. the other group “tails” (Billig & Tajfel, 1973; Mullen, Brown, & Smith, 1992; Sherif, Harvey, White, Hood, & Sherif, 1961; Tajfel, Billig, Bundy, & Flament, 1971; Tajfel & Billig, 1974).

From this perspective, the pervasiveness of in-group favouritism suggests that the likelihood of being tried by an all-White jury may infringe on non-White defendant’s right to a fair trial as they are likely to be at the mercy of in-group bias (Sommers & Ellsworth, 2001; Thomas, 2007). Indeed, there is compelling empirical and field research demonstrating in-group favouritism and out-group discrimination in jury decision making. Jurors have been shown to be increasingly conviction prone, harsher and less likely to give the benefit of the doubt towards a racial out-group defendant than a racial in-group defendant (Desantts & Kayson, 1997; Hymes, Leinart, Rowe, & Rogers, 1993; Lipton, 1983; Perez, Hosch, Ponder, & Trejo, 1993; Ugwuegbu, 1979). The disparity appears to also persist at the group level, with research reporting differences in decision making according to the racial composition of the jury. Perez, Hosch, Ponder and Trejo (1993) for instance, showed that a mock jury were more punitive towards an out-group Latino defendant as the proportion of White jurors increased. White dominated juries have also been found to be more likely to deliver a guilty verdict than racially diverse juries in the case of an out-group Black defendant (Bernard, 1979; Sommers, 2006). Confirming these experimental findings, post-trial analyses of actual felony cases has revealed that as the number of White jurors decreased the more punitive the jury were towards the out-group (White) defendant (Daudistel, Hosch, Holmes, & Graves, 1999). Post-trial analysis of capital cases also confirms an apparent positive correlation between the number of in-group jurors on a jury and the likelihood of an out-group defendant receiving a death sentence (Bowers, Steiner, & Sandys, 2001).

As well as general in-group favouring bias, jurors may also bring with them to the courtroom specific stereotypes about the criminality (or not) of particular social groups. Social cognitive research shows that in complex social environments individuals utilize available stereotypes to simplify and reduce the cognitive demands of the task (Macrae, Milne, & Bodenhausen, 1994). Given the very nature of their role, mock jurors have also been shown to draw upon available stereotypes as a means of simplifying the complex task of attending to evidence

and assessing the guilt of a defendant (Bodenhausen & Lichtenstein, 1987; Bodenhausen & Wyer, 1985; Bodenhausen, 1988). While individuals can hold numerous different stereotypes, social psychological research shows individuals hold specific racial stereotypes concerning the commission of crime, with blue collar crimes (assault, murder and drug possession) typically associated with Black racial groups and white collar crimes (embezzlement, fraud and counterfeiting) with White racial groups (Esqueda, 1997; Gordon, Michels, & Nelson, 1996; Sunnafrank & Fontes, 1983). Within a jury decision making context such stereotypes may be used as a means of organizing and interpreting the vast amounts of information whereby information consistent with the stereotype receives greater attention. For instance, in the presence of a race-crime stereotype jurors have demonstrated a greater recall of incriminating evidence than stereotype-inconsistent exonerating evidence (Bodenhausen & Lichtenstein, 1987; Bodenhausen & Wyer, 1985; Van Knippenberg, Dijksterhuis, & Vermeulen, 1999). As such effects are only found when the stereotype is activated prior to the presentation of evidence, and not subsequent to information presentation, the activation of a stereotype appears to elicit a selective processing strategy (Bodenhausen, 1988). In line with this, jury decision making has been shown to be biased in a stereotype-consistent direction (Bodenhausen & Wyer, 1985). Accused of committing a crime stereotypically associated with their racial group defendants are typically rated as more aggressive, more likely to be found guilty and subsequently receive harsher sentences than if their race was inconsistent with the race-crime stereotype (Bodenhausen & Lichtenstein, 1987; Bodenhausen & Wyer, 1985; Gordon, Bindrim, McNicholas, & Walden, 1988; Gordon, 1990; Van Knippenberg et al., 1999). Behavioural attributions are also influenced by the availability of stereotypes, with greater dispositional attributions made regarding the offending behaviour of stereotype consistent defendants and greater external attributions made to the offending behaviour of stereotype inconsistent defendants (Gordon et al., 1988; Gordon, 1990; Jones & Kaplan, 2003). The interaction between defendant race and crime type appears robust with meta-analytic research finding crime type to be a significant moderator in the relationship between defendant race and jurors judgments (Mazzella & Feingold, 1994).

The application of social psychology theory to the issue of racial discrimination in the courtroom has provided alternative perspectives into the behaviours of jurors. In line with social psychological theory, reviews of the English Criminal Justice System, the Runciman Royal Commission (1993) and The Auld Review of the Criminal Courts (2001), have proposed changes towards juror selection procedures, particularly in cases with a racial dimension. The reviews propose to either impose an ethnic quota, whereby juries contain at least three ethnic jurors, or permit the transfer of cases to courts in which a more diverse juror pool exists, as a means of increasing the representation of ethnic minorities on juries. In line with SIT, the proposals serve to reduce in-group favouritism in jury decision making by increasing the degree of shared group membership with an out-group ethnic defendant to create an equal, or more equal, ratio of in-group and out-group members on juries. While these proposals have been rejected in England on grounds of violating the ideal of random selection, within the United States summoning lists have now been supplemented with other additional source lists to improve the representation of certain groups on juries (Diamond & Rose, 2005).

In America, the recent implementation of the North Carolina Racial Justice Act (RJA) is a prime example of how the application of broad social psychological theory to the courtroom domain can help us better understand the behaviour of jurors which in turn can bring about significant changes to the legal system. The RJA now allows capital defendants to challenge their death sentences if they can successfully prove that race was a significant factor in determining their verdict. The RJA is supported by a comprehensive study of 173 capital cases involving more than 7,400 potential jurors in North Carolina between 1990 and 2010. In the study O'Brien and Grusso (2011) found race to be a significant factor in prosecutorial decisions to exercise peremptory challenges in jury selection. Specifically, they found that qualified African American jurors were more than twice as likely as White jurors to be removed from juries by prosecutors through peremptory strikes. Drawing upon social psychological theory, specifically SIT, it is evident that such a disparity in peremptory challenges could infringe on a defendant's right to a fair trial by an impartial jury. To date, four North Carolina death row prisoners have now had their sentences changed to life in prison without

parole under the RJA after a judge determined that race played a part in their jury selection.

Through an examination of the issue of racial discrimination in the courtroom, it has been shown how the application of broad social psychological theory to the courtroom can help us better understand the behaviour of ordinary citizens in this most unique of contexts. As can be seen the application of behavioural science can not only help us understand juror behaviour but can also offer theoretically derived solutions which address the core underlying causes of juror behaviour in the courtroom.

## **2.5 Conclusion**

At the heart of trial by jury is the behaviour of humans. However, it concerns not only the behaviour of those on the stand, the criminally accused, but also the behaviour of those tasked with the job of determining their culpability, the jury. This chapter has highlighted that perhaps key to improving trial by jury and understanding the behaviour of jurors is to firstly acknowledge that jurors, like all other humans, are fallible. Concerned with this very issue, the fallible nature of humans, it has been demonstrated that the application of social psychology theory to the legal domain can shed light and offer alternative perspectives into the behaviour of jurors.

## Chapter 3

# An Existential Social Psychological Perspective

*'Man is literally split in two: he has an awareness of his own splendid uniqueness in that he sticks out of nature with a towering majesty, and yet he goes back into the ground a few feet in order blindly and dumbly to rot and disappear forever.'*

Ernest Becker, *The Denial of Death* (1973)

### 3.1 Introduction

In 1798 Benjamin Franklin famously wrote *'in this world nothing can be said to be certain, except death and taxes'*. According to cultural anthropologist Ernest Becker this very knowledge of our existential certainty (i.e. death) is one of the most fundamental motivations that directs human behaviour (Becker, 1971, 1973, 1975). While subject to debate in the field of Psychology, this novel perspective can offer an alternative and unique view into crucial aspects of human behaviour. The aim of this chapter is to provide a critical theoretical introduction to the existential social psychological perspective of Terror Management Theory (TMT). The first section provides a theoretical overview of the theory while the second section outlines the empirical assessment of TMT to date which has centred around three main hypotheses: the anxiety buffering hypothesis, the mortality salience hypothesis and the death thought accessibility hypothesis. The third and final section provides a critical appraisal of the theory.

### **3.2 Terror Management Theory**

Encapsulating the work of Becker, TMT argues that like all other living animals humans are born with the basic instinct for self-preservation (Greenberg, Solomon, & Pyszczynski, 1997). However, unlike their animal counterparts, humans also have highly advanced cognitive abilities. The sophisticated intellect of humans allows for a high degree of self-awareness and the capacity to think in terms of past, present and future (Solomon, Greenberg, & Pyszczynski, 2015). The capacity for such complex thought, however, is not without its limitations. These advanced cognitive capabilities also allow humans to be unambiguously aware of the frailty of their existence and the ultimate inevitability of their own mortality. In line with Becker (1973), TMT proposes that this cruel juxtaposition between humans pre-disposition for self-preservation and their unique consciousness for their inevitable mortality creates an existential dilemma. So great is the dilemma that it is capable of producing potentially crippling and terrorizing anxiety (Greenberg et al., 1997; Greenberg, Pyszczynski, & Solomon, 1986).

Despite this potential for crippling and terrorizing anxiety, it is evident that humans continue to function with a degree of normality on a daily basis. Ironically, it is the very same advanced intellectual abilities that give rise to the terror that also help manage it (Pyszczynski, Solomon, & Greenberg, 2015). Specifically, the terror and anxiety associated with the knowledge of existential certainty is said to be managed by investment in and adherence to cultural worldviews (Greenberg et al., 1997). As belief systems about the nature of reality, cultural worldviews provide standards by which human behaviour can be assessed; instilling life with order, meaning and significance (Greenberg et al., 1997; Solomon, Greenberg, & Pyszczynski, 1991). Maintaining faith and adhering to the standards of values prescribed by cultural worldviews makes it possible for individuals to feel significant and valued, TMT's conceptualization of self-esteem (Greenberg et al., 1997). Thus, when one is meeting or exceeding the prescribed values or behaviours encapsulated by cultural standards of value the feeling that one is significant and valuable (self-esteem) is enhanced. This sense of importance and value to the world, elicited by engaging in and living up to cultural worldviews, helps buffer against the anxiety associated with death and ultimately provides death transcendence, be it literally through beliefs in the afterlife or



symbolically through the lasting legacies that continue after death, see Figure 3.1 for an overview.

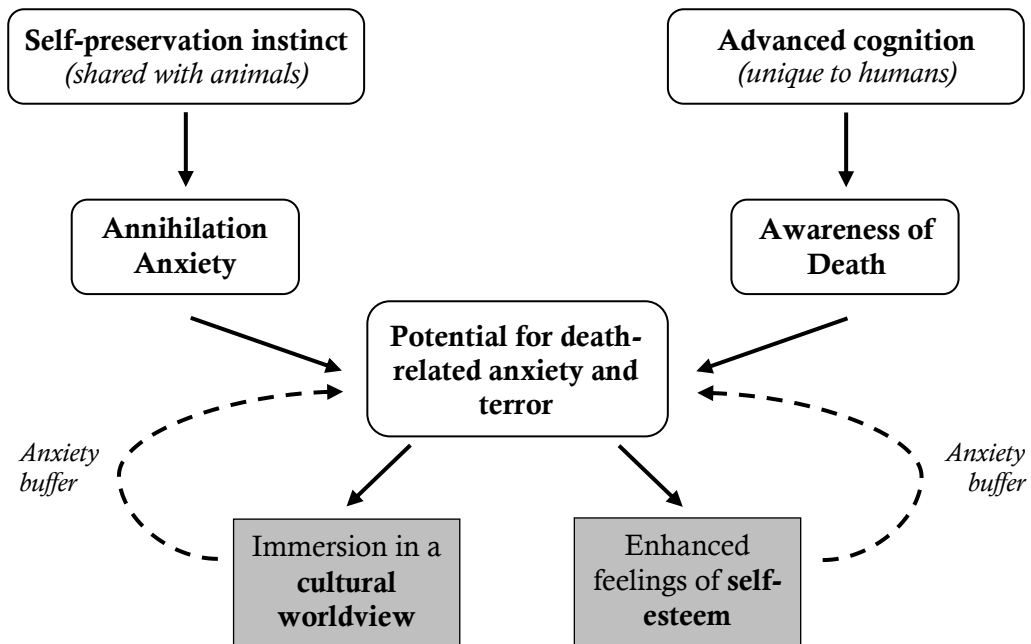


Figure 3.1 An overview of Terror Management Theory (Greenberg et al., 1997).

### 3.2.1 The Dual Process Model

While most people will undoubtedly have some emotional reaction to the thought of their own impending death, TMT proposes that it is the accessibility of death-related thoughts specifically, rather than the emotional and conscious experience of fear, anxiety, or terror associated with death, that drives terror management defences. Indeed, research consistently shows that experimental inductions of death reminders do not typically increase negative affect, anxiety, physiological arousal, or other forms of psychological distress (Pyszczynski, Greenberg, & Solomon, 1999). Pyszczynski et al. (1999) propose a dual process model specifying that distinct defensive responses are activated by thoughts of death that are conscious and those which are on the fringes of consciousness whereby death thoughts are highly accessible but are not in current focal attention, see Figure 3.2 for an overview. The model hypothesizes that thoughts of death which are in current focal attention first arouse direct threat focused proximal defences involving the suppression of death-related thoughts or pushing the problem of death into the distant future by denying one's vulnerability to various risk factors. These proximal defences are rational and serve to remove death thoughts from

focal attention. Once death-related thoughts are no longer in consciousness, distal defences occur which entail maintaining self-esteem and faith in one's cultural worldview. These defences, which are experiential and not semantically or rationally related to the problem of death, serve to manage the potential anxiety generated by the heightened accessibility of implicit death-related thought. The employment of these defences reduces death thought accessibility to a baseline level and thus anxiety is reduced. In support of the dual process model, a large body of evidence has shown that while proximal defences, such as denying ones vulnerability and supressing death-related thoughts, emerge immediately after death reminders distal defences, such as clinging to worldviews and self-esteem striving, emerge only after a delay and distraction when death-related thought is outside of consciousness (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997; Greenberg, Arndt, Simon, Pyszczynski, & Solomon, 2000).

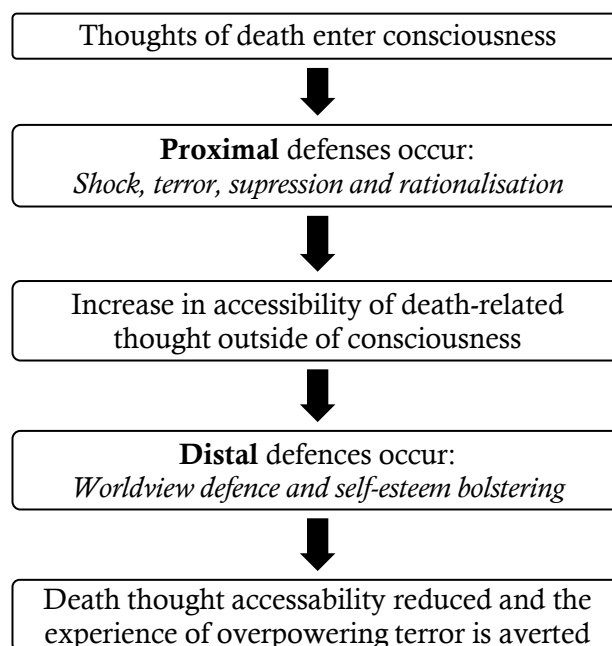


Figure 3.2 An overview of the Dual Process Model (Pyszczynski et al., 1999).

So while proximal defences serve to push death out of awareness, it is the sustained perception of oneself as a person of value in a world of meaning which ultimately allows the aversion for the potential anxiety that results from the increased accessibility of death-related thought (Pyszczynski, Solomon & Greenberg, 2015).

### 3.2.2 Summary

In summary, according to TMT the very knowledge of our existential certainty together with our biological propensity to live creates a potentially terrorizing

existential dilemma. The effective management of this potentially terrorizing anxiety associated with our impending death relies upon two key ingredients: faith in a meaning providing cultural worldview and the belief that one is a valuable contributor to this meaningful world (i.e. self-esteem).

### **3.3 The Empirical Assessment of Terror Management Theory**

The empirical assessment of TMT has been guided by the traditional experimental social psychology framework of deriving testable hypotheses based on the fundamental propositions of the theory. The assessment to date has focused on three main hypotheses: the anxiety buffering hypothesis, the mortality salience hypothesis and the death thought accessibility hypothesis. The following section provides an overview of each hypothesis, highlighting the significant impact which the very notion of mortality can have on a broad range of human behaviours.

#### **3.3.1 Anxiety Buffering Hypothesis**

According to the anxiety buffering hypothesis if a psychological structure, such as cultural worldviews or self-esteem, serves as an anxiety buffering function then strengthening or activating that structure should *reduce* anxiety in response to threats (Greenberg et al., 1992). Conversely, chronically low levels, threats or weakening of the psychological structure should *increase* anxiety in response to threats (Greenberg et al., 1997). Supporting this hypothesis, correlational research has demonstrated a consistent negative relationship between chronically low self-esteem and anxiety related problems (French, 1968; Solomon, Greenberg, & Pyszczynski, 1991; Templer, 1971). Adding to this, and providing causal evidence, Greenberg et al. (1992) showed that while participants who received neither a boost nor knock to self-esteem (control condition) showed a significant increase in self-reported anxiety in response to death related stimuli the effect was absent amongst participants who had previously received a self-esteem boost via bogus feedback. A follow-up study demonstrated that the same anxiety buffering effect of self-esteem in response to death related stimuli could also be detected via physiological measures. Using galvanic skin response as a physiological measure of arousal, Greenberg et al. (1993) showed that when participant's self-esteem was boosted, again via bogus feedback, they exhibited less physiological arousal in response to threat than those in the neutral self-esteem condition.

In terms of TMT, specifically the anxiety buffering hypothesis, experimentally increasing the belief that one is a valuable contributor to a meaningful world (i.e. self-esteem) served to effectively buffer against the potential anxiety associated with the death related stimuli. Subsequent studies have demonstrated that both systematically manipulating and chronically high levels of self-esteem can mitigate defensive reactions to death (Arndt & Greenberg, 1999; Harmon-Jones et al., 1997). Pyszczynski, Becker, Vandeputte, Greenberg and Solomon (1994) have also demonstrated that bolstering an individual's faith in valued aspects of their cultural worldview can serve a similar anxiety buffering function. When encouraged to write arguments that were supportive of their attitudes about the U.S. involvement in the Gulf War participants were found to be less prone to exhibiting anxiety, via both self-report and physiological measures, in response to death-related questions. Overall, research supports the proposed anxiety buffering function of self-esteem and cultural worldviews with high levels or strengthening of these psychological structures found to mitigate the anxiety typically associated with death related stimuli.

### **3.3.2 Mortality Salience Hypothesis**

If cultural worldviews and self-esteem help buffer against the potential terrorizing anxiety associated with reminders to mortality, people should therefore be highly motivated to maintain and defend against them (Greenberg et al., 1997; Solomon et al., 1991). The mortality salience hypothesis predicts this, that if psychological structures provide protection against anxiety, then reminding people of the source of their anxiety, mortality, should therefore lead to an increased need for that protection structure (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997). As such, the salience of mortality is predicted to lead to increased positive responses to anyone or anything that bolsters these protection structures (cultural worldviews and self-esteem) and decreased positive responses to anyone or anything which threatens them. In the classical demonstration, Greenberg, Solomon, Veeder, Pyszczynski, Rosenblatt, Kirkland and Lyon (1990) showed that after considering their own mortality Christian students responded more positively to other Christian students – seemingly those sharing and validating their worldview – but increasingly negative towards those who did not, in this case Jewish students. However, when mortality was not made salient there was no

significant difference in the evaluation of the targets. The research indicates that by making mortality salient people cling more tenaciously to their cultural worldviews, and those supporting them, in order to reduce the anxiety associated with death. As demonstrated by Greenberg et al. (1990) one of the strongest reported effects of mortality salience in the empirical literature is intergroup bias. The salience of mortality has been shown to exacerbate in-group biases between a wide range of groups including between nationalities (Castano, Yzerbyt, Paladino, & Sacchi, 2002; Nelson, Moore, Olivetti, & Scott, 1997) sexes (Fritsche & Jonas, 2005) and generations (Martens, Greenberg, Schimel, & Landau, 2004). Even in a minimal group paradigm mortality salient participants have demonstrated greater levels of in-group bias than those for which mortality was not made salient (Harmon-Jones, Greenberg, Solomon, & Simon, 1996). Using the Implicit Association Test (IAT) Bradley, Kennison, Burke and Chaney (2012) demonstrated that the salience of mortality does not only influence explicit but also implicit attitudes. On a weapon bias IAT test white mortality salient participants took significantly longer than white non-mortality salient participants to associate names of Black individuals with positive words.

As well as influencing in-group attitudes mortality salience has also been shown to exert significant influence on intergroup behaviours. For instance, mortality salient participants have been shown to physically distance themselves from out-group members (Martens et al., 2004; Ochsman & Mathy, 1994) and demonstrate increased aggressive behaviour to those who pose threat to their worldview (McGregor et al., 1998). While the majority of research on TMT often portrays the effects of mortality salience to be negative, reminders of death can also exert positive effects on behaviour. Jonas, Schimel, Greenberg and Pyszczynski (2002) found that reminders of mortality increased pro-social behaviour in what has been dubbed as the '*Scrooge Effect*'. Interviewed in front of a funeral home, compared to a few blocks away, people were found to be more favourable towards charitable organizations. In line with previous research, mortality salient participants were more prone to show pro-social behaviour toward the in-group, donating more money to national rather than international causes. Beyond intergroup bias mortality salience has been found to increase: stereotypic thinking in regards to African Americans, gender roles and

homosexuality (Schimel et al., 1999), the belief in the divine and supernatural (Norenzayan, 2006), desire for fame (Greenberg, Kosloff, Solomon, Cohen, & Landau, 2010), desire for children (Wisman & Goldenberg, 2005) and the sacred treatment of cultural icons such as the American flag (Greenberg, Porteus, Simon, Pyszczynski, & Solomon, 1995).

The mortality salience hypothesis is the most widely researched proponent of TMT making up 83% of TMT publications. A recent meta-analysis concluded mortality salience to have a moderate to large effect on a range of measures (Burke, Martens, & Faucher, 2010). In the empirical literature the salience of mortality has been manipulated in various ways including: via accident footage (Coolsen & Nelson, 2002; Nelson et al., 1997), proximity to funeral homes and cemeteries (Gailliot, Stillman, Schmeichel, Maner, & Plant, 2008; Jonas et al., 2002) and through subliminal death primes (Arndt et al., 1997). Overall, mortality salience research indicates that after mortality is made salient individuals respond more favourably to people or ideas which share or validate their worldview and negatively and often derogatively to people or ideas who threaten or violate a valued aspect of their cultural worldview. It is seemingly important for individuals to surround themselves with worldview supporters, who reinforce their beliefs and values, in order to reduce the anxiety associated with death.

### 3.3.3 Death Thought Accessibility Hypothesis

While the majority of research on TMT has focused on the aforementioned anxiety buffering hypothesis and mortality salience hypotheses a third hypothesis, the death thought accessibility hypothesis, has recently received attention. The death thought accessibility hypothesis proposes that if a psychological structure, such as cultural worldviews or self-esteem, provides protection and buffers against death awareness, then weakening the structure should *increase* the accessibility of death related cognitions while strengthening it should *decrease* accessibility (Schimel, Hayes, Williams, & Jahrig, 2007). Offering, in essence, the inverse perspective to that of the mortality salience hypothesis. The first line of research in support of the death thought accessibility hypothesis concerns the effect of relationship threat on death related thoughts. Mikulincer, Florian and Hirschberger (2003) propose that, like self-esteem and cultural worldviews, close relationships may also serve as a mechanism to buffer against death anxiety since

they essentially offer a source of symbolic immortality. Mikulincer, Florian and Hirschberger (2003) reason that since close relationships provide an opportunity to procreate and raise offspring this can reinforce a sense of immortality, albeit it symbolically, in that one will continue to transcend beyond death but via the their offspring. A second line of reasoning is that close relationships have been recognized as an important source of one TMT's key psychological buffering structures, self-esteem (Leary, 1999; Leary, Tambor, Terdal, & Downs, 1995). Leary (1999) suggested that people monitor the degree to which they are valued and accepted by significant others and that one important output of this monitoring is the sense of self-esteem. High self-esteem implies a feeling of being accepted and valued by others, while low self-esteem is derived from social rejection and the failure to maintain close bonds. Using this conceptualization of romantic relationships as an additional death anxiety buffering structure, Florian, Mikulincer and Hirschberger (2002) found that contemplating relationship problems led to higher accessibility of death related thoughts, measured by the number of incomplete word stems completed in death-related ways (e.g. COFF\_ \_ could be completed as COFFEE or with the death related COFFIN), than control conditions. Mikulincer, Florian, Birnbaum and Malishkevich (2002) not only replicated this effect, finding having people think about separation from their current partner increased death thought accessibility, but also found evidence to indicate that the longer the separation was from the relationship partner, the increased death-thought accessibility. More recently research has focused on the effects of weakening the psychological structures explicitly outlined in TMT, cultural worldviews and self-esteem. In agreement with findings by Florian and colleagues, participants have shown an increase in the number of incomplete word stems completed in death related thoughts when their self-esteem was threatened via bogus feedback (Hayes, Schimel, Faucher & Williams, 2008). Similarly, Schimel et al. (2007) exposed Canadian participants to either a webpage that attacked fundamental Canadian values or a webpage that attacked values that were irrelevant to Canadians worldviews and found higher levels of death thought accessibility amongst those whose worldview was being threatened (anti-Canada webpage). Overall, death thought accessibility research indicates that when threats

are made to any vital component of a person's anxiety buffering mechanism the accessibility of death related cognitions is significantly increased.

### 3.3.4 Summary

In summary, TMT asserts that much of our behaviour is motivated by the overlapping need to defend valued aspects of cultural worldviews and to preserve self-esteem. The theoretical and empirical inquiry into TMT has confirmed this demonstrating that thoughts about human mortality can affect a broad range of socially significant behaviours which are often unrelated to the issue of death in any superficial or semantic way, including interpersonal evaluations, judgments of moral transgressors, stereotyping, in-group bias, aggression, social consensus estimates, and conformity to personal and cultural standards.

## 3.4 Critique and Alternatives to Terror Management Theory

The basic premise of TMT was first presented to an academic audience at the 1984 meeting of the Society of Experimental Social Psychology. At the time the interdisciplinary nature of the theory, drawing together sociology, anthropology, existential and psychoanalysis, did very little to enthuse the audience and even less so when ideas by the likes of Freud and Becker presented (Solomon, Greenberg, & Pyszczynski, 2015). 30 years later, and with over 400 studies and counting, TMT still attracts its fair share of scrutiny and criticism. The following section provides a brief discussion of the most important and dominant criticisms of TMT as well as briefly outlining the key alternative explanations and models to TMT.

### 3.4.1 What is so special about death?

By far the most common critique of TMT is whether the observed effects are driven by thoughts of death, per se, or whether death is simply a more specific instance of threat in general (Pyszczynski et al., 2015). That would be to say, is it that there is something specifically *qualitatively* different about the topic of death or is it that death is merely *quantitatively* different from other forms of threat. TMT critics (for example, Martin & van den Bos, 2014; McGregor, 2006; Proulx & Heine, 2006) argue the latter, that death is merely a specific instance of threat in general, and it is this which accounts for the reported effects in TMT research.

Supporting their stance, a growing body of research demonstrates that threats other than death can elicit effects comparable to that of mortality salience.



McGregor, Zanna, Holmes and Spencer (2001) demonstrated that considering a complex personal dilemma, evoking uncertainty, resulted in harsher reactions to unrelated social issues including the death penalty. Likewise van den Bos and Miedema (2000) have shown when people are reminded about aspects of their lives that make them feel uncertain they are in greater need of fairness. Uncertainty has also been shown to increase conviction for religious beliefs, support for religious warfare and out-group religious derogation (McGregor, Haji, Nash, & Teper, 2008). Additionally, Heine, MacKay, Proulx and Charles (2005) have also provided initial evidence that a lack of meaning in life, via bogus feedback, leads to harsher judgments of prostitutes and greater nationalistic bias. Taken together, these findings demonstrate that other forms of threat, namely threats to certainty and meaning, can produce comparable effects to that of mortality and thus support the argument that the observed effects of mortality may not be driven by thoughts of death *per se* as TMT sets out.

From the very outset, however, TMT researchers have been mindful of this key critique and keen to demonstrate that the effects of mortality are driven by thoughts of death *per se* and that the same effects cannot be elicited simply through any aversive event or negative affective state (Pyszczynski et al., 2015). Firstly, to provide assessment of these alternative explanations mortality salient conditions have consistently been compared to various aversive control conditions including: failure (Arndt, Greenberg, & Cook, 2002), taking an exam (Arndt et al., 1997), public speaking (Cox, Goldenberg, Arndt, & Pyszczynski, 2007), dental pain (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989) and intense pain (Arndt et al., 1997), none of which have produced effects equivalent to that of a mortality salience induction (Pyszczynski, Greenberg, Solomon, & Maxfield, 2006). A recent meta-analysis (Burke et al., 2010) synthesizing the current mortality salience research has also sought to clarify this by comparing the effect size of mortality salience studies which have used threatening or negative control topics (e.g. paralysis, physical pain, dental pain) with those using non-negative control topics (e.g. watching TV, food, listening to music). Burke et al. (2010) reasoned that if threatening control topics produce *smaller* mortality salience effects than non-negative topics then this indicates, in line with TMT critics, that death is simply an extreme version of a threatening condition. However, if the

threat level of the control topic makes no significant difference in the magnitude of mortality salience effect then this indicates, in line with TMT theorists, that there is something uniquely different about the threat of death. Supporting the fundamental principles of TMT, Burke et al. (2010) reported there to be no significant difference in mortality salience effect size according to type of control topic. This suggests that death does not elicit its effects merely because it is more negative or aversive than other threats but rather because there is perhaps something uniquely different about the threat of death.

The issue with the concept of death, and one that is central to this critique, is that death is not a unitary concept but a multifaceted one (Florian & Kravetz, 1983). People fear death for countless reasons, including those which have been offered as alternative explanations for mortality salience effects: uncertainty and lack of meaning (Florian & Mikulincer, 1998). At the very core of TMT however the very issue with death is simple; it entails not living, the terror of absolute annihilation (Solomon et al., 1991). TMT theorists propose that the multifaceted nature of death may mean that threats such as meaning, uncertainty and belongingness produce comparable effects because they are semantically or experientially linked in some way to the concept of death. To illustrate, research has shown that the presentation of the numerals 911 or the abbreviation WTC can increase the accessibility of death related thought (Landau et al., 2004). Seemingly these reactions occur due to the implicit association between these numerals and the 9/11 terrorist attacks. By similar reasoning, Pyszczynski, Greenberg, Solomon and Maxfield (2006) propose that Navarrete, Kurzban, Fessler and Kirkpatrick's (2004) findings of the increased nationalistic bias after thoughts of the non-specific threat of robbery could be attributed to an underlying association between robbery and themes of mortality amongst their Costa Rican sample. In Costa Rica robbery is considered a prevalent threat, often involving the use of physical force and violence, which often turns out to be deadly. It is therefore plausible that in considering the non-specific threat of robbery participants activated death related nodes through associative networks that in turn elicited nationalistic bias. Likewise McGregor et al.'s (2001) finding of non-mortality inductions increasing intergroup bias may have also been confounded by thoughts of death. It is possible that asking participants with a reported mean age of 19 to imagine 35 years into

the future may activate death related nodes with the transitory nature of life bringing death-related associations closer to consciousness.

### 3.4.2 Compatibility with Evolutionary Psychology

While TMT has its roots in evolutionary theory, many evolutionists have called into question the compatibility of the theory with contemporary thinking on evolution (Buss, 1997; Kirkpatrick & Navarrete, 2006; Navarrete & Fessler, 2005). As discussed, TMT is based on the premise that humans, like other animals, have a survival instinct and it is the presence of this survival instinct alongside their unique consciousness for the inevitability of their own death that is said to create a potentially terrorizing existential dilemma (Greenberg et al., 1997). However, Buss (1997) has argued that the term '*survival instinct*' is based upon an outdated evolutionary perspective of favouring survival over reproductive success. Grounded in the pioneering works of Hamilton (1964) and Williams (1966), however, it is now generally accepted that organisms function in ways which will increase the likelihood of their genes being represented in future generations. From this perspective, contemporary evolutionary theory emphasizes that it is primarily reproduction, rather than survival, which is thought to drive the evolutionary process (Buss, 1997). Furthermore, the generalised notion of a survival instinct to avoid death, as alluded to in TMT, would, at least in principle, be redundant with no adaptive value since it provides no guidance or instruction on how to accomplish the goal. Accordingly, Kirkpatrick and Navarrete (2006) suggest that it is unlikely natural selection would produce a survival instinct, such as that suggested in TMT, since such an instinct would be superfluous with no adaptive value at best and at worst maladaptive.

Whether rooted in a survival instinct or not, more fundamentally Navarrete and Fessler (2005) question the feasibility of natural selection ever designing a system, such as that proposed in TMT, whose primary function was to undermine something as functional as fear. From the functionalist perspective emotions, such as fear and anxiety, are adaptive responses designed by natural selection to respond to specific fitness challenges (Buss, 1990; Fessler & Hayley, 2003). As such we are designed to become fearful in response to cues of potential danger. On this basis, Navarrete and colleagues (Fessler & Navarrete, 2005; Kirkpatrick and Navarrete, 2006) argue that inhibiting fear would have been

maladaptive to our ancestors and as such it would be implausible that psychological processes for inhibiting anxiety, such as those posited by TMT, would ever evolve to still be active today. Adding to this, it seems unlikely from a practical level at least that natural selection, a conservative process, would have designed such a complicated and unreliable solution for dealing with paralyzing death anxiety as proposed by TMT (Kirkpatrick and Navarrete, 2006). A simpler solution, for instance, would be to address the problem of excessive death anxiety in the first instance through the recalibration of anxiety mechanisms. By modifying the parameters anxiety could be prevented from ever getting to the stage of becoming as paralyzing and terrifying as TMT indicates which would save the need for any additional psychological system to manage the terrorizing anxiety.

For TMT researchers' key to this evolutionary critique is the misconstruction of what the threat actually is. Contrary to how evolutionists appear to have interpreted the theory, TMT does not predict world-view defense behaviours in response to imminent threats (Landu, Solomon, Pyszczynski & Greenberg, 2007). That is, TMT does not claim that thinking about your religion for instance, or indeed any other cultural worldviews, will provide you with any protection from the immediate threat to life of say sitting in the middle on a dual carriageway. From this perspective, TMT theorists would agree with the critique that in cases of impending threat, such as oncoming speeding cars, TMT defence mechanisms would have little adaptive value (Landu et al, 2007; Pyszczynski, et al, 2006). However, TMT concerns the role that self-esteem and cultural worldviews play in managing the potential for anxiety which results from the ever-present awareness of the *ultimate inevitability* of death rather than the immediate threat to ones continued existence (Landu et al, 2007). While fears of impending dangers are indeed adaptive in that they motivate action in order to avoid the threat, Pyszczynski, Greenberg, Solomon and Maxfield (2006) propose that fear of the inevitability of death is uniquely different in that nothing can be done to avoid our ultimate death; it is as Benjamin Franklin wrote one of life's certainties. This review of TMT research shows that in being reminded of death via mortality salience manipulation, participants are never placed in situations that pose a threat to their immediate survival. This is not coincidental or due to ethical constraints but rather because mortality salience reminders serve to remind participants of the

perpetual psychological problem of death. Consistent with this is a significant body of research showing that MS effects are not mediated by subjective anxiety, affect, or mood, as might be expected if MS aroused concern with clear and present dangers (Pyszczynski, Greenberg, & Solomon, 1999). So while fear in response to imminent threats may indeed be adaptive, TMT researchers propose that the fear in response to the awareness of inevitable death is not and thus explains why our ancestors developed alternative ways to overcome it. In turn, this offers support to the theoretical basis of TMT, the idea that mortality salience effects are a unique mechanism applied by humans, since only humans have evolved the capacity to be able to intellectually envisage their own death and what that means from an existential perspective.

### 3.4.3 Alternative Explanations

A number of explanations and theoretical models have been put forward to provide alternative explanations for TMT research. The key alternative explanations and models are now discussed briefly.

#### **Coalition Psychology**

Based upon the evolutionary critique of TMT Navarrete and Fessler (2005), supported by Kirkpatrick and Navarrete (2006), propose Coalitional Psychology (CP) as an alternative to TMT. CP derives from the idea that much like our animal counterparts, humans live in groups or coalitions and these coalitions, amongst other things, help defend humans against harm from others (Kirkpatrick & Navarrete, 2006). Navarrete et al. (2004), propose that our ancestors were confronted with an assortment of problems, including starvation, illness, disease and threats from others, for which acquiring social support from fellow group members could significantly improve their fitness consequences. As such, according to CP, modern humans have inherited an evolved propensity to respond to adaptive challenges with behaviour that increases ones' likelihood of forming and maintain coalitions with group members (Navarrete & Fessler, 2005). From this perspective, CP predicts that the phenomena documented by TMT, whereby the salience of death increases endorsement of the normative beliefs of the in-group, can be interpreted as attempts to enhance the maintenance and formation of allies and coalitions in order to solve an adaptive problem. CP proposes, contrary to TMT, that a range of stimuli in *addition* to mortality will lead to an

increased defense of the normative worldview. Across a series of studies Navarrete and colleagues (Navarrete, 2005; Navarrete, Kurzban, Fessler, & Kirkpatrick, 2004) demonstrated that contemplation of theft of resources, social isolation and soliciting help from others increased participants support for a pro-nationalist author, compared to a societal critic, when compared to participants who contemplated a neutral theme. The results indicate in support of CP that worldview defense behaviours can be elicited in the absence of death related stimuli when there are fitness concerns that can be addressed through coalition membership (Kirkpatrick & Navarrete, 2005).

In response Pyszczynski, Greenberg, Solomon and Maxfield, (2006) highlight that the very same evolutionary critique made by Kirkpatrick and Navarrete (2006) of TMT's generalised survival instinct having no adaptive value can also be made of CP. From the same perspective, the general tendency to form and maintain coalitions with group members in order to solve adaptive problems as proposed by CP is also untenable; it provides no guidance or instruction on how to accomplish the goal. Furthermore, TMT theorists argue that while CP accounts for some TMT findings it falls short in its ability to account for the diversity of findings produced by not only the mortality salience hypothesis but also the other hypotheses' derived from TMT. For instance, Landau Greenberg, Solomon, Pyszczynski and Martens (2006) reported that after mortality was salient participants showed greater aversion to abstract art compared to those in a control condition. Landau et al. (2006) proposed that mortality salient participants derogated the modern, abstract art as it was in violation of participant's cultural norms associated with art. From the perspective of CP however, it is unclear how such an aversion to abstract art would enhance the maintenance and formation of allies and coalitions as the theory predicts. Finally, the CP perspective does not account for differential effects reported when thoughts of death are conscious and those where thoughts of death are on the fringes of consciousness as outlined earlier by the dual process model, see Figure 3.2.

### **Meaning Maintenance Model**

According to Heine, Proulx and Vohs' (2006) Meaning Maintenance Model (MMM), humans are meaning makers. Within the model, meaning is conceptualised as what links people, places, objects, and ideas to one another in

expected and predictable ways. From this perspective, meaning allows humans to maintain an accurate understanding of the world. Central to the MMM is that as meaning makers, threats or disruptions to meaning frameworks lead to attempts to restore meaning, often in domains which are unrelated to the original disruption (Heine, Proulx & Vohs, 2006). The MMM therefore predicts that the phenomena documented by TMT is due to death undermining meaning frameworks rather than the desire to avoid the terror associated with the awareness of our own mortality. Indeed research has demonstrated non-mortality threats to meaning can elicit comparable effects to mortality salience manipulations. Giving participants rigged questionnaire feedback that their life was low in meaning, thus evoking meaning disruption, Heine, Proulx, MacKay, and Charles (2007) found participants responded in the same way as participants in a mortality salient condition, with increased negative responding towards a critic of their country and legal transgressor. In a further study drawing upon Bruner and Postman's (1949) work with perceptual paradigms, Proulx and Heine (2007) used a transmogrifying experimenter paradigm in which experimenters were secretly switched without participants notice to evoke disruption to a meaning framework. It was found that participants in the transmogrifying experimenter condition demonstrated greater affirmation of moral beliefs compared with participants in a control or mortality salience condition.

As Benjamin Franklin sums up in the opening of this chapter, there is very little refuting that the inevitability of death is unfortunately an unpleasant fact of life. As such the knowledge that our physical being has an expiration date is ingrained in the meaning systems of us all, with perhaps the exception of the youngest of children. As such, following the MMM's description of meaning, '*any way that things can be connected*' (Heine et al., 2006, pg. 90), it would therefore seem highly implausible that the major reason death is threatening is because it undermines meaning. Rather, Pyszczynski et al. (2006) suggest that the MMM has the issue in reverse; it is not that people fear death because it undermines meaning; it is that people need life to be meaningful to protect from the fear associated with death.

A key proposition of TMT is that unless something is an important element of a person's anxiety-buffering worldview or self-esteem then it will not require

broad meaning maintenance. As such, the potential anxiety resulting from the awareness of death can bias the meanings that people prefer. For instance, while the American flag for some means liberty and freedom, for others it symbolizes exploitation and domination. This is where TMT fundamentally differs from the MMM; the MMM can't account for *why* some meanings are preferred over others. The MMM infers that effects rise when any threats or disruptions are made to meaning frameworks. The MMM provides no specification of which meanings people seek and which they avoid and no basis for predicting the direction of people's responses to threats.

However, that being said at their very core TMT and the MMM can be conceptualised as essentially tenants of the same broad theory (Proulx & Heine, 2010). Both are based upon the same broad notion that meaning structures are needed for the successful navigation through life and as such when these meaning structures are threatened attempts are made to reaffirm meaning structures. However, while the MMM takes a generic approach and assumes the function of meaning structures is to curb aversive arousal in general, TMT specifies that the function is to specifically to curtail thoughts and concerns about death.

### **3.5 Conclusion**

This chapter has presented a theoretical review of the novel existential social psychological perspective provided by TMT. At the heart of the theory is the cruel juxtaposition between two simplicities; life and death. What the chapter has shown is that the issue of death is a curious one, seemingly having a profound impact on a whole range of human behaviours. While certainly not without is limitations, it would seem that the existential social psychological perspective provided by TMT can offer an alternative lens through which to understand important and crucial aspects of human behaviour.



## Chapter 4

# Putting the Grim Reaper on the Stand

*'When liberty comes with hands dabbled in blood it is  
hard to shake hands with her.'*

Oscar Wilde (1854 - 1900)

### 4.1 Introduction

The most recent statistics for crime in England Wales has revealed a 14% increase on last year in the number of murders and manslaughter deaths, attributing to an average 11 deaths per week or 574 annually (Office for National Statistics, 2016). Signifying the most serious crime type these infractions typically represent a category of offence that can only be tried at Crown Court before a judge and jury (represented in Figure 2.2 in Chapter 2 as an indictable only offence). From this perspective, it can be seen that the topic of human mortality, perhaps now more than ever, is never too far from the courtroom. Inspired by Becker's interdisciplinary approach to understanding human behaviour and the proposed relationship between psychological science and law, as outlined in Chapter 2, the aim of this chapter is to apply the existential social psychological perspective of Terror Management Theory (TMT), as discussed in Chapter 3, to the legal domain. The application of TMT to the legal domain, specifically to trial by jury, may offer new insights into the behaviour of jurors as well as advancing the empirical assessment of TMT. The chapter begins by outlining the scope for mortality being a salient issue in the courtroom before outlining research to date that has applied the existential social psychological perspective of TMT to the legal domain. The final section identifies key outstanding issues in the application of TMT to the legal domain which form the aims and rationale of the thesis.

## **4.2 Mortality Salience in the Courtroom**

The very essence of the role of the jury means that, unfortunately, themes of mortality are often a frequent occurrence. As can be seen by recent statistics, reserved for the most serious and odious of crimes, including murder, assault and rape, the very charge on a case (e.g. murder, attempted murder etc.) could be adequate to necessitate the discussion of mortality related issues in the courtroom. The issue of mortality may also arise through witness statements and evidence. The use of graphic photographic evidence, for instance, is frequent in criminal cases often capturing explicit aspects of the crime scene or even of the victim (Douglas, Lyon, & Ogloff, 1997). In many jurisdictions victims of crime and their families have the right to release a victim impact statement detailing to the judge and jury how the crime has affected them (Crown Prosecution Service, 2015). While typically read out during the sentencing phase of a trial, these statements often concern the emotional impact of the crime and as such may resonate themes related to mortality with the judge and jury.

In America, capital cases also offer a unique perspective on the occurrence of mortality in the legal domain. Unlike other criminal cases, capital cases are composed not only of the guilt phase, where jurors decide the culpability of the defendant but also a penalty phase if the defendant is found guilty. During this phase the jury must consider whether to recommend a death sentence or a lesser custodial sentence. As such, in capital cases not only is there the potential for mortality to be made salient via the crime type but also through the notion that, if found guilty, the jury must consider the potential death of the defendant. This is also not forgetting that jurors are not raised in a social vacuum (Stephenson, 1992) and it is possible that events outside the courtroom may raise issues of mortality that can influence what happens inside the courtroom. There is direct experimental evidence to show that terrorism-related events, for instance, can significantly increase mortality related thoughts (Landau, 2004). Mortality may also, inadvertently, be made salient through key historical events such as wars and economic and political upheaval (Judges, 1999).

The courtroom environment, and in fact the very nature of the role of the jury, may also provide the optimal conditions for eliciting mortality salience effects. TMT's Dual Process model, as outlined in Chapter 3, proposes that

worldview defence and self-esteem striving behaviours are more likely after a delay or distraction when death related thoughts are on the fringes of consciousness (Burke et al., 2010; Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). From this perspective, the hours upon hours of evidence that jurors often endure may provide an adequate delay between the initial death prime and the final verdict for thoughts of death to be pushed to consciousness and for distal defences to occur. Directly relevant to the courtroom setting in which jurors are often placed in conditions of high cognitive load, due to evidence volume and complexity, there have also been instances of distal defences emerging immediately when cognitive load is high (Arndt, Greenberg, Pyszczynski, & Solomon, 1997; Arndt, Greenberg, Solomon, Pyszczynski, & et al, 1997).

Overall, it is clear that themes of mortality and threat to human life are topics that are ingrained in the courtroom. While exposure to such information has previously been shown to have significant impacts on the well-being of jurors (Matthews, Hancock, & Briggs, 2004; Shuman, Hamilton, & Daley, 1994), social psychological research based on TMT (Greenberg et al., 1986) would suggest that the recurrent salience of mortality in the courtroom could also have significant implications for the institution of trial by jury. With this in mind, the next section seeks to apply the existential social psychological perspective of TMT, specifically the mortality salience hypothesis, to the legal domain.

### **4.3 The Existential Perspective on Legal Decision Making**

As outlined in Chapter 3 the mortality salience hypothesis predicts that if psychological structures, such as cultural worldviews and self-esteem, provide protection against anxiety, then reminding people of the source of their anxiety, mortality, should lead to an increased need for that protection structure (Greenberg et al., 1997; Solomon et al., 1991). Applied to the courtroom, the potential frequent reminders of mortality in the courtroom, as outlined in the previous section, may lead jurors to implicitly want to defend, and invest in, their own cultural worldviews as a means of reducing the potential anxiety associated with reminders of mortality. Arndt, Lieberman, Cook and Solomon (2005) propose that the Criminal Justice System (CJS), as outlined in Chapter 2, reflects many important elements of a cultural worldview. Statues of law, for instance,

provide a sense of meaning to the world by defining to a given culture what is and what is not appropriate moral behaviour, as well as the consequential nature of non-adherence (Arndt et al., 2005). In support of this proposition, that fairness and legal standards are an important part of most individual's worldviews, reminders to mortality have been shown to increase individuals concerns about upholding the law (van den Bos & Miedema, 2000; van den Bos, 2001). Presumably, these reactions occur because ideals of fairness and the associated legal standards are an important part of most individuals' worldviews. Drawing upon empirical evidence relating to the mortality salience hypothesis, as outlined in Chapter 3, it can be predicted that the frequent occurrence of mortality in the courtroom may lead to an increased negative response to a target in violation of the most salient cultural worldview in the courtroom; a legal transgressor.

As one of the first empirical demonstrations of the mortality salience hypothesis, Rosenblatt, Greenberg, Solomon, Pyszczynski and Lyon (1989) provided initial evidence of the significant effect that the salience of mortality can have in the courtroom. Asked to judge the case of an alleged prostitute, court judges were found to treat the legal transgressor significantly harsher after mortality was made salient. Although trained as objective administrators of law, there was a nine-fold discrepancy in the judge's bail amounts according to the salience of mortality. This discrepancy, from a TMT perspective, is an example of engagement in worldview defence behaviour. Seemingly, due to their role as administrators of law, the judges held strong beliefs in the legal statues and the legal system. Thus, when reminded of their mortality, they were more punitive to those who threatened this valued aspect of their beliefs, that being the engagement in illegal behaviour by the prostitute. Supporting the earlier proposition that legal standards are perhaps an important aspect of most individual's worldviews, the same effect of mortality salience on bail bonds was also found amongst students. Subsequent research has replicated and extended the effect finding it to generalize beyond prostitution to a broad range of social and legal transgressions including: robbery, fraud, medical malpractice and assault, with the defendant consistently judged significantly harsher after mortality is made salient (Florian, Mikulincer, & Hirschberger, 2001; Florian & Mikulincer, 1997, 1998; Lieberman, Arndt, Personius, & Cook, 2001 (study 1); Pickel & Brown, 2002).

Seemingly counter to TMT, it has also been reported that mortality salience does not necessarily always elicit negative responding towards a legal transgressor. Investigating hate-crime, Lieberman, Arndt, Personious and Cook (2001, study 2) found that the salience of mortality could in fact *increase* leniency towards perpetrators of this specific crime type. Hate crimes are defined as any crimes committed against a person because of their disability, gender-identity, race, religion or sexual orientation (Crown Prosecution Service, 2015). According to Lieberman et al. (2001) hate crimes offer a unique perspective on the issue at hand since both the perpetrator and the victim may pose a worldview threat. In keeping with previous research (Florian, Mikulincer, & Hirschberger, 2001; Florian & Mikulincer, 1997, 1998; Pickel & Brown, 2002) mortality salient participants were found to be more punitive towards the perpetrator than participants in the control condition when presented with a non-specific crime description. However, when responding to a crime that specifically described antigay or anti-Semitic attacks (i.e. hate crime attacks) mortality salient participants were found to be *less* punitive towards the perpetrator than control participants. Lieberman et al. (2001) proposed that for this specific crime class it was perhaps the *victim* rather than the perpetrator who represented a threat to some valued aspect of the juror's worldview. Therefore, in TMT terms, the behaviour of the perpetrator can be interpreted as *defending* a valued aspect of their worldview rather than *violating* a valued aspect of their worldview as seen in previous research. Thus, in the legal domain the effects of mortality may vary depending on the motivations of the offenders and the cultural worldviews of those judging. Supporting this proposition is archival data in relation to the impact of 9/11 on the judicial system. 9/11 for many undoubtedly resonates the issue of mortality and as such provides a real-life platform for the examination of TMT. In the immediate aftermath of the tragic event it was, albeit anecdotally, reported that jurors were responding significantly differently in trials to that seen before the attacks (Lawyers Weekly, 2003; Sepos, 2001). Utilizing archival data on criminal sentencing in America pre and post 9/11 Stein, Steinly and Cropanzano (2011) found, in line with the predictions of TMT, there to be a significant increase in sentencing for crimes such as murder and sexual abuse post 9/11. However, there was no difference in sentencing for crimes such as income tax evasion. Echoing Lieberman et al.

(2001), Stein and colleagues argued that crimes such as tax evasion are perhaps views as less morally outrageous and thus are not perceived as violating deeply held moral norms. Crimes such as murder and sexual abuse however are perhaps seen as more mortally wrong and thus *are* perceived as violating deeply held moral norms, which is reflected in harsher sentencing after 9/11 when mortality was highly salient.

Overall, there is increasing evidence to indicate that there are abundant opportunities for mortality to be made a salient issue within the legal domain, which, in turn, has been shown to substantially influence the legal decision making.

#### **4.4 Aims of Thesis**

This section will set out the aims of the thesis. It will first provide a brief overview of what has been learned from previous research followed by an outline of the research questions, which form the basis of the thesis.

##### **4.4.1 What We Know**

Despite being considered '*the cornerstone of the English Criminal Justice System*' (Auld, 2001, pg.135) and commanding great public confidence the tradition of trial by jury is fast becoming an endangered species within the English CJS. At the very heart of the issue is ironically its defining feature; the random selection of 12 *ordinary citizens*. As such, jurors, just like you or I, are fallible. In order to improve and save trial by jury from extinction it is therefore imperative to understand the underlying processes which are liable for the behaviour of jurors. With its acute focus on human behaviour, the application of psychological theory can provide great insight. Drawing specifically on the novel existential social psychological perspective of TMT it has been noted that the very idea of death can have a significant impact on a broad range of social behaviours. While TMT has been applied broadly to the legal domain and legal decision making it has yet to be applied specifically to juries. Given the potential for death in the courtroom, be it through the nature of the crime tried, the evidence presented or even through societal, economic or political events, it is evident that the application of TMT to jury decision making could shed light and offer alternative perspectives on the behaviour of jurors.

#### **4.4.2 The Present Research**

The present thesis takes an interdisciplinary approach, applying broad social psychological theory to the legal domain in order to understand and gain new insights into the underlying processes that are liable for the behaviour and decisions of jurors. Specifically, the thesis draws upon the social psychological perspective of TMT to examine the potential impact that the topic of death may have on legal decision making. While the research thus far on the application of TMT to the legal domain is compelling, there remain some unanswered questions, especially in relation to how TMT may apply to jurors. This section will now outline these questions providing the rationale for why it is necessary to ask these questions and how this thesis intends to answer them.

##### **What impact does mortality salience have on the juror decision making process?**

To date, the majority of research investigating the impact of mortality salience in the legal domain has tested the hypothesis primarily in relation to its impact on the *outcome* of juror decision making, that is the final culpability of the defendant (e.g. Florian, Mikulincer, & Hirschberger, 2001; Florian & Mikulincer, 1997, 1998). Notably, there has been a distinct absence of research considering impact that mortality salience has on the juror decision making process which precedes the final verdict decisions. If we are to gain new perspectives into the underlying processes which may influence the behaviour of jurors in the courtroom it is seemingly imperative to understand the process by which jurors arrive at the final decision. In light of this the overriding aim of the thesis is to examine the impact of mortality salience within a more reflective model of juror decision making in the courtroom, documenting the effects of mortality salience on the juror making process rather than just the outcome of juror decision making, i.e. the culpability of the defendant, as research to date has focused on.

##### **What impact does mortality salience have on juror attitudes?**

Drawing upon prevailing models of juror decision making the thesis will first examine the impact which mortality salience has on juror's attitudes. Experiment 1, a cross sectional study, will consider the impact of mortality salience on general pre-trial attitudes while Experiment 2 will examine the impact of mortality

salience on juror's attitudes during a trial and how these may go on to influence and shape jurors' final decisions.

**What impact does mortality salience have on juror's information processing?**

In line with a reflective model of juror decision making the thesis will then examine the impact which mortality salience has on juror's information processing. More specifically, Experiment 3 and Experiment 4 will examine how mortality salience effects the manner in which jurors process trial evidence. Experiment 3 will examine how mortality salience effects recall of trial evidence while Experiment 4 will examine how jurors interpret trial evidence. Both experiments will examine how the manner in which jurors recall and interpret evidence influences and shapes jurors' final verdict decisions.

**What impact does the mortality of another person have on juror decision making?**

The very nature of the violent and serious types of crimes reserved for trial by jury mean, unfortunately, it is often the mortality of a victim or even victims that is most salient. While a large body of work has been conducted investigating the mortality salience hypothesis very few studies to date have examined the impact of making the mortality of another person salient. Due to the propensity for which the mortality of others may be salient in the courtroom Experiments 5 and 6 will examine the impact of the focus of mortality, personal or other, has on the juror decision making process.

**What impact does the mortality salience have on jury decision making?**

The majority of jury decision making research concentrates on effects at the individual juror level. In light of this, the final experiment, Experiment 7 will examine what impact reminders of mortality may have at the group (jury) decision making level within the same reflective model of juror decision making as outlined in previous chapters.

## **4.5 Methodology**

Since the direct investigation of jury deliberations is prohibited under The Contempt of Court Act 1981 research on the topic of juries has drawn upon



alternative methods. Although rare, due to legal, ethical and practical constraints, research has previously been conducted with real juries and real criminal cases. These methods include post-deliberation interviews, shadow juries and archival research (Bowers, Steiner, & Sandys, 2001; Daudistel, Hosch, Holmes, & Graves, 1999). While highly ecologically valid these methods are costly and only allow for a narrow, and often pre-determined, range of variables to be investigated. Due to its high level of experimental control the mock jury paradigm is the most widely used method (Mazzella & Feingold, 1994). In the mock jury paradigm, simulated jurors independently review materials describing a criminal case. Typically, the facts are held constant and various characteristics manipulated in order to assess their effects on the mock juror's decision making. The majority of research is based upon juror individual responses rather than that of a debating jury. However, juror research still remains relevant and important since jurors individual impressions of defendants' guilt or innocence are those which are brought into the jury room, where they may be expressed in the pre-deliberation verdicts (Mazzella & Feingold, 1994). Diamond (1997) argued that the decisions of individual jurors generally predict jury outcomes and there is a significant body of research to indicate that juror and jury judgments are generally in line with one another (Devine, Clayton, Dunford, Seying, & Pryce, 2001; Sandys & Dillehay, 1995). The majority of mock juror research also uses student jurors who are presented with written trial stimuli. While questions can be raised towards the generalizability of findings based on a homogenous sample which are often unrepresented on juries and the ecological validity of using unrealistic stimuli Bornstein's (1999) review of the literature has revealed there to be very little research showing significant differences between different mock juror samples or different trial media.

This thesis adheres to Diamond's (1997) recommendation to first conduct 'Stage One' research using simplistic methods to first establish effects before attempting to replicate in 'Stage Two' research that uses more ecologically valid and representative methods. In line with this, the main body of the thesis concerns 'Stage One' research which investigates the impact of mortality salience at the individual juror level using the mock juror paradigm. The final study of the thesis represents 'Stage Two' research and investigates the impact of mortality salience

at the group jury decision making level.

## **4.6 Conclusion**

We know that despite the severity of their decisions and its historical significance that jurors are fallible. It has been shown that the application of broad social psychological theory to the courtroom can help us better understand the behaviours of these ordinary citizens placed in this most unique of contexts. Specifically, we have seen how TMT can offer an alternative lens through which to understand a broad range of socially significant behaviours. In light of this, the present thesis was designed to apply the existential social psychological perspective of TMT to the legal domain in order to shed more light on the underlying processes which may be liable for the behaviour of jurors.

## **Chapter 5**

# **Mortality Salience and the Decision Making**

## **Process of Jurors**

The preceding theoretical chapters have highlighted that the topic of death is one that has a profound impact on the manner in which people think, feel and behave. With its clear relevance in the courtroom, the very notion of death may substantially influence jurors. The aim of this chapter is to extend previous findings by not only investigating the impact that mortality salience has on decisions of culpability but also on the preceding attitudes and cognitions that lead to such judgments.

### **5.1 Introduction**

As detailed in Chapter 4, TMT has previously been tested within a legal context, demonstrating that mortality salience can increase negative responding towards a range of legal transgressors (Florian & Mikulincer, 1997, 1998; Florian et al., 2001; Lieberman et al., 2001; Pickel & Brown, 2002; Rosenblatt et al., 1989). However, much of this experimental work has concentrated on instances in which the legal transgressors behaviour is always given as certain. For instance, something used frequently in the TMT literature (Florian & Mikulincer, 1997, 1998; Florian et al., 2001) is the Multidimensional Social Transgression Scale (MSTS; Florian & Mikulincer, 1997), which consists of a series of social and legal transgressions (e.g. robbery, fraud, medical malpractice, and assault and battery) in the form of newspaper vignettes. Each transgression on the MSTS is presented unequivocally; it is with certainty that the defendant has committed the transgression. For example:

*A frustrated burglar destroyed the life masterpiece of the renowned sculptor, one week before its completion and display to the public. The burglar, disappointed from the small booty, tied up the sculptor and in front of his eyes hit the ceramic sculpture with a heavy hammer until it shattered. The stunned sculptor: "Nineteen years of work--the best of my talent, turned into a pile of rubble (Florian & Mikulincer, 1997).*

However, such portrayals of a defendant's guilt are not entirely reflective of that which would be seen by jurors in the courtroom. In England, as well as in the United States, criminal cases are tried within the framework of an adversarial legal system. In an adversarial legal system lawyers argue each side of the case, the prosecution and the defence, before a neutral umpire, the jury, who must determine the truth of the case by weighing up the facts and evidence presented from each side (Slapper & Kelly, 2015). In comparison, in the inquisitorial approach, which is widely used in Europe, the judge takes control over proceedings. In the simplest terms, the adversarial system can be seen as a contest while the inquisitorial system is a search for the truth (Malleon & Moules, 2010). Illustrating the crux of the matter is arguably one of the most famous criminal trials to date, that of O.J. Simpson. In 1995 Orenthal James Simpson, a former American football superstar, stood trial for the double-murder of his ex-wife and her friend. It was, and still is to this day, considered the trial of the century. The case highlights an issue with the adversarial legal system, that the strongest arguments and the better presented cases are more often likely to be successful than establishing the truth of the matter. Thus, in an adversarial system, rather than simply determining the culpability of the defendant, jurors first have to make an evaluative decision, often choosing between two conflicting accounts of the truth, neither of which is entirely accurate. However, with the majority of TMT research to date investigating the effects of mortality salience on legal decision making in the absence of an adversarial legal framework, that is one which requires an evaluative judgment of guilt, there has been little to no research considering the actual decision making process of jurors in conjunction with mortality salience. In light of this the aim of this chapter is to examine a more reflective model of juror decision making in the courtroom, documenting the effects of mortality salience on the juror decision making process rather than just

the outcome of juror decision making, i.e. the culpability of the defendant, as research to date has focused on.

## **5.2 Models of Juror Decision Making**

Jurors are routinely presented with vast amounts of evidence, varying in form, complexity and persuasiveness, which they must use to ultimately reach their decision regarding the culpability of the defendant. Jurors, however, receive no formal or specific training in how to assimilate the evidence and reach their decisions. With the direct investigation of the deliberation of real jurors prohibited under The Contempt of Court Act 1981, a number of theoretical models have been offered in an attempt to explain how jurors may arrive at their final decisions. Hastie (1993) broadly identifies two main approaches to juror decision making, mathematical approaches and explanation approaches. The following section outlines the most prevailing models of juror decision making based upon these approaches.

### **5.2.1 Mathematical Approach**

In essence, the mathematical approach proposes that jurors engage in a series of mental calculations in which they weigh up the relevance and strength of each piece of evidence (Hastie, 1993). These calculations translate into a score of the defendant's culpability, which can then be compared to the individual's criterion needed to find the defendant guilty. There are three key models based upon the mathematical approach, the Bayesian Model, the Algebraic Model and Stochastic Model.

#### **Bayesian Model**

The Bayesian Model is based upon the assumption that jurors make decisions using a single mental meter that measures their belief in the probability that an event occurred (Hastie, 1993). The model is based upon two perceived probabilities, an initial 'a priori' belief in the events likelihood and a final 'a posteriori' probability belief in the events likelihood. Within the context of juror decision making the a priori belief corresponds to the beginning of the trial in which jurors are thought to have an initial opinion regarding the likelihood of the defendant's guilt, as new evidence is presented the a priori belief is updated (Schum & Martin, 1982). Thus, the mental meter adjusts as the juror hears and

evaluates trial evidence. To arrive at their final decision the model proposes that the jurors final probability belief is compared to a cut-off value representing the individuals own personal level of certainty of guilt. If the final updated probability value exceeds the threshold value then it is predicted that the juror would find the defendant guilty.

### **Algebraic Model**

Like, the Bayesian Model the Algebraic Model is also based upon the assumption that there is a single mental meter representing juror's beliefs regarding the defendant's guilt. According to the Algebraic Model, jurors act as *'judgemental accountants'* assessing and converting evidence into numbers that are also weighted according to the evidence's implications and credibility (Hastie, 1993). Rather than providing a ratio, as in the Bayesian model, all the weighted numbers are summed to yield a global average of evidence value on a single innocent-guilty continuum.

### **Stochastic Model**

As with Bayesian and Algebraic Models, Stochastic Models of juror decision making are based upon the premise that jurors have an initial belief about the defendant's culpability which is then adjusted based on evidence and a certainty threshold. However, unlike the preceding models, the Stochastic Model accounts for error variance in the juror decision making process. A distinguishing feature is that the model proposes that jurors decision making about evidence occurs in real time with jurors interpreting and weighing each piece of evidence as they receive it and then adjust their mental meters before considering the next piece of evidence (Hastie, 1993). The weight given to each piece of evidence varies by individual, accounting for the randomness of individual jurors on a particular jury. Another unique feature of the stochastic process model is that it employs a "critical event" feature. At some point in the trial, a critical event occurs for each juror, whether it is an eyewitness, a particular person's testimony, or another piece of evidence. This event freezes the mental meter into a permanent position, and it cannot be changed. After the critical event, jurors then compare their final opinion of the defendant's guilt with their decision criterion for guilt. If the jurors' ratings of the defendant's guilt fall within their decision criterion to convict, they will opt to find the defendant guilty. The last unique feature of the stochastic process model

approach is that, in addition to verdict, the output includes a confidence level based on the distance between the threshold for conviction and the jurors' final belief in the defendant's guilt. As the distance between the jurors' conviction threshold and their final belief in the defendant's guilt decreases, so too will jurors' confidence in their verdict decrease.

However, an issue with these mathematical approaches is that they are overly complex and dependent on the underlying assumption, which recent analyses of the jury decision making process refutes (Greene et al., 2002), that jurors can conceptualize and weight pieces of trial information as separate and distinct, (Ellsworth & Mauro, 1998; Hastie, 1993). Furthermore, mathematical approaches fail to take into account the social cognitive processes that explain the influence of prior beliefs and biases, as discussed in Chapter 2.

### **5.2.2 Explanation Approach**

Explanation or cognitive based approaches for studying juror decision making account for the active role jurors play in the decision making process (Greene et al., 2002). Instead of viewing the juror as a passive listener, recording and weighing evidence, explanation based approaches view the juror as an active participant, one who often struggles to make sense of the trial evidence. Unlike other models, explanation based approaches account for jurors' unique experiences, knowledge, beliefs, and attitudes and how they may affect the way in which they interpret the evidence and ultimately decide whether the defendant is guilty (Hastie, 1993; Pennington & Hastie, 1986).

### **Story Model**

As one of the most widely accepted models of juror decision making the Story Model proposes that during the course of a trial jurors actively process evidence, continually evaluating it and attempting to fit into one or more narratives that make sense (Pennington & Hastie, 1981, 1986, 1988). According to the model, the narratives formed by jurors are not only constructed of case specific knowledge but also juror's knowledge about similar events and their own experiences and expectations. In fact, juror's prior experiences have been shown to have a powerful influence on juror's cognitive construction of evidence and thus their subsequent verdicts. Presented with a race-crime stereotype, for instance, jurors have been shown to recall more evidence in-keeping with the stereotype (e.g. incriminating

evidence) than evidence which refutes the stereotype (Bodenhausen, 1988; Bodenhausen & Wyer, 1985; Van Knippenberg, Dijksterhuis, & Vermeulen, 1999). This indicates that evidence can be filtered through one's own beliefs, attitudes and experiences and integrated into a coherent story. Jurors then select their pre-deliberation verdict based upon the verdict which represents the best match to the most plausible narrative. As Pennington and Hastie (1981) observed, there is often a significant difference between the stories of jurors who vote guilty and those who vote not guilty. Addressing a critique of the mathematical approach, one of the greatest strengths of the Story Model is that it accounts for jurors' unique experiences and how these experiences impact on the decision making process.

### **5.3 Mortality Salience and the Story Model**

As discussed, the majority of research to date on the application of TMT to the legal domain has investigated the issue in the absence of a theoretical framework of how jurors actually process information to arrive at their final verdict. As one of the most prevailing models of juror decision making the Story Model suggests that the influence of mortality salience on jurors may be significant, since the initial frame which jurors adopt is central to the way in which evidence is filtered and interpreted and which verdicts are derived (Pennington & Hastie, 1981, 1986, 1988). With this in mind the aim of this chapter is to examine the influence of mortality salience on jurors decision making within the theoretical framework of the Story Model of juror decision making. Within the frame of this model, the reported research sought to extend previous findings by not only investigating the effect of mortality salience on final decisions of culpability, but also on jurors preceding attitudes and cognitive processing. The investigation of mortality salience within a theoretical model of how jurors actually make their decisions may provide new insights into underlying process with potentially profound implications for our understanding of how jurors arrive at judgements of culpability.



## 5.4 Experiment 1

### 5.4.1 Aims and Hypothesis

Social cognition research has shown that, far from being raised in a social vacuum, jurors enter the courtroom possessing a multitude of life experiences that can exert significant influence on their final verdict decisions (Mazzella & Feingold, 1994; Mitchell, Haw, Pfeifer, & Meissner, 2005; Stephenson, 1992). Specifically, the Story Model of juror decision making suggests that the narratives formed by jurors for which they base their verdict are not solely based upon trial facts but also jurors pre-existing knowledge, experiences and attitudes (Pennington & Hastie, 1981, 1986, 1988). Based on this theoretical model of juror decision making, it is therefore important to consider how mortality salience may impact jurors before they even enter the courtroom as this may taint the lens through which they interpret and evaluate subsequent information. For instance, in Chapter 4 anecdotal evidence was discussed for how the events of 9/11 may have significantly altered jurors' behaviour in the courtroom (Lawyers Weekly, 2003; Sepos, 2001). Accordingly, the aim of the present study was to adopt a cross-sectional design to investigate if there was an association between participants' self-reported death anxiety and their pre-trial attitudes. In this initial assessment, pre-trial attitudes were not dependent upon a specific crime type or criminal case but rather jurors' attitudes towards the legal system and defendants in general. The Pre-trial Juror Attitudes Questionnaire (PJAQ; Lecci & Myers, 2008) was used to measure pre-trial attitudes with higher scores indicating harsher attitudes towards criminal defendants and increased conviction proneness. Previous research has shown mock jurors PJAQ scores to be a good predictor of their final verdict (Allison, Jung, Sweeney, & Culhane, 2014). According to TMT, reminders of mortality evoke increased anxiety concerning death which in turn has been shown to result in negative reactions towards salient cultural worldview violators, for instance a legal transgressor (Florian & Mikulincer, 1997; Lieberman, Arndt, Personius, & Cook, 2001; Rosenblatt et al., 1989). Based on this it was hypothesized that there would be a positive association between measures of death anxiety and conviction prone pre-trial attitudes.

The cross-sectional study also provided an opportunity to investigate the proposed terror management mechanism underlying the predicted association

between death anxiety and conviction prone pre-trial attitudes. According to TMT, the negative treatment of a worldview violator, measured in this study through conviction prone pre-trial attitudes, is a means of instilling the world with meaning, order and permanence to buffer against the terror and anxiety associated with reminders about our impending mortality. To investigate this, measures were adopted from the Just World Hypothesis literature. According to Just World Hypothesis people are generally motivated to believe in a just world in which everyone gets what they deserve and deserves what they get (Lerner & Miller, 1978). Lerner (1980) proposed that the belief in a just world derives from the fundamental human need to be able to be able to predict and control one's own environment as a way of maintaining a sense of security and justice. Landu et al. (2004) propose that the belief in a just world is an important component of TMT's cultural worldview, buffering against death through the conception that the world has order, logic, and meaning and that one is protected from randomness. In line with TMT's proposals, it was therefore predicted that increased death anxiety would lead to greater conviction prone pre-trial attitudes via an increased need for a cultural worldview buffering system, conceptualized in this study through belief in a just world.

#### **5.4.2 Method**

##### **Participants**

Participants were recruited through an initial email sent via the University of Sheffield volunteer list, which is a mailing system for advertising for participants. As such, participants included both students and staff from the University of Sheffield. Initially 494 participants were recruited through opportunity sampling via this system but after removing incomplete data the final sample consisted of 363 participants (259 female, 112 male and 1 unspecified,  $M_{age} = 24.52$ ,  $SD = 8.91$ ). The University of Sheffield Psychology Department Ethics Committee approved all experiments reported in this thesis. In all experiments reported in this thesis participants provided written informed consent and their information obtained during the experiments was treated strictly confidential with no data identifiable to the identity of the participant.

## Materials

Participants were presented with a computerized version of the following questionnaires, full details of questionnaires can be found in Appendix A.

**The Pre-trial Juror Attitude Questionnaire (PJAQ;** Lecci & Myers, 2008). The PJAQ is a 29-item scale used to measure pre-trial attitudinal biases. Respondents are instructed to indicate on a 5-point scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), the extent to which they agree with each statement (e.g. *'Once a criminal, always a criminal'*). Items are summed to produce a final score with a higher score suggesting a greater inclination for conviction prone pre-trial attitudes. Lecci and Myers (2009; 2008) report good psychometric properties with the scale outperforming other measures on predictive power.

**The General Belief in a Just World Scale (GJWBS;** Dalbert, Montada, & Schmitt, 1987; Dalbert & Yamauchi, 1994). The GJWBS is a 6-item scale used to measure the belief that the world *in general* is a just place. Respondents are instructed to indicate on a 6-point scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), the extent to which they agree with each statement (e.g. *'I think basically the world is a just place'*). Items are summed to produce a final score with a higher score suggesting a greater inclination for the general belief in a just world.

**The Revised Collett-Lester Fear of Death Scale (FDS;** Lester, 1990). The FDS is a 32-item scale used to measure death anxiety. Respondents are instructed to indicate on a 5-point scale, ranging from 1 (*not very anxious*) to 5 (*very anxious*), the extent to how anxious each statement regarding different aspects of death makes them feel (e.g. *'The pain involved in dying'*) with higher scores indicating greater death anxiety. Items are summed to produce a final score with a higher score suggesting a greater inclination for anxiety associated with death. In a study on nursing staff Mooney and O'Gorman (2001) reported the scale to have good psychometric properties.

## Procedure

Individuals received an e-mail via the University of Sheffield volunteer list which invited them to take part in an online study entitled *'Attitudes, Law, Life and Society'*. Before beginning the study, participants were informed that the aim of the study was to gain an overview of people's attitudes towards law, life and society. Participants were asked to complete all questions as honestly as possible.

After obtaining informed consent participants were first presented with the PJAQ followed by GJWBS. Participants were then informed that the next section of questions concerned different aspects of death and dying. All participants were asked to indicate if they were happy to continue. Those participants who declined were re-directed to demographic questions and then a full debriefing. 32 participants in total declined to complete the fear of death scale. As their data was incomplete it was removed from the main analysis. Participants who indicated that they were happy to continue were presented with the FDS followed by demographic questions and a full debrief.

### 5.4.3 Results

Each questionnaire was scored according to published instructions and reliability tests conducted used Chronbach's alpha, see Table 5.1. All measures were found to be highly reliable ( $\alpha > .82$ ).

Table 5.1. Experiment 1: Reliability analyses for measures.

Measure	Reliability
PJAQ	$\alpha = .82$
GJWBS	$\alpha = .82$
FDS	$\alpha = .94$

### Correlations

Scatterplots were used to check for violations of the assumptions of linearity and homoscedasticity. All relationships appeared to be linear and there were no obvious violations of homoscedasticity. The means, standard deviations and the correlation coefficients with their corresponding significance levels for each of the scale measures are presented in Table 5.2<sup>1</sup>.

<sup>1</sup> Control variables age and gender were measured and analysis revealed there to be no significant association between the dependent measures and control measures ( $p > .20$ ).

Table 5.2. Experiment 1: Means, standard deviations and Pearson's correlation coefficients for measures.

Measure	Mean (SD)	1.	2.
1. PJAQ	78.61 (12.43)	-	-
2. GJWBS	18.63 (5.62)	.31**	-
3. FDS	103.96 (23.56)	.18**	.12*

Note. Standard Deviations given in parenthesis. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Death anxiety was positively associated with conviction prone pre-trial attitudes ( $r = .18, p = .001$ ), indicating that the more anxious people felt about death the more conviction prone their pre-trial attitudes were. There was a positive correlation between death anxiety and belief in a just world ( $r = .12, p = .02$ ) such that the more anxious people felt about death the stronger their belief in a just world. A significant positive correlation was also found between belief in a just world and pre-trial attitudes ( $r = .31, p < .001$ ) whereby the greater the belief in a just world the more conviction prone pre-trial attitudes were.

### Mediation Analysis

Mediation bootstrapping analysis, using Hayes (2013) bootstrapping Process for SPSS (Model 4), was used to examine the theoretical underpinnings of TMT, see Figure 5.1. Analysis revealed that the effect of death anxiety on pre-trial attitudes ( $b = .09, SE = .03, t = 3.46, p = .001$ ) was reduced after belief in just world was included in the model ( $b = .08, SE = .03, t = 2.86, p = .005$ ) and that the indirect effect through belief in just world was significant ( $a*b = .02$ ; 95% confidence interval [CI]: [.01, .04]). Thus, belief in a just world mediated the effect of death anxiety on pre-trial attitudes. Alternative mediation models were tested however, fit indices, namely Akaike Information Criterion and Expected Cross Validation Index, indicated the reported model to fit the data better than others tested.

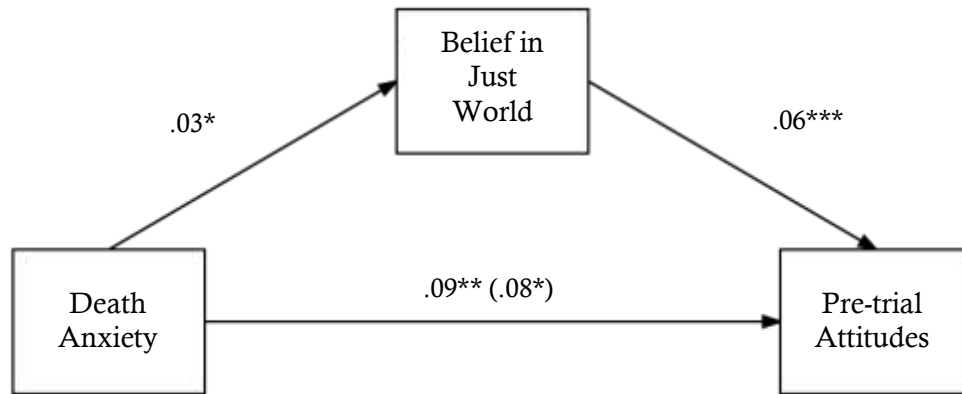


Figure 5.1. Experiment 1: Belief in a just world mediates the effect of death anxiety on pre-trial attitudes. Asterisks indicate levels of significance (\* $p < .05$ , \*\* $p < .005$ , \*\*\* $p < .001$ ).

#### 5.4.4 Discussion

The primary goal of the present experiment was to investigate if there was an association between participants self-reported death anxiety and their pre-trial attitudes. The results support the hypothesis, a positive correlation was found between measures of death anxiety and pre-trial attitudes with increased death anxiety associated with increased conviction prone pre-trial attitudes. These results are in-keeping with TMT and previous research showing mortality salience to lead to increased negative response to legal transgressors (Florian & Mikulincer, 1997; Lieberman, Arndt, Personius, & Cook, 2001; Rosenblatt et al., 1989). However, this is the first study to indicate the impact that the anxiety associated with death can have on pre-trial attitudes that are not related to a specific criminal case, crime or defendant. According to the Story Model, the attitudes and experiences that jurors bring with them to the courtroom play a fundamental role in determining the narratives that jurors construct to understand the facts, evidence and arguments for which they ultimately use to derive their final verdict. Thus from this perspective, the results indicate that regardless of crime type and even before a trial has begun the very notion of mortality may have significant implications on subsequent juror decision making. A secondary aim of the experiment was to investigate the proposed terror management mechanism underlying the predicted association between death anxiety and conviction prone pre-trial attitudes. In support of the hypothesis and the theoretical underpinnings of TMT, mediational analysis, revealed that the need to instil the world with meaning, order and permanence, conceptualized in the study through belief in a

just world, mediated the relationship between death anxiety and conviction prone pre-trial attitudes.

A limitation of this research however was the use of a self-report measure of death anxiety to tap into the terror and anxiety that the awareness of our inevitable death is proposed to elicit. Firstly, the measure in itself may have worked as a mortality salience manipulation, making people consider their own mortality by simply asking them questions about their own mortality. This may have inflated their overall death anxiety score. Secondly, according to the dual defence model, thoughts of death which are in current focal attention first arouse direct threat focused proximal defences involving the suppression of death-related thoughts or pushing the problem of death into the distant future by denying one's vulnerability to various risk factors. Only once death-related thoughts are no longer in consciousness, do distal defences occur which entail maintaining self-esteem and faith in one's cultural worldview. However, a self-report scale, such as that used in the experiment, can only tap into participant's conscious experience of death anxiety. This may account for the small-medium correlation observed between death anxiety and pre-trial attitudes. Finally, as the study was cross sectional the results do not imply causation. Having established the influence which mortality may have on jurors before they even enter the courtroom the aim of Experiment 2 was to investigate the influence which mortality salience may have on juror's attitudes within the trial that may shape how they interpret evidence and ultimately their final verdict.

## **5.5 Experiment 2**

### **5.5.1 Aims and Hypothesis**

Experiment 1 demonstrated the significant impact that the issue of mortality may have on jurors before they even enter the courtroom and hear trial evidence. The aim of Experiment 2 was to extend these findings and consider the impact which mortality may have on jurors attitudes during the trial and how these may go on to influence and shape jurors' final decisions. In line with findings from Experiment 1 and in keeping with the framework of the Story Model of juror decision making it was proposed that mortality salience would not only impact on jurors final decisions of culpability, as shown in previous research, but also

preceding juror attitudes. Specifically, it was predicted that that after mortality was made salient the defendant would be judged more negatively and this this would be the mechanism through which mortality salience evoked an impact on final verdict. As in typical TMT studies the mortality salience manipulation consisted of participants considering either their own mortality or a non-mortality control topic. To reflect a criminal case within an adversarial legal system participants were presented with an ambiguous criminal case in which both parties, defence and prosecution, presented their case. Participants were therefore required to evaluate the evidence and make an evaluative decision towards the guilt of the defendant. By presenting both sides of the case, not only was the trial more ambiguous as to guilt but also more likely to be open to exposing any biasing influences of mortality salience. Another reason it was important to assess the impact of mortality salience within the context of an adversarial legal system, is that arguably within an adversarial system the behaviour of a defendant may not always be such a clear-cut example of a cultural worldview violation as portrayed in previous research. In previous research it is often with certainty that the defendant has committed the transgression (Florian & Mikulincer, 1997, 1998; Florian et al., 2001; Rosenblatt et al., 1989). It is therefore possible that research thus far applying TMT to the legal domain has only been in response to cases in which there is a clear instance of a cultural worldview violation. While the research has been informative, fundamentally it reveals little about the true impact which mortality salience may have on jurors' decision making process. It may be, for instance, that the effects obtained to date, based upon the unequivocal guilt of a legal transgressor, are simply because they represent such a potent example of being in violation of a salient worldview.

### 5.5.2 Method

#### Participants and Design

Participants were psychology undergraduate students recruited via opportunity sampling from the University of Sheffield Psychology undergraduate research pool. Participants who had previously taken part in Experiment 1 were ineligible to take part in the study in order to ensure participants were naive to the experiment. Sixty undergraduate psychology students from the University of Sheffield (47 female, 12 male and one unspecified;  $M_{age} = 22.22$ , years,  $SD = 5.73$ )



were randomly assigned to one of two mortality salience conditions (mortality salient vs. control) with the researcher blind to condition. All participants received course credit for taking part.

### **Materials and Procedure**

Participants were invited to take part in a study entitled ‘*Pre-testing New Measures of Personality*’. On entering the laboratory participants were seated in a small room and informed that the study was pre-testing new measures of personality as well as new materials for an unrelated study for future use. The purpose of this was to reduce the probability of participants identifying the underlying aim of the study. After obtaining informed consent participants were given an envelope containing a pack of printed materials and asked to work their way through the pack being as honest as possible in their responses.

**Mortality Salience Manipulation.** In the first part of the study participants were randomly assigned to one of two mortality salience conditions. To manipulate mortality salience the Mortality Attitude Personality Survey (MAPS, Rosenblatt et al., 1989), which has been used in 80% of TMT research (Burke et al., 2010), was used. MAPS consists of two open-ended questions. In the mortality salient condition participants were asked to:

*Please briefly describe the emotions that the thought of your own death arouses in you.*

and to:

*Jot down as specifically as you can, what you think will happen to you as you physically die and once you are physically dead.*

In the control condition participants were asked to:

*Please briefly describe the emotions that the thought of dental pain arouses in you*

and to:

*Jot down as specifically as you can, what you think will happen to you as you physically experience dental pain.*

**Manipulation Check.** The next questionnaire in the pack was the Positive and Negative Affect Schedule-Expanded form (PANAS-X), a 60-item self-reported mood scale (Watson & Clark, 1994), see Appendix B. Participants were instructed to indicate on a 5-point scale, ranging from 1 (*very slightly/not at all*) to 5 (*extremely*), the extent to which they experience various positive and negative

feelings. The scale was included not only as a delay and distraction task, since mortality salience exerts its greatest effects after a delay or distraction (Burke et al., 2010; Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994), but also as a manipulation check to determine if the mortality salience manipulation was related to participant's mood which mediate effects.

**Criminal Case Summary.** Participants were then informed that the following section was pre-testing the suitability of materials for a new study. In this section participants were asked to read a printed summary of a court case, see Appendix C. The case, adapted from materials by Sommers and Ellsworth (1997), depicted an alleged fictional incident of assault between a male defendant and female victim. To portray an adversarial case, the summary included evidence from both the prosecution and the defense. A small pilot study was conducted prior to the experiment to deem if the materials were sufficiently ambiguous. Twenty pilot participants read the criminal case study and rated the guilt likelihood of the defendant on a 9-point scale ranging from 1 (*not very likely*) to 9 (*very likely*) with 5 the neutral midpoint. A one-sample t-test using 5 as the test value found ratings did not significantly differ from this mid-point ( $t(19) = .85$ ,  $p = .41$ ). Thus, the criminal case materials were considered to be sufficiently ambiguous.

**Dependent Measures.** After reading the criminal case participants completed several dependent measures. Firstly, participants evaluated the defendant on a feeling thermometer (Haddock, Zanna, & Esses, 1993). Specifically, they were asked to express their attitude towards the defendant on a scale ranging from 0 (*attitude extremely unfavourable*) to 100 (*attitude extremely favourable*) with 50 the neutral midpoint. Participants then went on to evaluate the defendant in terms of aggression on a 9-point scale ranging from 1 (*not at all aggressive*) to 9 (*very aggressive*) with 5 the neutral midpoint. Participants were asked to give a final verdict, which was scored as a dichotomous variable 0 representing not guilty and 1 as guilty, and then to recommend a punishment for the defendant on a 9-point scale ranging from 1 (*no punishment*) to 9 (*maximum punishment*). After dependent measures participants completed a demographic questionnaire and all participants were subsequently debriefed and thanked for their participation.

### 5.5.3 Results

Preliminary exploratory analyses showed that all assumptions of parametric tests were met<sup>2</sup>.

#### Manipulation Check

To assess if the mortality salience manipulation had an effect on conscious mood, which may mediate effects, participants completed the PANAS-X. The questionnaire was scored according to published instructions and reliability tests conducted. Reliability analysis confirmed an acceptable level of reliability for both the positive affect subscale ( $\alpha = .91$ ) negative affect subscale ( $\alpha = .88$ ). A one-way ANOVA found there to be no significant effect of mortality salience on positive affect ( $F(1, 58) = .13, p = .72$ ) or on negative affect ( $F(1, 58) = 1.17, p = .28$ ). It was concluded that mortality primes did not significantly affect conscious mood.

#### Main Analysis

**Evaluation of Defendant.** Reminded of their mortality participants indicated a significantly less favourable attitude towards the defendant ( $M = 32.67, SD = 19.64$ ) than participants in the control condition ( $M = 43.67, SD = 22.05$ ),  $t(58) = -2.04, p = .05, d = .53$ . The mortality salient condition also gave significantly higher evaluations of the defendant's aggression ( $M = 5.63, SD = 1.54$ ) than participants in the control condition ( $M = 4.73, SD = 1.76$ ),  $t(58) = 2.11, p = .04, d = .54$ .

As the criminal case was designed to be ambiguous, such that there were equal amounts of incriminating and exonerating evidence to reflect an adversarial legal system, it would be reasonable to expect that if a juror were indeed fair and impartial as one would hope, they would give evaluations that did not diverge significantly from the neutral midpoint of the scale. To investigate this, one sample t-tests were computed against the mid-point for each evaluation measure. While attitude towards the defendant in the control condition did not differ significantly from the expected neutral 50 midpoint ( $t(29) = -1.57, p = .13$ ) evaluations made in the mortality salient condition were significantly lower than the mid-point,  $t(29) = -4.83, p > .001, d = .88$ . Additionally, while aggression ratings made by

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<sup>2</sup> In the experiments that follow unless otherwise stated please assume that parametric assumptions were met.

the control condition did not significantly diverge from the midpoint ( $t(29) = -0.83, p = .41$ ), aggression ratings were significantly higher than the mid-point after mortality was made salient,  $t(29) = 2.25, p = .03, d = .41$ .

**Guilt.** A chi-square test confirmed a significant association between mortality salience condition and whether or not the defendant was found guilty,  $\chi^2(1) = 4.34, p = .04$ , as illustrated in Figure 5.2. Based on the odds ratio, the odds of a participant giving a guilty verdict were 3.05 times higher if they were reminded of their mortality than if there were not reminded of their mortality. In terms of punishment recommendation inspections of the means shows that the mortality salient condition gave harsher sentences ( $M = 4.77, SD = 2.11$ ) compared to those in the control condition ( $M = 3.87, SD = 1.78$ ) however this difference only approached significance ( $t(58) = 1.78, p = .08$ ).

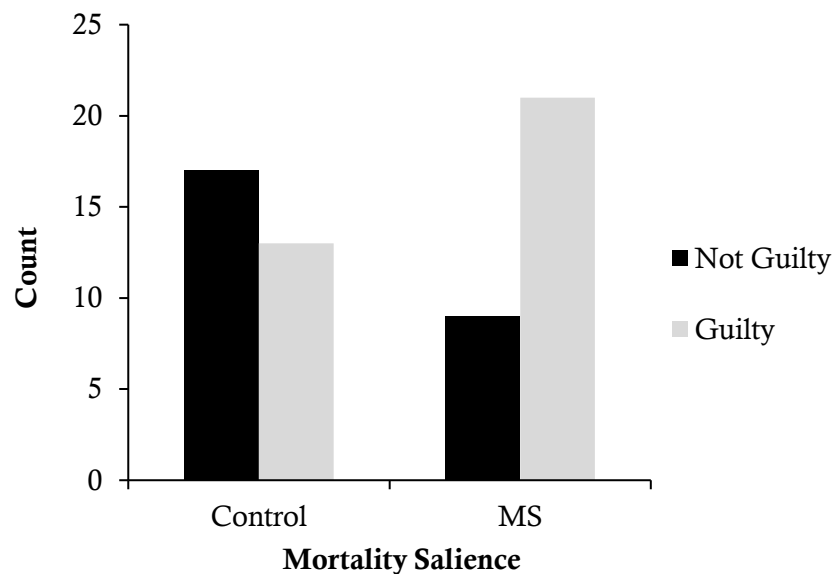


Figure 5.2. Experiment 2: Verdict as a function of mortality salience condition.

### Mediation Analysis

Drawing upon the Story Model of jury decision making, which suggests that the narratives formed by jurors for which they base their verdict are not solely based upon trial facts but also jurors pre-existing knowledge, experiences and attitudes, mediation bootstrapping analysis, using Hayes (Hayes, Andrew, 2013) bootstrapping Process for SPSS (Model 6), was used to test the predicted model that mortality salience may influence jurors attitudes towards the defendant which in turn may influence their final verdict, see Figure 5.3. Results revealed that the

effect of the manipulation on verdict ( $b = 1.12$ ,  $SE = .54$ ,  $z = 2.06$ ,  $p = .04$ ) was reduced after perceived aggression and attitude towards the defendant were included in the model ( $b = .72$ ,  $SE = .63$ ,  $z = 1.14$ ,  $p = .25$ ) and that the indirect effect through juror attitudes was significant ( $a*b: .33$ ; 95% CI = [.01, 1.33]). Thus, as predicted, mortality salience indirectly affected final verdict via juror attitudes.

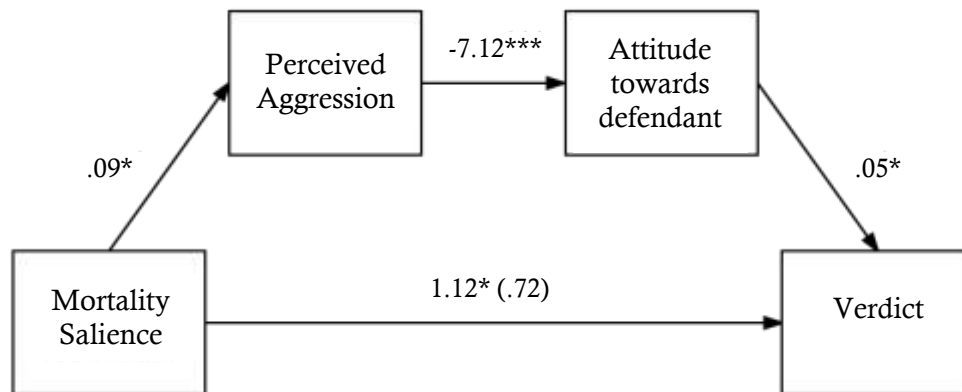


Figure 5.3. Experiment 2: Attitudes towards the defendant mediates the effect of mortality salience on verdict. Asterisks indicate levels of significance (\* $p < .05$ , \*\* $p < .005$ , \*\*\* $p < .001$ ).

#### 5.5.4 Discussion

The primary goal of the present experiment was to investigate if the impact of mortality salience on legal decision making extends to juror's attitudes as well as their final decisions within a realistic adversarial legal context. The results reveal that, as predicted, mortality salience elicited worldview defence behaviours amongst jurors that not only impacted on final culpability measures, as shown in previous research, but also on juror's attitudes. In contemplating their mortality jurors viewed the defendant as significantly more aggressive and less favourable than those contemplating dental pain. Importantly, these effects were not attributable to changes in conscious mood arising from the mortality salience manipulation. Most revealing, especially light of the symbolism of Lady Justices' blindfold as discussed in Chapter 2, is that mortality reminders did not only elicit increased negative attitudes towards the suspected legal transgressor but attitudes which differed significantly from the expected neutral midpoint which may be expected of an impartial juror. Thus suggesting that the impact of mortality salience on jurors maybe more serious than other research alludes, posing threat to the fundamental principles underlying trial by jury, fairness and impartiality.

In line with predictions of the story model, evidence was obtained via mediation analysis, that again mortality salience can taint the lens through which jurors interpret trial evidence affecting final verdict. The study has also provided one of the first empirical assessments of the impact of mortality salience within a realistic adversarial context in which an evaluative judgment was required. Overall, it was found that suspected legal transgressors represented such a potent instance of worldview violation that after mortality was made salient jurors engaged in worldview defense behaviours even though the guilt of the suspect was ambiguous. Seemingly, fairness and legal standards are such an important part of most individual's worldviews that even the possibility of a violation was enough to elicit worldview defense behaviours. However, a limitation of this research is that the results were perhaps contingent on the specific case and crime type used. The case involved a male defendant accused of assaulting a female victim. To many the very notion of a male hitting a woman violates deeply held cultural norms and values. As such the effects obtained in this experiment maybe confounded by the crime type. To address this limitation a different criminal case study was used in Experiment 3.

The results of Experiments 1 and 2 have demonstrated how mortality salience can influence the attitudes of jurors, which in turn affect their final decisions of culpability. However, these experiments have not examined if these attitudes impact on the manner in which evidence is processed as the Story Model proposes. With this in mind, the following two experiments aimed to extend these findings and investigate if mortality salience may also affect the manner in which jurors process trial evidence.

## **5.6 Experiment 3**

### **5.6.1 Aims and Hypothesis**

Social cognition research has shown how pre-existing social information can influence subsequent information processing. Once activated, pre-existing beliefs, attitudes and schemas can influence all aspects of social information processing, including attention to, and interpretation of, information and, in turn, the inferences and judgments made from that information (Bodenhausen & Lichtenstein, 1987; Bodenhausen & Wyer, 1985; Van Knippenberg et al., 1999).

Presented with a race-crime stereotype, for instance, jurors have been shown to recall more evidence in keeping with the stereotype (e.g. incriminating evidence) than evidence that refutes the stereotype (Bodenhausen & Lichtenstein, 1987; Van Knippenberg et al., 1999).

Experiments 1 and 2 provided evidence that mortality salience can influence the attitudes of jurors which, in turn, can impact on their final verdicts. According to the Story Model these attitudes are combined with trial evidence and information to form the narratives from which verdicts are based (Pennington & Hastie, 1981, 1986, 1988). However, to date there has been no research considering the actual decision making process of jurors in conjunction with mortality salience. The aim of Experiment 3 was to examine the impact which mortality salience has on the manner in which jurors process evidence. Employing the same basic experimental design as in Experiment 2, participants were asked to consider either their own mortality or dental pain (control) before reading an adversarial criminal case. To ensure that previously reported findings were not specific to criminal case a different case was used. Participants were then asked to recall the evidence, which was scored according to evidence type, incriminating evidence and exonerating evidence, before completing measures of attitude and culpability as in previous experiments. As in Experiment 2 it was predicted that the mortality salient condition would elicit worldview defence behaviours that not only impact final decisions but also preceding attitudes worldview, resulting in more negative responses towards the legal transgressor compared to the non-mortality control condition. In terms of cognitive processing, it was predicted that worldview defence behaviours would extend to the processing and recall of evidence. Specifically, that mortality salience would enhance memory for incriminating evidence, as that would be in keeping with worldview defence behaviour. Finally, in line with the Story Model it was predicted that attitudes towards the defendant would impact evidence processing and this would be the mechanism through which mortality salience influenced measures of guilt and culpability.

## 5.6.2 Method

### Participants and Design

Participants were recruited through opportunity sampling via an initial email sent via the University of Sheffield volunteer list. As such participants included both students and staff from the University of Sheffield. Participants who had taken part in previous experiments were ineligible to take part to ensure participants were naive to the experiment. One hundred and sixty students and staff from the University of Sheffield (113 female and 47 male;  $M_{age} = 35.03$  years,  $SD = 11.81$ ) were randomly assigned by the electronic survey software (Qualtrics) to one of two mortality salience conditions (mortality salient vs. control) with the researcher blind to condition. Participants were either paid £5 for their participation in this study and another unrelated study being run by the lab or received course credit.

### Materials and Procedure

Participants were invited to take part in a study entitled '*Guilty or Not Guilty*'. The experiment was a basic replication of Experiment 2.

**Criminal Case Summary.** After completing the mortality salience manipulation (using MAPS as in Experiment 2) and manipulation check (as in Experiment 2) participants were asked to read a summary of a criminal court case. To ensure that the effects observed were not due to the specific criminal case a different criminal case study was used in Experiment 3, see Appendix D. The case depicted an alleged incident of assault between a male defendant and male victim. To portray an adversarial legal case, the summary included evidence from both the prosecution and the defence. A small pilot study was conducted prior to the experiment to deem if the materials were sufficiently ambiguous. Twenty pilot participants read the criminal case study and rated the guilt likelihood of the defendant on a 9-point scale ranging from 1 (*not very likely*) to 9 (*very likely*) with 5 the neutral midpoint. A one-sample t-test using 5 as the test value found ratings did not significantly differ from this mid-point ( $t(19) = -0.11$ ,  $p = .92$ ). Thus, the criminal case materials were considered to be sufficiently ambiguous.

**Dependent Measures.** As in the previous experiment, participants first completed a self-report mood scale as a manipulation check before completing dependent measures. To simplify the task participants in this study completed the Positive and Negative Affect Schedule form (PANAS; Watson, Clark, & Tellegen,



1988) a 20-item self-reported mood scale (see Appendix E), rather than the 60-item expanded form of the scale as used in Experiment 2. Participants were instructed to indicate on a 5-point scale, ranging from 1 (*very slightly / not at all*) to 5 (*extremely*), the extent to which they experience various positive and negative feelings. To investigate the effects of mortality salience on evidence processing a measure of evidence recall, as used in previous mock juror research (Bodenhausen & Lichtenstein, 1987; Bodenhausen & Wyer, 1985; van Knippenberg, Dijksterhuis, & Vermeulen, 1999) was included. After reading the criminal case, participants were given two minutes to recall as much information as possible under the headings, *incriminating evidence* and *exonerating evidence*. An independent coder, blind to hypothesis and condition, later coded responses for the correct recall of evidence type (incriminating vs. exonerating) as well as evidence content (dispositional vs. situational) according to the evidence framework presented in Appendix F. If an item of evidence was recalled but under the incorrect heading, for instance if the item of evidence was listed in the framework under incriminating evidence but was recalled by the participant under exonerating evidence, it was marked incorrect by the coder. If a recalled piece of evidence was not listed in the framework then it was not scored. As a result, the maximum participants could score for incriminating evidence recall was 6 and the maximum participants could score for exonerating evidence recall was 6.

As in the previous experiments, participants evaluated the defendant on a feeling thermometer (Haddock et al., 1993) indicating how they felt toward the defendant on a scale ranging from 0 (*attitude extremely unfavourable*) to 100 (*attitude extremely favourable*) with 50 the neutral midpoint. Participants went on to evaluate the defendant in terms of aggression on a 9-point scale ranging from 1 (*not at all aggressive*) to 9 (*very aggressive*) with 5 the neutral midpoint. Participants were asked to give a final verdict, which was scored as a dichotomous variable 0 representing not guilty and 1 as guilty, and were asked to indicate the guilt likelihood of the defendant on a 9-point scale ranging from 1 (*not very likely*) to 9 (*very likely*) with 5 the neutral midpoint. After participants completed dependent measures, they completed a demographic questionnaire. All participants were subsequently debriefed and thanked for their participation.

### 5.6.3 Results

#### Manipulation Check

To assess if the mortality salience manipulation had an effect on conscious mood, which may mediate effects, participants completed the PANAS. The questionnaire was scored according to published instructions and reliability tests conducted. Reliability analysis confirmed an acceptable level of reliability for both the positive affect subscale ( $\alpha = .84$ ) and negative affect subscale ( $\alpha = .85$ ). A one-way ANOVA found there to be no significant effect of mortality salience on positive affect ( $F(1, 158) = .50, p = .48$ ) nor on negative affect ( $F(1, 158) = .65, p = .42$ ). It was concluded that mortality primes did not significantly affect conscious mood.

#### Main Analysis

**Evaluation of Defendant.** Reminded of their own mortality participants indicated a significantly less favourable attitude towards the defendant ( $M = 39.75, SD = 15.91$ ) compared to participants in the control condition ( $M = 44.25, SD = 13.09$ ),  $t(158) = 1.93, p = .05, d = .31$ . The mortality salient condition also gave significantly higher evaluations of defendant's aggression ( $M = 6.60, SD = .95$ ) than participants in the control condition ( $M = 6.06, SD = 1.17$ ),  $t(158) = -3.19, p = .002, d = .51$ . As in previous experiments, attitude ratings were compared to the neutral mid-point. Attitudes towards the defendant were significantly lower than the neutral midpoint in both the control condition,  $t(79) = -3.84, p < .001, d = .43$ , and mortality salient condition,  $t(79) = -5.76, p < .001, d = .64$ . Aggression ratings were also significantly higher than the neutral mid-point in both the control condition  $t(79) = 8.10, p < .001, d = .91$ , and mortality salient condition,  $t(79) = 15.07, p < .001, d = 1.69$ .

**Evidence Recall.** Recall of evidence was scored for evidence type: incriminating and exonerating, and evidence content: dispositional and situational, producing four scores, see Table 5.3.

Table 5.3. Experiment 3: Means and standard deviations for correct evidence recall.

	Control	Mortality Salient
Total Incriminating Evidence	2.74 (1.42)	2.68 (2.68)
Incriminating Situational Evidence	1.60 (.94)	1.54 (.98)
Incriminating Dispositional Evidence	1.14 (.85)	1.14 (.78)
Total Exonerating Evidence	2.80 (1.9)	2.66 (1.15)
Exonerating Situational Evidence	1.94 (.78)	1.66 (.71)
Exonerating Dispositional Evidence	.86 (.84)	1.00 (.89)
Total Situational Evidence	3.54 (1.28)	3.20 (.80)
Total Dispositional Evidence	2.0 (1.34)	2.14 (1.35)

Note: Standard deviations given in parenthesis

Evidence recall as a function of mortality salience was assessed using a 2 (Evidence Type: incriminating vs. exonerating) x 2 (Evidence Content: dispositional vs. situational) x 2 (Mortality Salience: control vs. mortality salient) mixed ANOVA, the latter factor being between-subjects. The results yielded no main effect of mortality salience ( $F(1, 158) = .34, p = .56$ ) or of evidence type ( $F(1, 158) = .05, p = .82$ ). However, there was a main effect of evidence content,  $F(1, 158) = 124.71, p < .001, \eta^2 = .44$ , such that participants recalled more situational evidence ( $M = 3.37, SD = 1.29$ ) than dispositional evidence ( $M = 2.07, SD = 1.34$ ). While there was no interaction between evidence type and mortality salience ( $F(1, 158) = .11, p = .74$ ) there was a significant interaction between evidence content and mortality salience,  $F(1, 158) = 4.16, p = .04, \eta^2 = .03$ , see Figure 5.4.

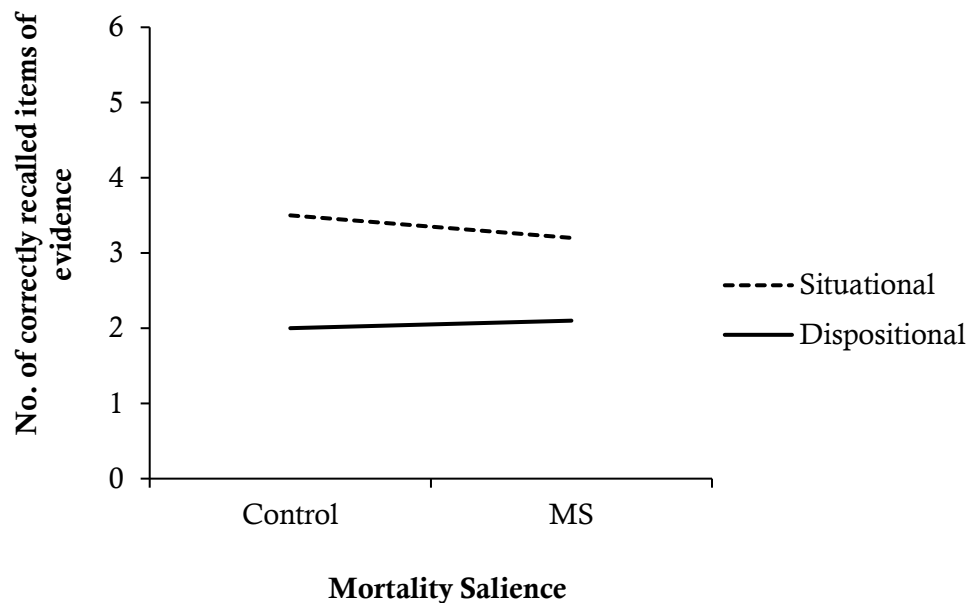


Figure 5.4. Experiment 3: Correct evidence recall according to content as a function of mortality salience condition.

As Figure 5.4 illustrates, there was a significant difference in the recall of evidence between the two content types (situational and disposition) in the control condition,  $F(1, 158) = 87.72, p < .001, \eta^2 = .41$ , and mortality salient condition,  $F(1, 158) = 41.65, p < .001, \eta^2 = .31$ , with more situational evidence recalled overall than dispositional evidence. While there was no difference between conditions in their recall of dispositional evidence ( $F(1, 158) = .42, p = .52$ ) there was a difference between conditions in their recall of situational evidence which approached significance,  $F(1, 158) = 2.78, p = .09$ . Examination of the means showed participants in the control condition recalled more situational evidence ( $M = 3.54, SD = 1.29$ ) than participants in the mortality salient condition ( $M = 3.20, SD = 1.27$ ). Finally, there was no significant 3-way interaction between evidence type, evidence content and mortality salience ( $F(1, 158) = 1.89, p = .17$ )<sup>3</sup>.

**Guilt.** Reminded of their own mortality salient participants indicated a significantly higher likelihood of guilt ( $M = 5.59, SD = 1.45$ ) compared to the control condition ( $M = 5.09, SD = 1.30$ ),  $t(158) = 2.3, p = .02, d = .36$ . While guilt likelihood ratings made by the control condition did not significantly differ from the neutral midpoint ( $t(79) = .60, p = .55$ ) ratings were significantly higher than

<sup>3</sup> There was also an interaction between evidence type and evidence content ( $F(1, 158) = 11.79, p = .001, \eta^2 = .069$ ) but this was not further explored as was not relevant to the hypothesis.

the midpoint by participants who were reminded of their own mortality,  $t(79) = 3.63$ ,  $p < .001$ ,  $d = .41$ . A chi-square test confirmed a significant association between mortality salience condition and whether or not the defendant was found guilty,  $\chi^2(1) = 7.03$ ,  $p = .008$ , as illustrated in Figure 5.5. Based on the odds ratio, the odds of a participant giving a guilty verdict were 2.9 times higher if they were reminded of their mortality than if they were not reminded of their mortality.

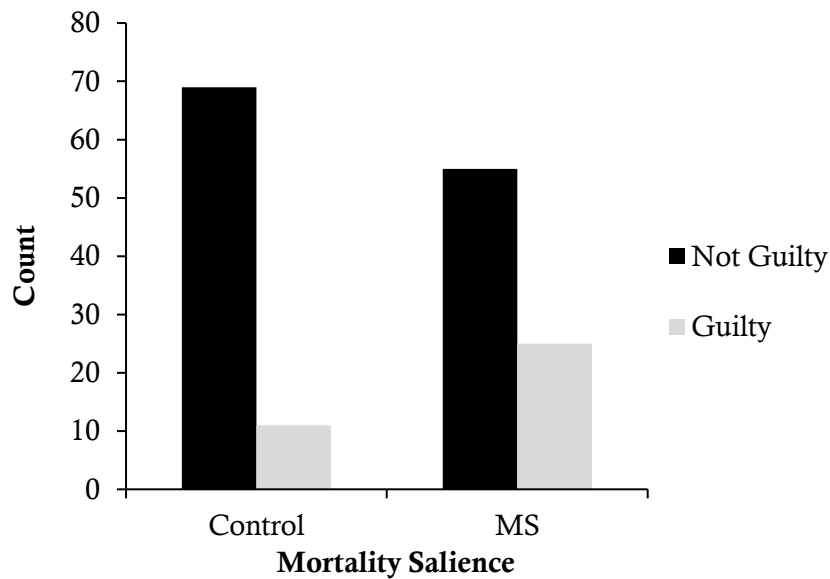


Figure 5.5. Experiment 3: Verdict as a function of mortality salience condition.

### Mediation Analysis

The first mediation model that was examined, using Hayes (2013) bootstrapping Process for SPSS (Model 6), was that established in Experiment 2 based upon the theoretical underpinnings of the Story Model, see Figure 5.6. Results revealed that the effect of the manipulation on verdict ( $b = 1.05$ ,  $SE = .40$ ,  $z = 2.59$ ,  $p = .01$ ) was reduced after perceived aggression and attitude towards the defendant were included in the model ( $b = .97$ ,  $SE = .43$ ,  $z = 2.25$ ,  $p = .02$ ) and that the indirect effect through these juror attitudes was significant ( $a*b: .10$ ; 95% CI = [.02, .27]). Thus, as in Experiment 2, juror's attitudes influenced the overall effect of mortality salience on final decision making.

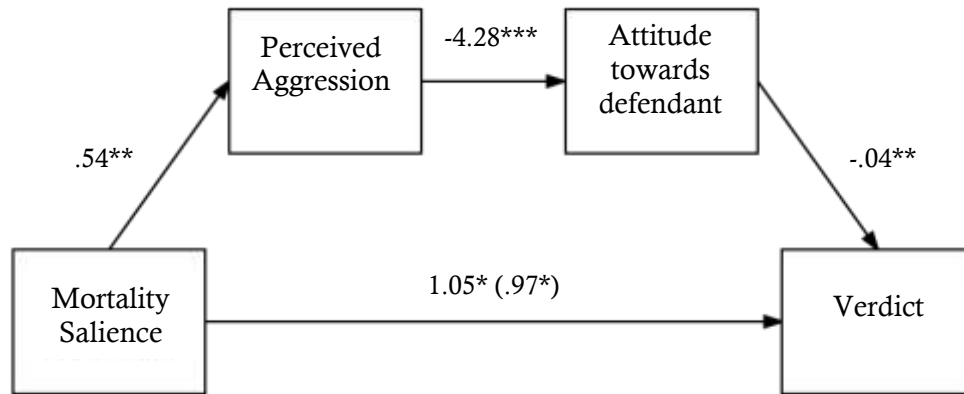


Figure 5.6. Experiment 3: Attitudes towards the defendant mediates the effect of mortality salience on verdict. Asterisks indicate levels of significance (\* $p < .05$ , \*\*  $p < .005$ , \*\*\*  $p < .001$ ).

Based upon the Story Model, it was further predicted that participant's attitudes towards the defendant would impact evidence processing and this would be the mechanism through which mortality salience influenced measures of guilt and culpability. However, there was no evidence of this predicted model, whereby both juror attitudes and evidence recall mediated the overall effect of mortality salience on measures of culpability. In light of this, an alternative model was tested. Using Hayes (2013) bootstrapping Process for SPSS (Model 4), a model examined the influence of a specific type of evidence recall on the overall effect of mortality salience on measures of culpability. Results revealed that the effect of the manipulation on verdict ( $b = 1.05$ ,  $SE = .40$ ,  $z = 2.59$ ,  $p = .01$ ) was reduced after exonerating situational evidence recall was included in the model ( $b = .90$ ,  $SE = .42$ ,  $z = 2.17$ ,  $p = .03$ ) and that the indirect effect through exonerating situational evidence recall was significant ( $a*b$ :  $.22$  95% CI =  $[.04, .59]$ ). Thus, recall of a specific type of evidence, exonerating situational evidence, mediated the effect of mortality salience manipulation on verdict, see Figure 5.7.

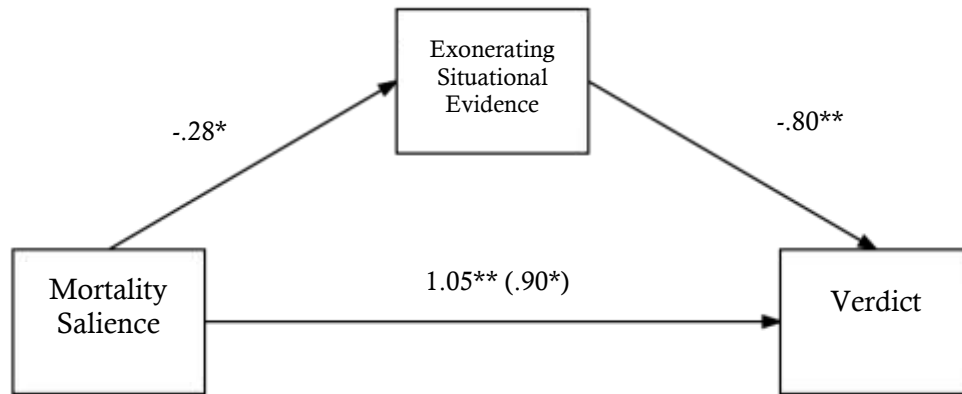


Figure 5.7. Experiment 3: Exonerating situational evidence mediates the effect of experimentally induced mortality saliency on verdict. Asterisks indicate levels of significance (\* $p < .05$ , \*\* $p < .005$ , \*\*\* $p < .001$ ).

#### 5.6.4 Discussion

Firstly the findings of Experiment 3 support those of Experiment 2, mortality salience elicited worldview defense behaviours amongst jurors that not only impacted on final culpability measures, as shown in previous research, but also on jurors attitudes. In contemplating their mortality jurors viewed the defendant as significantly more aggressive and less favourable than those contemplating dental pain. Importantly, these effects were replicated using a different criminal case as that used in Experiment 2. Again, via mediation analysis, evidence was found for the same underlying process through which mortality salience may impact on culpability measures as that reported in Experiment 2.

The main aim of Study 3 was to provide the first investigation into the influence that reminders of mortality may have on evidence processing. While not achieving significance, means were in the predicted direction, with the mortality salient condition recalling more incriminating than exonerating evidence. Examination of the means also showed that compared to the control condition the mortality salient condition recalled less exonerating evidence, which is fitting with worldview defense behaviour. Although evidence for the role of evidence processing was not qualified (only observed for evidence content), this does provide initial evidence that the effects of mortality salience in the courtroom may extend beyond shaping attitudes to influence the way behaviour is interpreted. A mediation model was supported whereby recall of a specific evidence type, exonerating situational evidence, mediated the effect of mortality salience manipulation on verdict. Participants in the mortality salient condition recalled

less exonerating situational evidence, which in turn was related to an increased likelihood of a guilty verdict. These findings are indicative of a fundamental attribution error (Jones & Harris, 1967). The fundamental attribution error describes the tendency to attribute the behaviour of others to dispositional or personality based factors while diminishing the contribution of the situation or context. In the domain of legal decision making attribution theory has previously been used to explain the effects of race stereotypic crimes on jurors. The research demonstrated that presented with a race stereotypic crime (e.g. black burglar) jurors tend to make greater dispositional attributions, believing the crime was due to personality characteristics of the defendant rather than by external causes (Gordon, Bindrim, McNicholas, & Walden, 1988; Gordon, Michels, & Nelson, 1996; Gordon, 1990; Jones & Kaplan, 2003). In this study there is preliminary evidence of a similar bias, with less exonerating situational evidence recalled after mortality was made salient. From a TMT perspective it would be intuitive for humans to be biased in such a way, as to over emphasize the role of dispositional factors and underestimate the role of situational, since it makes our lives more predictable if the behaviour of others is determined by stable factors. For instance, if we assume that someone is aggressive due to their personality we are able to assume that in other situations they will also be aggressive. However, if we are to assume they are aggressive due to the situation we are unable to predict their future behaviour. Therefore, from a TMT perspective a fundamental attribution bias after mortality is made salient may serve as another means by which to instil the world with order and meaning to reduce the anxiety associated with death.

The results of Experiments 3 have provided initial evidence that mortality salience can also impact the manner in which jurors process trial evidence. The aim of Experiment 4 was to extend these findings and investigate if mortality salience may impact the manner in which evidence is interpreted by jurors.

## **5.7 Experiment 4**

### **5.7.1 Aims and Hypothesis**

This study was carried out to test if mortality salience may impact on final culpability decisions via the manner in which trial evidence is processed. Specifically the aim was to test if mortality salience may lead jurors to interpret



the evidence presented in a case differently than they otherwise would if mortality was not salient. To examine this, participants were asked to report their perceptions of the probative implications of each piece of evidence that they had read. It was predicted that mortality salient participants would evaluate the incriminating evidence more negatively than those in the control condition.

### 5.7.2 Method

#### Participants and Design

Participants were recruited via opportunity sampling through the University of Sheffield Psychology undergraduate research pool. Participants who had taken part in previous experiments were ineligible to take part in order to ensure participants were naive to the experiment. Eighty psychology undergraduate students from the University of Sheffield (62 female and 18 male;  $M_{age} = 20.08$  years,  $SD = 4.37$ ) were randomly assigned by the electronic survey software (Qualtrics) to one of two mortality salience conditions (mortality salient vs. control) with the researcher blind to condition. Participants received course credit for their participation.

#### Materials and Procedure

Participants were invited to take part in a study entitled '*Legal Decision Making*'. The experiment was a replication of Experiment 3 with the addition of a measure of evidence interpretation. After completing the mortality salience manipulation (using MAPS) and manipulation check (as in Experiment 3) participants read the criminal case summary which was the same as that used in Experiment 3.

**Dependent Measures.** As in Experiment 3, participants first completed the PANAS as a manipulation check before completing dependent measures. As in the previous experiments, participants evaluated the defendant on a feeling thermometer (Haddock et al., 1993) indicating how they felt toward the defendant on a scale ranging from 0 (*attitude extremely unfavourable*) to 100 (*attitude extremely favourable*) with 50 the neutral midpoint. Participants went on to evaluate the defendant in terms of aggression on a 9-point scale ranging from 1 (*not at all aggressive*) to 9 (*very aggressive*) with 5 the neutral midpoint. Participants were asked to give a final verdict, which was scored as a dichotomous variable 0 representing not guilty and 1 as guilty, and were asked to indicate the guilt likelihood of the defendant on a 9-point scale ranging from 1 (*not very likely*) to 9 (*very likely*) with 5

the neutral midpoint. To investigate the effects of mortality salience on evidence processing a measure of evidence interpretation, as used in previous mock juror research (Bodenhausen, 1988), was included. Participants were presented with each evidence item and asked to rate each on an 11-point scale ranging from -5 (*extremely unfavourable for the defendant*) to 5 (*extremely favourable for the defendant*) according to its probable implications for the defendant. After participants completed dependent measures, they completed a demographic questionnaire. All participants were subsequently debriefed and thanked for their participation.

### 5.7.3 Results

#### Manipulation Check

To assess if the mortality salience manipulation had an effect on conscious mood, which may mediate effects, participants completed the PANAS. The questionnaire was scored according to published instructions and reliability tests conducted. Reliability analysis confirmed an acceptable level of reliability for both the positive affect subscale ( $\alpha = .88$ ) negative affect subscale ( $\alpha = .87$ ). A one-way ANOVA found there to be no significant effect of mortality salience on positive affect ( $F(1, 78) = 1.0, p = .33$ ) or on negative affect ( $F(1, 78) = .49, p = .49$ ). It was concluded that mortality primes did not significantly affect conscious mood.

#### Main Analysis

**Evaluation of Defendant.** Reminded of their own mortality participants indicated a significantly less favourable attitude towards the defendant ( $M = 33.00, SD = 15.56$ ) compared to participants in the control condition ( $M = 41.00, SD = 19.72$ ),  $t(78) = -2.02, p = .05, d = .45$ . The mortality salient condition also gave significantly higher evaluations of defendant's aggression ( $M = 6.53, SD = 1.43$ ) than participants in the control condition ( $M = 5.85, SD = 1.61$ ),  $t(78) = 1.98, p = .05, d = .45$ . As in previous experiments, attitude ratings were compared to the neutral mid-point. Attitudes towards the defendant were significantly lower than the neutral midpoint in both the control condition,  $t(39) = -2.89, p < .006, d = .46$ , and mortality salient condition,  $t(39) = -6.91, p < .001, d = 1.09$ . Aggression ratings were also significantly higher than the neutral mid-point in both the control condition  $t(39) = 3.34, p = .002, d = .35$ , and mortality salient condition,  $t(39) = 6.74, p < .001, d = 1.06$ .

**Evidence Interpretation.** An overall implication rating was computed for evidence type: incriminating and exonerating, and evidence content: dispositional and situational, producing four scores, see Table 5.4.

Table 5.4. Experiment 4: Means and standard deviations for evidence implication.

	Control	Mortality Salient
Total Incriminating Evidence	-15.70 (8.09)	-20.60 (7.34)
Incriminating Situational Evidence	-6.88 (5.00)	-9.18 (5.09)
Incriminating Dispositional Evidence	-8.83 (3.96)	-11.43 (3.57)
Total Exonerating Evidence	15.25 (7.57)	15.25 (6.30)
Exonerating Situational Evidence	6.98 (4.30)	6.93 (3.79)
Exonerating Dispositional Evidence	8.38 (4.26)	8.33 (3.68)

Note: Standard deviations given in parenthesis

Evidence interpretation as a function of mortality salience was assessed using a 2 (Evidence Type: incriminating vs. exonerating) x 2 (Evidence Content: dispositional vs. situational) x 2 (Mortality Salience: control vs. mortality salient) mixed ANOVA, the latter factor being between-subjects. The results yielded a main effect of mortality salience ( $F(1, 78) = 5.17, p = .03, \eta^2 = .06$ ), such that mortality salient participants judged the implication of the evidence overall to be more negative ( $M = -5.35, SD = 10.98$ ) than those in the control condition ( $M = -0.35, SD = 8.54$ ). There was also a main effect of evidence type, ( $F(1, 78) = 748.41, p > .001, \eta^2 = .91$ ), such that participants judged the implication of the pieces of incriminating evidence to be more negative ( $M = -18.15, SD = 8.06$ ) than that for the pieces of exonerating evidence ( $M = 15.3, SD = 6.92$ ). However, there was no main effect of evidence content ( $F(1, 78) = 1.01, p = .32$ ). There was a significant interaction between evidence type and mortality salience condition, ( $F(1, 78) = 3.85, p = .05, \eta^2 = .05$ ), see Figure 5.8.

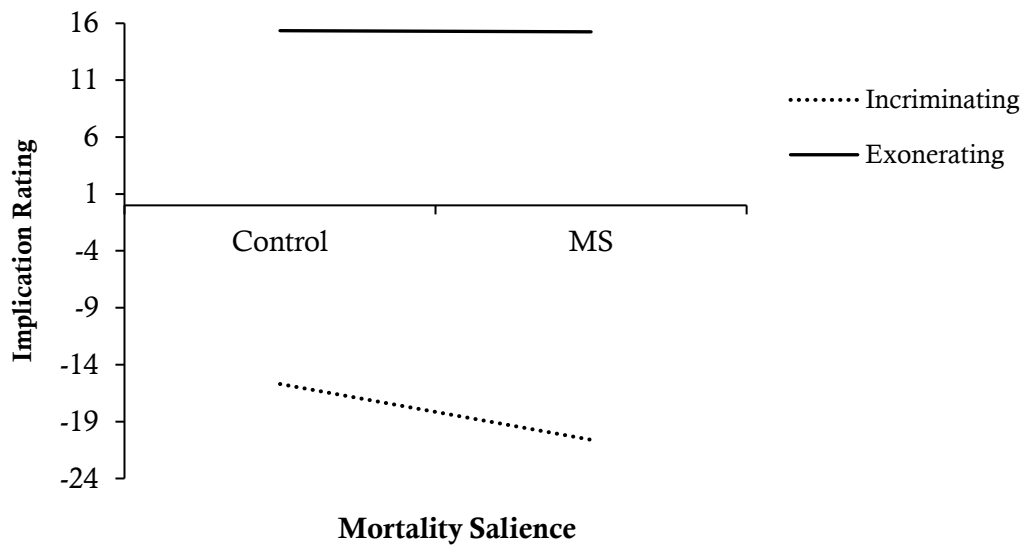


Figure 5.8. Experiment 4: Evidence implication according to evidence type as a function of mortality salience condition.

As Figure 5.8 illustrates, there was a significant difference in the evidence implication rating between the two evidence types (exonerating and incriminating) in the control condition,  $F(1, 78) = 322.44, p < .001$ , and mortality salient condition,  $F(1, 78) = 429.83, p < .001$ , with more positive implication ratings given to exonerating evidence than incriminating evidence in both conditions. While there was no difference between the two conditions in the implication rating for exonerating evidence ( $F(1, 78) = .004, p = .95$ ) there was a significant difference between the conditions in the implication rating for incriminating evidence,  $F(1, 78) = 8.04, p = .006, \eta^2 = 0.41$ , such that incriminating evidence was rated to have more negative implications in the mortality salience condition ( $M = -20.60, SD = 7.34$ ) than the control condition ( $M = -15.70, SD = 8.09$ ).

There was no interaction between evidence content and mortality salience ( $F(1, 78) = .046, p = .83$ ). Finally, there was no significant 3-way interaction between evidence type, evidence content and mortality salience ( $F(1, 78) = .06, p = .82$ )<sup>4</sup>.

**Guilt.** Reminded of their own mortality participants indicated a higher likelihood of guilt ( $M = 6.35, SD = 1.81$ ) compared to the control condition ( $M = 5.65, SD = 1.69$ ) however this difference only approached significance  $t(78) =$

<sup>4</sup> There was also an interaction between evidence type and evidence content ( $F(1, 78) = 29.86, p = .001, \eta^2 = .277$ ) but this was not relevant to the hypothesis.

1.78,  $p = .08$ . A chi-square test confirmed a significant association between mortality salience condition and whether or not the defendant was found guilty,  $\chi^2(1) = 4.38, p = .036$ , as illustrated in Figure 5.9. Based on the odds ratio, the odds of a participant giving a guilty verdict were 2.7 times higher if they were reminded of their mortality than if there were not reminded of their mortality.

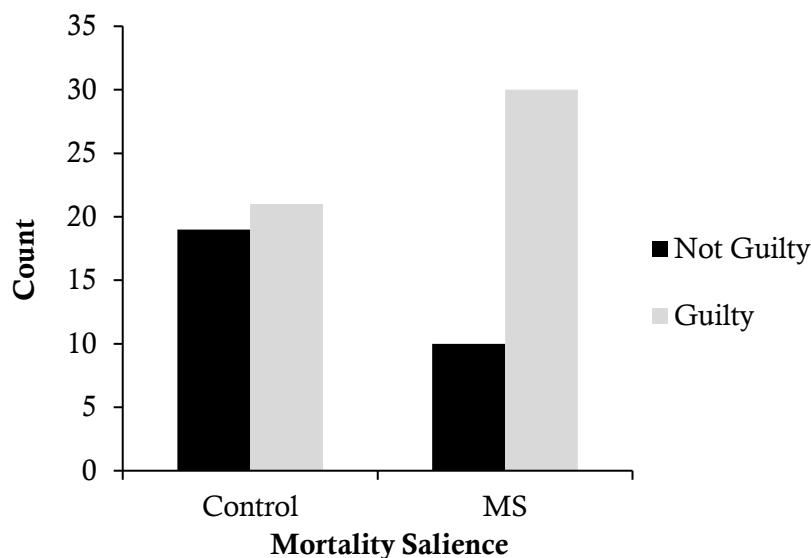


Figure 5.9. Experiment 4: Verdict as a function of mortality salience condition.

### Mediation Analysis

As tested in the previous experiments a mediation model was examined drawing upon the Story Model of jury decision, using Hayes (Hayes, Andrew, 2013) bootstrapping Process for SPSS (Model 6), to test the predicted model of the potential impact of mortality salience on jurors attitudes and evidence interpretation, see Figure 5.10. Results revealed that the effect of the mortality salience manipulation on verdict ( $b = 1.0, SE = .48, z = 2.07, p = .04$ ) was reduced after attitude towards the defendant and overall evidence interpretation were included in the model ( $b = .54, SE = .62, z = .72, p = .47$ ) and that the indirect effect through these juror attitudes and evidence interpretation was significant ( $a*b: .13$  95% CI = [.01, .49]). Thus, mortality salience indirectly affected final verdict via juror attitudes and evidence interpretation.

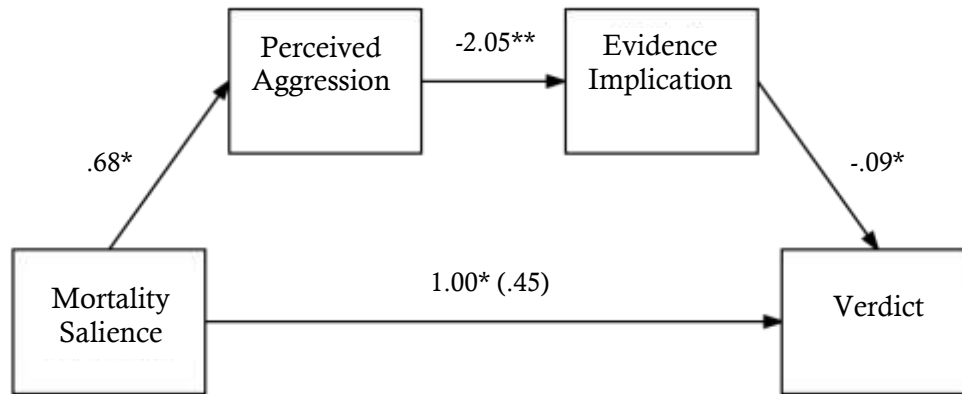


Figure 5.10. Attitudes towards the defendant and evidence interpretation mediates the effect of experimentally induced mortality saliency on verdict. Asterisks indicate levels of significance (\* $p < .05$ , \*\*  $p < .005$ , \*\*\*  $p < .001$ ).

#### 5.7.4 Discussion

As in the previous two experiments (Experiment 2 and Experiment 3), and within the context of an adversarial legal case, reminders of mortality were shown to elicit worldview defense behaviors amongst mock jurors that not only impacted on final culpability measures but also on jurors preceding attitudes. In contemplating their mortality jurors viewed the defendant as significantly more aggressive and less favorable than those contemplating dental pain. As in previous experiments these effects were not attributable to conscious changes in mood, as validated by the PANAS.

The primary aim of Experiment 4 was to provide further investigation into the influence that reminders of mortality may have on evidence processing. Extending findings from Experiment 3, further evidence was found to suggest that mortality salience may also impact the manner in which jurors process trial evidence. Using a measure of evidence interpretation, as used in previous mock juror research (Bodenhausen, 1988), results revealed that incriminating evidence was interpreted as significantly more unfavorable by those in the mortality salient condition compared to those in the control condition. However, in terms of exonerating evidence there was no difference between the two conditions. In line with findings from Experiment 4, there was also further evidence indicative of a fundamental attribution error in the mortality salient condition. Whilst not achieving statistical significance, examination of the means shows that participants in the mortality salient condition tended to overemphasize the role of personal characteristics, judging incriminating dispositional evidence to have

more negative implications for the defendant than incriminating situational evidence. Whilst a similar pattern of results is reflected in the control group, it is evident that the difference is more pronounced within the mortality salient condition. Finally, in line with predictions evidence was obtained via mediation analysis to indicate that mortality salience impacts juror's final verdict via juror's attitudes and cognitive processing. The salience on mortality appears to influence juror's attitudes towards defendants which in turn taints the lens through which jurors interpret trial evidence subsequently affecting their final verdict.

The results of Experiment 4 provide further evidence that mortality salience can affect not only the attitudes of jurors towards defendants but also the manner in which they interpret trial evidence.

## 5.8 General Discussion

The four experiments (one cross sectional study and three empirical experiments) reported in this chapter broadly aimed to investigate the influence of mortality salience on juror decision making within an established theoretical framework of how it is that jurors arrive at their final verdict. Grounded in the Story Model of juror decision making, of specific interest was the examination of not only the impact that mortality salience has on decisions of culpability and guilt but also on the preceding attitudes and cognitions that are proposed to lead to such final judgments of guilt. The rationale for this being that if we are to gain new perspectives into the behaviours and decisions of jurors in the courtroom it is seemingly imperative to understand the *process* by which jurors arrive at these final decisions rather than focus merely on the end product, the verdict.

Firstly, across four experiments there was clear evidence that mortality salience can unduly influence juror's attitudes towards defendants. Results showed a positive correlation between death anxiety and conviction prone pre-trial attitudes (Experiment 1), less favourable attitudes towards defendants after mortality was made salient (Experiments 2, 3 and 4) and defendants to be rated as significantly more aggressive after mortality was made salient (Experiments 2, 3 and 4). From the Story Model perspective these attitudes are then combined with trial evidence and information to form the narratives from which verdicts are based (Pennington & Hastie, 1981, 1986, 1988). With this in mind the specific aim

of Experiments 3 and 4 was to investigate the impact of mortality salience on the manner in which evidenced is recalled and interpreted. Across two experiments (Experiment 3 and 4) preliminary evidence was found to suggest that as well as influencing jurors attitudes mortality salience can also impact on evidence processing. In Experiment 3, although not achieving statistical significance, means were in the predicted direction with the mortality salient condition recalling more incriminating than exonerating evidence, which is fitting with worldview defense behaviour. In Experiment 4, in considering the impact of mortality salience on the interpretation of evidence, a significant interaction between evidence type and mortality salience condition was found. Across all four experiments mortality salience led to higher guilt likelihood ratings and were significantly more likely to give a guilty verdict when reminded of their death. However, as previously discussed, the overall aim was to understand the *process* by which jurors arrived at these final decisions. Using mediation analysis, models were tested based upon the Story Model of jury decision making, to assess the underlying process leading to such final verdicts. In Experiments 2 and 3 it was found that mortality salience indirectly affected final juror verdicts via jurors attitudes towards the defendant. Expanding these findings in Experiment 4 mediation analysis showed that mortality salience indirectly affected final verdict via juror attitudes and evidence interpretation.

Broadly, these results are in-keeping with the Mortality Salience Hypothesis (Rosenblatt et al., 1989) which states that if psychological structures, such as cultural worldviews, provide protection against anxiety, then reminding people of the source of their anxiety, their mortality, should therefore lead to an increased need for that protection structure (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997). As such, the salience of mortality has repeatedly been shown to lead to increased positive responses to anyone or anything that bolsters these protection structures (cultural worldviews and self-esteem) and decreased positive responses to anyone or anything which threatens them (Castano, Yzerbyt, Paladino, & Sacchi, 2002; Greenberg et al., 1990; Nelson, Moore, Olivetti, & Scott, 1997; Rosenblatt et al., 1989). Indeed, the four experiments reported in this chapter have shown that mortality salience leads to decreased positive responses towards a target threatening a salient cultural



worldview. More specifically, the experiments reported in this chapter replicate findings from previous research showing mortality salience to lead to increased negative response to legal transgressors (Florian & Mikulincer, 1997; Lieberman, Arndt, Personius, & Cook, 2001; Rosenblatt et al., 1989). However, the results obtained in the experiments reported in this chapter expand upon previous findings in a number of key and potentially significant ways. Firstly, across three experiments (Experiment 2, 3 and 4) mortality salience did not merely elicit increased negative attitudes towards the suspected legal transgressor (as shown in previous research) but attitudes which were shown to differ *significantly* from the expected neutral midpoint which may be expected of an impartial juror. This suggests that the impact of mortality salience on jurors maybe more serious than other research alludes, posing threat to the fundamental principles underlying trial by jury, fairness and impartiality. Added to this the results of Experiment 1 were obtained in the absence of a specific target or even specific crime. From this perspective, the results, whilst correlational, indicate that regardless of crime type and even before a trial has begun juror's anxiety about death may have potential implications on subsequent juror decision making. Together these findings raise the question of whether death anxiety and topics surrounding mortality salience should be addressed within a pre-trial screening procedure. Whilst not in practice within the English Criminal Justice System, the American Criminal Justice System utilizes a pre-trial screening procedure called *voir dire* to screen jurors to identify such biases that are likely to interfere with their ability to remain impartial during the course of a trial (Sommers, 2008).

### **5.8.1 Conclusion**

The findings from this chapter suggest that mortality salience within the courtroom can taint the lens through which jurors make their decisions. Mortality salience results in defendants being evaluated more negatively which in turn can potentially impact the way in which evidence is interpreted which consequently impacts on final decisions of guilt.

## Chapter 6

### Beyond Personal Mortality Salience

The previous chapters have highlighted the significant impact that the salience of mortality in the courtroom can have on various aspects of juror decision making. These effects, however, have only been demonstrated with reference to the salience of *personal* mortality. In light of this, this chapter presents a further two experiments (Experiment 5 and Experiment 6) which aim to extend findings and examine the impact that reminders of the mortality of *others* may have on juror decision making.

#### 6.1 Introduction

In 2014, there was a 23% increase in reports of ‘violence against the person’ offences committed in the UK compared to the previous year (Office for National Statistics, 2015). Representing a total of 740,802 individual offences these infractions include: homicide, attempted murder, conspiracy to murder, death by dangerous driving and grievous bodily harm. Signifying the most serious crime type, these infractions are typically indictable-only offences that can only be tried at Crown Court before a judge and jury. While Chapter 5, and in fact the majority of the TMT literature to date, has concentrated on the impact of personal mortality salience on jurors the above statistics indicate that it is perhaps the mortality of others, specifically that of a victim or even victims, which is most likely to be salient in the courtroom.

While a large amount of work has been conducted investigating the mortality salience hypothesis very few studies to date have examined the proposition of whether thoughts to the mortality of others produces similar effects as those observed in Chapter 5 when considering personal mortality. This absence

is, in no doubt, due largely to the fact that the fundamental theoretical underpinnings of TMT do not necessarily account for the effects of making another person's death salient (Greenberg et al., 1997; Greenberg et al., 1994). Owing to the underlying biologically rooted instinct for self-preservation, TMT posits that it is specifically the salience of *personal mortality* for which cultural worldviews provide protection, and in turn elicit the subsequent worldview defence behaviours. Of the few studies that have investigated the issue results indicate, in line with the theoretical underpinnings of the theory, that mortality salience effects are stronger for thoughts of personal mortality than thoughts of general mortality or that of another individual. For instance, Greenberg et al. (1994) found that contemplating the death of a loved one produced similar mortality salience effects (namely preference for the foreign author of a pro-U.S. essay than for the author of an anti-U.S. essay) as that when specifically contemplating one's own death. Notably, however, these mortality salience effects were significantly weaker amongst those considering mortality in general or that of a loved one. Likewise, Nelson et al. (1997) found that American mock jurors in a civil case displayed stronger mortality salience effects, specifically increased nationalistic bias, after they completed a task making their own mortality salient rather than mortality in general. On the back of these findings and in accordance with the theoretical underpinnings of TMT, Greenberg et al. (1994) proposed that the mortality of others may indeed produce worldview defence behaviours by simply *indirectly* reminding individuals of their own eventual personal mortality. As such they argue that it is personal mortality salience rather than that of another person which should always elicit the strongest responses to mortality salience.

While the potential impact of mortality salience in the courtroom may have previously been considered negligible, due to traditional underpinnings of TMT specifying it is the salience of personal mortality *per se* which elicits worldview behaviours, emerging research suggests the contrary. Within the context of criminal juror decision making there is initial evidence indicating that contemplating the mortality of a victim can elicit just as powerful effects on measures of punishment as that of personal mortality salience. In two unpublished studies research has shown that when mock jurors were encouraged to consider a victim's death, via an attorneys statement, jurors advocated more punitive

judgements which were often just as powerful, and in some cases more so, than that elicited via personal mortality salience (Cook, Arndt, & Lieberman, 2004; Pickel & Brown, 2002). In discussion of these findings Arndt et al. (2005) proposed that it is perhaps the realistic manipulation of mortality salience in these studies, via incorporation into attorney arguments, which created a far more powerful mortality salience manipulation to that seen in previous research investigating mortality salience focus. These findings together with recent statistics, indicate that the impact of mortality beyond the experimental setting, and in the reality of a courtroom, may be more significant than first thought. In light of this the aim of this chapter was to examine the impact that reminders of the mortality of others may have on juror decision making.

## **6.2 Experiment 5**

### **6.2.1 Aims and Hypotheses**

The aim of the present experiment was to investigate the impact that the salience of another person's mortality may have on juror decision making within a realistic adversarial legal context. Employing the same basic experimental design as in the previous experiments participants were asked to either consider their own personal mortality (PMS), the victim's mortality (VMS) or dental pain (control) before delivering their judgment on a criminal case. Drawing upon Arndt et al.'s (2005) proposal regarding the use of a realistic mortality salience manipulation, mortality salience was manipulated within attorney statements similar to those used in Pickel and Brown (2002). Based upon findings from previous experiments reported in the thesis, it was first hypothesized that PMS would elicit worldview defence behaviours that not only impact on final decisions of culpability but also preceding juror attitudes. Specifically, it was predicted that after PMS the proposed worldview violator (i.e. the accused defendant) would be judged significantly more negatively than those considering pain (control condition) rendering a higher proportion of guilty verdicts. Based upon proposals that others' mortality salience may operate to *indirectly* remind us of our own mortality (Greenberg et al., 1994) and suggestions by Arndt et al. (2005) that realistic mortality salience manipulations may elicit more powerful effects than that previously reported, it was predicted that in comparison to a non-mortality salient

control condition, VMS would elicit similar worldview defence behaviours as observed under PMS. However, due to the underlying self-preservation construct of TMT, it was predicted that PMS would elicit the greatest effect on worldview defence behaviours.

## 6.2.2 Method

### Participants and Design

Participants were recruited by opportunity sampling through the University of Sheffield Psychology undergraduate research pool. Participants who had taken part in previous experiments were ineligible to take part in the study in order to ensure participants were naive to the experiment. Seventy-five psychology undergraduate students (59 female and 16 male;  $M_{age} = 21.33$  years,  $SD = 6.49$ ) were randomly assigned by the electronic survey software (Qualtrics) to one of three mortality salience conditions (personal mortality salient (PMS) vs. victim mortality salient (VMS) vs. control) with the researcher blind to condition. All participants received course credit for taking part.

### Materials and Procedure

Participants were invited to take part in a study entitled '*Guilty or Not Guilty*'. The basic experimental set up, including mortality salience manipulation check, was as in previous experiments.

**Criminal Case Summary.** After obtaining informed consent participants were asked to read a summary of a criminal court case. To ensure that the effects observed were not due to the specific criminal case a different criminal case study to the previous experiments was used (Appendix G). The case depicted an alleged incident of assault between a male defendant and male victim. Again, to portray a case reflective of an adversarial legal system, the summary included evidence from both the prosecution and the defence. The main arguments were that the defendant either assaulted the victim or acted in self-defence. A small pilot study was conducted prior to the experiment to deem if the materials were sufficiently ambiguous. Twenty pilot participants read the criminal case study and rated the guilt likelihood of the defendant on a 9-point scale ranging from 1 (*not very likely*) to 9 (*very likely*) with 5 the neutral midpoint. A one-sample t-test using 5 as the test value found ratings did not significantly differ from this mid-point ( $t(19) = -.30$ ,

$p = .77$ ). Thus, the criminal case materials were considered to be sufficiently ambiguous.

**Mortality Salience Manipulation.** After reading the case summary participants were randomly assigned to one of three mortality salience conditions. The mortality salience manipulation was adapted from the MAPS (Rosenblatt et al., 1989) to create a more realistic manipulation similar to that used in Pickel and Brown (2002). Participants in the PMS condition were asked to:

*Imagine that you are in The Albion Pub and you are involved in the altercation with the defendant. Imagine you are struck over the head by the defendant. You could have died as a result of your injuries. I would like to ask you to think and write about what it would be like to be the victim in this altercation.*

Participants in VMS condition were asked to:

*Imagine the victim in The Albion Pub who was involved in the altercation with the defendant. Imagine the victim is struck over the head by the defendant. The victim could have died as a result of their injuries. I would like to ask you to think and write below about what it would be like for the victim in this altercation.*

In line with the original MAPS (Rosenblatt et al., 1989) dental pain was chosen as an appropriate control and participants were asked to:

*Imagine that you are in The Albion Pub and you are experiencing dental pain. I would like to ask you to think and write below about what it would be like to suffer from dental pain.*

**Dependent Measures.** As in the previous experiments participants first completed the PANAS as a manipulation check before completing the dependent measures. Also, as in previous experiments, participants evaluated the defendant on a feeling thermometer (Haddock et al., 1993) indicating how they felt toward the defendant on a scale ranging from 0 (*attitude extremely unfavourable*) to 100 (*attitude extremely favourable*) with 50 the neutral midpoint. On a second thermometer participants were also asked to evaluate the victim. A measure of the juror's attitude towards the victim was included in this experiment due to the nature of the accused crime and the line of defence presented. The defence's argument was that the defendant's actions were in self-defence to actions of the victim. Drawing upon mortality salience research relating to hate crime (Lieberman et al., 2001), as discussed in Chapter 4, it is possible that the self-

defence argument may create a similar paradox whereby the behaviour of both the perpetrator and the victim can be interpreted as a worldview threat. For this reason, participants were also asked to indicate the blameworthiness of the defendant and victim on two 9-point scales ranging from 1 (*not at all to blame*) to 9 (*completely to blame*). Participants were then asked to complete the Inclusion of Other in Self (IOS) scale (Aron, Aron, Tudor, & Nelson, 1991) for the defendant and victim. Since the mortality salience manipulation involved perspective taking the IOS was included to examine participant's perceived overlap between mental representations of themselves and that of the victim as well as the defendant. The scale consists of seven pictures of two increasingly overlapping circles, labelled 'Self' and in this case the other labelled 'Victim' or 'Defendant'. Participants were asked 'Please circle the image which best describes your relationship with the victim/defendant' with higher numbers indicating greater perceived overlap between mental representations of self and that of the victim or defendant. As well as delivering a final verdict, which was scored as a dichotomous variable 0 representing not guilty and 1 as guilty, participants were also asked to indicate the guilt likelihood of the defendant on a 9-point scale ranging from 1 (*not very likely*) to 9 (*very likely*) with 5 the neutral midpoint. After participants completed dependent measures, they completed a demographic questionnaire. All participants were subsequently debriefed and thanked for their participation.

### 6.2.3 Results

#### Manipulation Checks

To assess if the mortality salience manipulation had an effect on conscious mood, which may mediate effects, participants completed the PANAS. The questionnaire was scored according to published instructions and reliability tests conducted. Reliability analysis confirmed an acceptable level of reliability for both the positive affect subscale ( $\alpha = .81$ ) and negative affect subscale ( $\alpha = .85$ ). A one-way ANOVA found there to be no significant effect of mortality salience on positive affect ( $F(2, 72) = .34, p = .71$ ) or on negative affect ( $F(2, 72) = 1.62, p = .21$ ). It was concluded that mortality primes did not significantly affect conscious mood.

To assess if the mortality salience manipulation made participants feel more similar to the victim, which may mediate effects, participants completed the

IOS. Perceived similarity ratings as a function of mortality salience was subjected to a 3 (Mortality Salience: control vs. PMS vs. VMS) x 2 (Similarity Target: victim vs. defendant) mixed ANOVA, the latter factor being within-subjects. The results yielded no main effect of mortality salience ( $F(2, 72) = .80, p = .45$ ). However, there was a main effect of similarity target,  $F(1, 72) = 9.30, p = .003, \eta^2 = .11$ , such that all participants demonstrated a greater perceived self-overlap with the victim ( $M = 1.96, SD = 1.17$ ) than with the defendant ( $M = 1.59, SD = .92$ ). There was no significant interaction between mortality salience and similarity target ( $F(2, 72) = 2.04, p = .14$ ).

### Main Analysis

**Evaluations.** Attitude ratings as a function of mortality salience were subjected to a 3 (Mortality Salience: control vs. PMS vs. VMS) x 2 (Attitude Target: victim vs. defendant) mixed ANOVA, the latter factor being within-subjects. The results yielded no main effect of mortality salience ( $F(2, 72) = .14, p = .87$ ). However, there was a main effect of attitude target,  $F(1, 72) = 45.95, p < .001, \eta^2 = .39$ , such that participants were more favourable towards the victim ( $M = 55.47, SD = 1.49$ ) than the defendant ( $M = 38.53, SD = 1.84$ ). This main effect was qualified by a significant two-way interaction between mortality salience and attitude target,  $F(2, 72) = 3.95, p = .02, \eta^2 = .10$ , as illustrated in Figure 6.1.



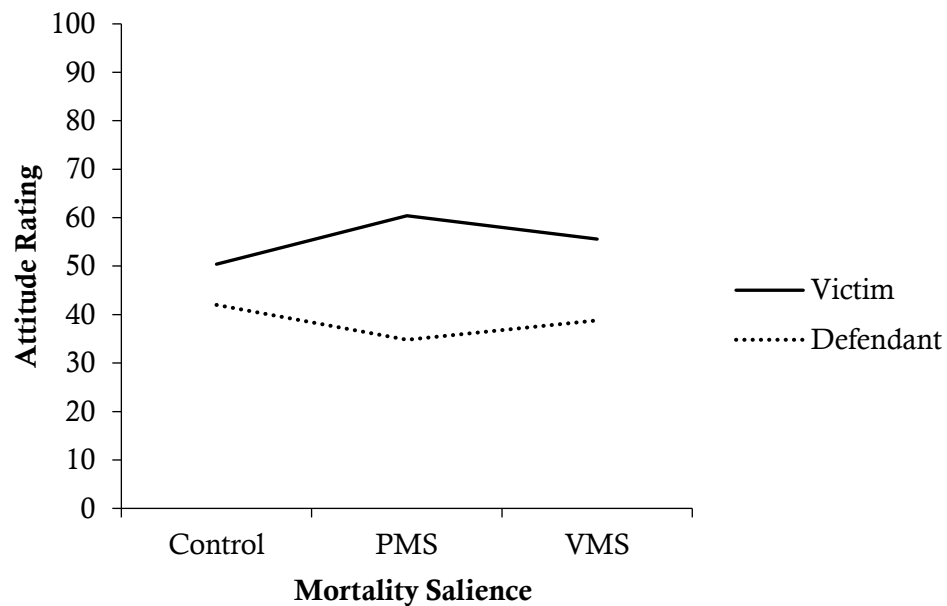


Figure 6.1. Experiment 5: Attitude rating as a function of evaluation target and mortality salience condition.

As Figure 6.1 illustrates, there was a significant difference in attitude between the two targets (victim and defendant) in the PMS condition,  $F(1, 72) = 35.01$ ,  $p < .001$ ,  $\eta^2 = .49$ , and VMS condition,  $F(1, 72) = 15.08$ ,  $p < .001$ ,  $\eta^2 = .21$ . There was only a marginal difference in attitude between the two targets in the control condition,  $F(1, 72) = 3.77$ ,  $p = .06$ ,  $\eta^2 = .05$ . Across all three mortality salient conditions participants expressed more favourable attitudes towards the victim than the defendant. Examining the means for attitude towards the defendant, participants in the mortality salient conditions were less favourable towards the defendant (PMS:  $M = 34.80$ ,  $SD = 18.51$  and VMS:  $M = 38.8$ ,  $SD = 14.24$ ) than the control condition ( $M = 42.00$ ,  $SD = 14.70$ ). However, this difference was not significant ( $F(2, 72) = 1.28$ ,  $p = .28$ ). Attitude towards the victim, however, did significantly differ across mortality salience conditions,  $F(2, 72) = 3.75$ ,  $p = .03$ ,  $\eta^2 = .09$ . Planned t-tests, with Bonferroni adjusted alpha level of .016 per test due to multiple comparisons, showed that the PMS condition were more favourable towards the victim compared to the control condition,  $t(48) = -2.71$ ,  $p = .01$ ,  $d = .77$ . While the means illustrate that the VMS group were more favourable towards the victim ( $M = 55.6$ ,  $SD = 12.61$ ) than the control group ( $M = 50.4$ ,  $SD = 14.0$ ) the difference was not significant ( $t(48) = 1.38$ ,  $p = .17$ ). A final comparison of the two experimental conditions, PMS and VMS, revealed there to be no difference

in evaluations of the victim according to focus of mortality salience ( $t(48) = 1.38$ ,  $p = .18$ ).

As in the previous experiments, one sample t-tests were also carried out against the mid-point of each attitude scale. While attitudes towards the victim made by the control condition did not significantly differ from the expected neutral midpoint ( $t(24) = .14$ ,  $p = .89$ ) victim evaluations were significantly higher than the midpoint in the PMS condition,  $t(24) = 4.31$ ,  $p < .001$ ,  $d = .86$ , and the VMS condition,  $t(24) = 2.22$ ,  $p = .04$ ,  $d = .44$ . Attitudes towards the defendant were significantly lower than the mid-point across all three conditions (control condition:  $t(24) = -2.72$ ,  $p = .01$ ,  $d = .54$ , PMS:  $t(24) = -4.11$ ,  $p < .001$ ,  $d = .82$ , and VMS:  $t(24) = -3.93$ ,  $p = .001$ ,  $d = .79$ ).

**Blame.** Blame ratings as a function of mortality salience was subjected to a 3 (Mortality Salience: control vs. PMS vs. VMS) x 2 (Blame Target: victim vs. defendant) mixed ANOVA, the latter factor being within-subjects. The results yielded no main effect of mortality salience ( $F(2, 72) = 1.85$ ,  $p = .17$ ). However, there was a main effect of blame target,  $F(1, 72) = 43.91$ ,  $p < .001$ ,  $\eta^2 = .38$ , such that participants attributed more blame towards the defendant ( $M = 6.07$ ,  $SD = 1.31$ ) than the victim ( $M = 4.53$ ,  $SD = 1.36$ ). This main effect was qualified by evidence of an interaction between mortality salience and blame target,  $F(2, 72) = 2.43$ ,  $p = .09$ ,  $\eta^2 = .06$ , as illustrated in Figure 6.2.

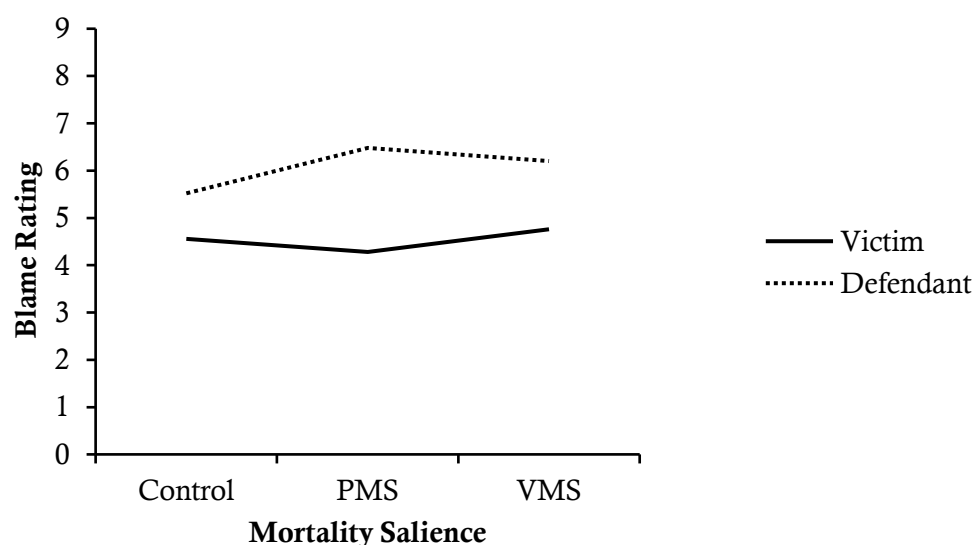


Figure 6.2. Experiment 5: Blame rating as a function of blame target and mortality salience condition.

As Figure 6.2 illustrates, there was a significant difference in blame ratings

between the two targets (victim and defendant) in the PMS condition,  $F(1, 72) = 30.13, p < .001, \eta^2 = .42$ , the VMS condition,  $F(1, 72) = 12.91, p = .001, \eta^2 = .18$ , and the control condition,  $F(1, 72) = 5.74, p = .02, \eta^2 = .08$ ). Across all three conditions higher blame attributions were made towards the defendant than the victim. Examining the mean ratings of victim blame, participants in the PMS condition attributed the least victim blame ( $M = 4.28, SD = 1.46$ ) while those in the VMS gave the highest victim blame ratings ( $M = 4.76, SD = 1.30$ ). However, this difference did not reach significance ( $F(2, 72) = .78, p = .46$ ). Defendant blame ratings however did significantly differ across mortality salience conditions,  $F(2, 72) = 3.83, p = .03, \eta^2 = .10$ . Planned t-tests, with Bonferroni adjusted alpha level of .016 per test due to multiple comparisons, showed that the PMS condition attributed greater defendant blame than the control condition,  $t(48) = -2.56, p = .01, d = .72$ . Although inspection of the means showed that the VMS also group gave higher defendant blame ratings ( $M = 6.20, SD = 1.12$ ) than the control group ( $M = 5.52, SD = 1.53$ ) the difference was only marginally significant ( $t(48) = -1.79, p = .08$ ). A final comparison of the two experimental conditions, PMS and VMS, revealed there to be no significant difference in ratings of defendant blame according to focus of mortality salience ( $t(48) = .90, p = .37$ ).

One sample t-tests were carried out against the mid-point of each blame scale. While victim blame ratings did not significantly differ from the expected neutral midpoint in the control condition ( $t(24) = -1.66, p = .11$ ) or VMS condition ( $t(24) = -.92, p = .37$ ), victim blame ratings in the PMS condition were significantly lower than the mid-point,  $t(24) = -2.5, p = .02, d = .5$ . For defendant blame, ratings by the control condition, again, did not significantly differ from the mid-point,  $t(24) = 1.7, p = .10$ . However, defendant blame ratings were significantly higher than the midpoint in both PMS condition,  $t(24) = 6.82, p < .001, d = 1.39$ , and the VMS condition,  $t(24) = 5.37, p < .001, d = 1.10$ .

**Guilt.** Guilt likelihood as a function of mortality salience was subjected to a one-way ANOVA. The results yielded an overall effect of mortality salience on ratings of guilt likelihood,  $F(2, 72) = 4.55, p = .01, \eta^2 = .11$ . Planned t-tests, with Bonferroni adjusted alpha level of .016 per test due to multiple comparisons, revealed significantly higher guilt likelihood ratings were made by PMS condition ( $M = 6.60, SD = 1.29$ ) compared to the control condition ( $M = 5.28, SD = 1.54$ ),  $t$

(72) = 3.0,  $p = .004$ ,  $d = .93$ . While inspection of the means showed higher guilt ratings were made by the VMS condition ( $M = 6.08$ ,  $SD = 1.08$ ) than the control condition the difference did not reach significance ( $t(72) = 1.82$ ,  $p = .07$ ). Finally, although the PMS condition gave higher guilt likelihood ratings, the difference between the two experimental conditions was not significant ( $t(72) = -1.18$ ,  $p = .24$ ). Guilt likelihood ratings were also compared to the neutral mid-point. While ratings made by the control condition did not significantly differ from the neutral midpoint ( $t(24) = .91$ ,  $p = .37$ ) ratings were significantly higher than the neutral midpoint in the PMS condition,  $t(24) = 6.2$ ,  $p < .001$ ,  $d = 1.26$ , and the VMS condition,  $t(24) = 3.0$ ,  $p = .01$ ,  $d = .61$ .

For final verdict a chi-square test was performed. A significant association between verdict and mortality salience was found between control and PMS conditions ( $\chi^2(1) = 4.37$ ,  $p = .04$ ). Based on the odds ratio, the odds of a participant giving a guilty verdict were 3.7 times higher if they were reminded of their own mortality (PMS) than if there were not reminded of their mortality. However, there was no association between verdict and mortality salience condition between control and VMS conditions ( $\chi^2(1) = .74$ ,  $p = .39$ ) or between the two experimental conditions ( $\chi^2(1) = 1.59$ ,  $p = .20$ ), see Figure 6.3.

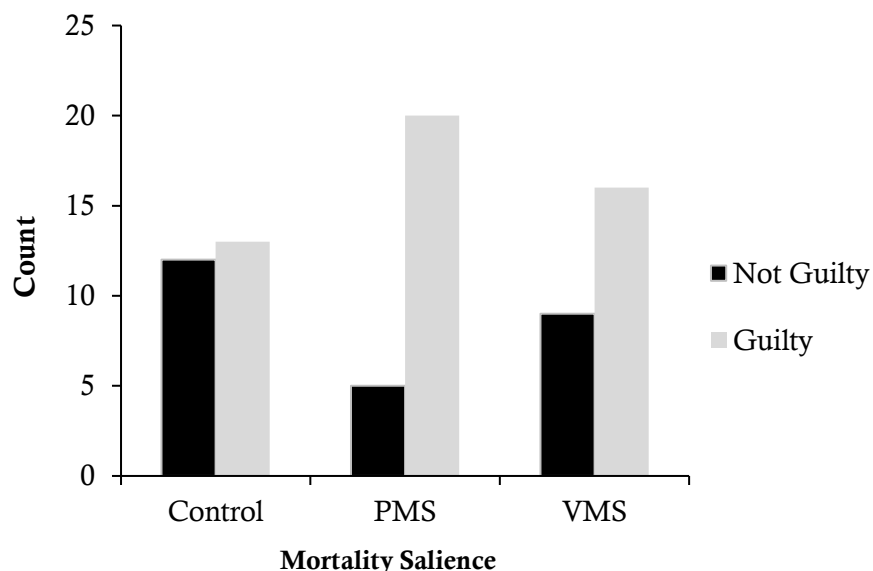


Figure 6.3. Experiment 5: Verdict as a function of mortality salience condition.

### Mediation Analysis

The first mediation model that was examined, using Hayes (2013) bootstrapping Process for SPSS (Model 6), was built upon that established in Chapter 5 on the mediating role of juror attitudes, see Figure 6, in keeping with the Story Model of juror decision making. Alternative mediation models were tested, such as that reported in previous experiments whereby attitude towards the defendant is the first mediator, however, fit indices, namely Akaike Information Criterion and Expected Cross Validation Index, indicated the reported model to fit the data better than others tested. Results revealed that the effect of the PMS manipulation on verdict ( $b = 1.31$ ,  $SE = .64$ ,  $z = 2.04$ ,  $p = .04$ ) was reduced after defendant blameworthiness and attitude towards the defendant were included in the model ( $b = .71$ ,  $SE = .85$ ,  $z = .84$ ,  $p = .40$ ) and that the indirect effect through these juror attitudes was significant ( $a*b$ :  $.39$  95% CI =  $[.04, 1.67]$ ). Thus, as in Chapter 5, personal mortality salience indirectly affected final verdict via juror attitudes.

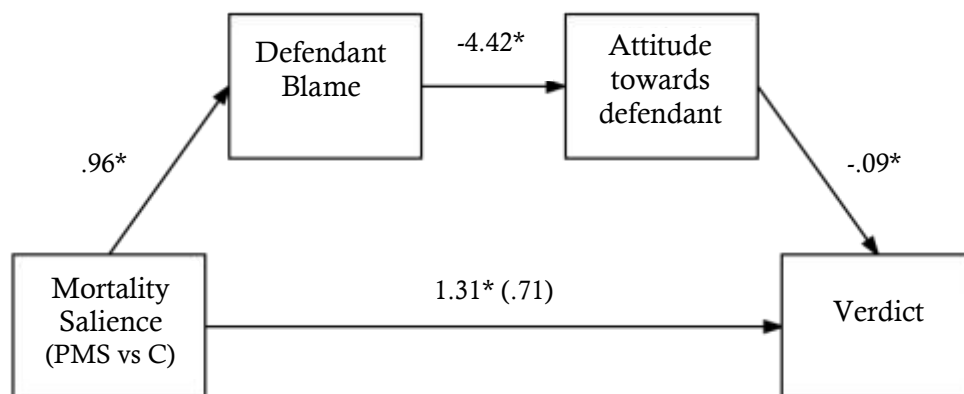


Figure 6.4. Experiment 5: Attitudes towards the defendant mediates the effect of experimentally induced personal mortality salience on verdict. Asterisks indicate levels of significance ( $p < .05$ ,  $** p < .005$ ,  $*** p < .001$ ).

This model was replicated to investigate if victim mortality salience may evoke a response on culpability measures through a similar mechanism, see Figure 6.5. Results revealed that the effect VMS on guilt likelihood ( $b = .40$ ,  $SE = .24$ ,  $t = 1.69$ ,  $p = .09$ ) reduced after defendant blameworthiness and attitude towards the defendant were included in the model ( $b = .21$ ,  $SE = .21$ ,  $t = 1.00$ ,  $p = .32$ ) and the indirect effect through these juror attitudes was significant ( $a*b$ :  $.05$  95% CI =  $[.003, .22]$ ). Thus, like PMS, VMS indirectly affected culpability measures via juror attitudes.

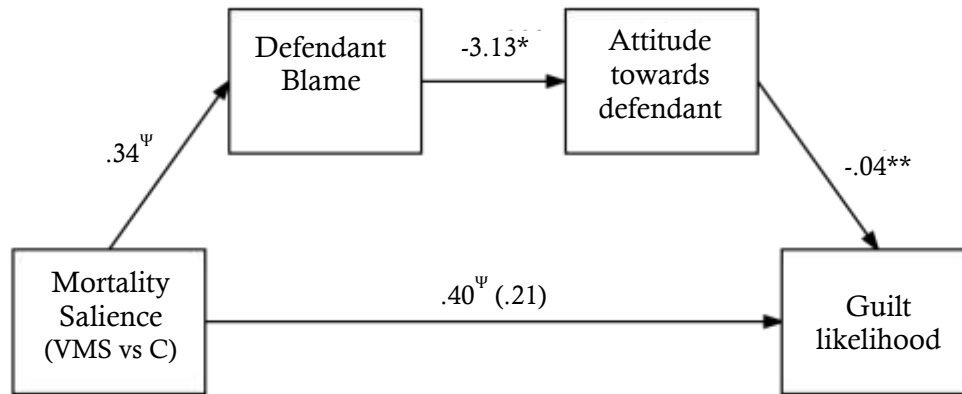


Figure 6.5. Experiment 5: Attitudes towards the defendant mediates the effect of experimentally induced victim mortality salience on guilt likelihood. Asterisks indicate levels of significance ( $\Psi p < .09$ ,  $* p < .05$ ,  $** p < .005$ ,  $*** p < .001$ ).

#### 6.2.4 Discussion

Firstly, these findings are in line with those of Chapter 5, demonstrating that PMS in the courtroom elicits increased worldview defence behaviours with more negative attitudes towards a legal transgressor, greater blame attributions, an increased guilt likelihood and greater odds of the transgressor being found guilty compared to non-mortality salience. Furthermore, findings replicated previous research showing PMS to increase favourable responding to worldview validators (Greenberg et al., 1994) with the victim rated as significantly more favourable and, although not reaching significance, given lower blame attributions in this self-defence case after participants considered their own death. As in the previous experiments there was evidence of bias in the PMS condition; attitudes towards the victim, defendant blame ratings and guilt likelihood were all significantly higher than the neutral midpoint after PMS while ratings in the control condition were not significantly different from the neutral midpoint. Although ratings for attitude towards the defendant were significantly lower than the midpoint across both conditions the effect reminded largest under PMS. In line with Chapter 5 and the Story Model, attitudes towards the defendant were the mechanism through which personal mortality salience influenced final verdict.

In terms of thinking of the death of another person some evidence of the same increased worldview defence behaviours as elicited under PMS, with less favourable attitudes towards the defendant, increased defendant blame attributions and higher guilt likelihood verdicts after considering VMS compared to control, however these differences failed to research statistical significance.

However similar to PMS there was evidence of bias with both defendant blame ratings and guilt likelihood significantly differing from the neutral midpoint after VMS. While ratings of attitude towards the defendant were significantly different from the mid-point across all conditions, compared to the control the effect was largest after VMS. Importantly, across all measures there was no difference between the experimental conditions and in line with Greenberg et al (1994) the effect was always greater after PMS than VMS. Importantly, in line with Chapter 5 and the Story Model, attitudes towards the defendant were the mechanism through which VMS influenced culpability ratings.

In sum, the results appear to support Greenberg et al (1994) and Pickel and Brown (2002), that reminders of the death of others (VMS) produces similar effects to considering our own death (PMS). However, presumably due to the more distal relevance of others' mortality, these effects are smaller than that elicited when considering PMS. These initial findings are of great importance in the legal domain. Based on the traditional underpinnings of TMT, that it is specifically the salience of personal mortality which elicits worldview defense behaviours (Greenberg, Solomon & Pyszczynski, 1997), the potential impact of mortality salience in the courtroom may have previously been considered negligible. However, the finding from this study - that mortality salience of another can elicit similar effects as PMS - suggest that we may have to reconsider the potential impact of mortality salience in the courtroom. Especially since results indicate, as in Experiments 1 to 3, that reminders of mortality, both of personal and of the victim, elicited responses that were significantly lower than the 'fair' midpoint expected of an impartial juror. With this in mind, the aim of Study 5 was to firstly replicate these effects of others' mortality saliency on legal decision making, and to secondly investigate the potential mechanism which may underlie the observed effects of making the death of another person salient in the courtroom.

### **6.3 Experiment 6**

#### **6.3.1 Aims and Hypotheses**

The aim of Experiment 6 was to replicate findings from Experiment 5 and provide an examination of the mechanism through which the mortality of others may produce mortality salience effects. Specifically, the aim of the experiment was to

test proposals by Greenberg et al. (1994) that the mortality of another person may elicit effects via indirectly reminding individuals of their own personal mortality. Employing the same basic experimental design as in the previous study, participants were asked to either consider their own personal mortality (PMS), the victim's mortality (VMS) or dental pain (control) before delivering their judgment on a criminal case. Again, mortality salience was manipulated via attorney statements to create a realistic mortality salience manipulation. A change was also made to the procedure to address a potential critique of Experiment 4. In this preceding experiment the experimental manipulation came after jurors had heard evidence. Drawing upon the Story Model of juror decision making, this may have dampened the effects of any processing bias, as some of the case information may have been processed (if not fully analysed) prior to receiving the personal vs. other focus manipulation. To address this, this study included the mortality salience manipulation before (as well as after) participants read the criminal case. Participants also completed the Revised Collett-Lester Fear of Death Scale (FDS; Lester, 1990) as used in Experiment 1. The FDS contains two sub-scales which distinguish between the fear of death of self and the fear of death of others. It was predicted that, based upon Greenberg et al.'s (1994) proposals, if VMS effects arise through indirectly reminding us of our own death then measures of death anxiety regarding death of self should mediate the effects of VMS on legal decision making.

### 6.3.2 Method

#### Participants and Design

Participants were recruited via opportunity sampling through an initial email sent via the University of Sheffield volunteer list, which is a mailing system for advertising for participants. As such participants included both students and staff from the University of Sheffield. Participants who had taken part in previous experiments were ineligible to take part in order to ensure participants were naive to the experiment. Seventy-five participants (48 female and 27 male;  $M_{\text{age}} = 27.27$  years,  $SD = 10.36$ ) were randomly assigned by the electronic survey software (Qualtrics) to one of three mortality salience conditions (personal mortality salient (PMS) vs. victim mortality salient (VMS) vs. control) with the researcher blind to



condition. All participants received entry into a prize draw for a gift certificate for taking part.

### **Materials and Procedure**

The experimental set-up and the basic procedures remained as they were in previous experiments. The only exception on this study was that the mortality salience manipulation came before and after participants read the criminal case.

**Mortality Salience Manipulation.** After obtaining informed consent participants were randomly assigned to one of three mortality salience conditions. Participants in the PMS condition were instructed before they read the criminal case: *‘As you read the criminal case please imagine the day as if it you were the victim. Try to imagine your life’* while participants in the VMS condition were instructed *‘As you read the criminal case please imagine the day from the perspective of the victim. Try to imagine the life of this individual’*. Participants in the control condition received no further instruction. After reading the criminal case, which was the same as that in Experiment 3, participants in the experimental conditions went on to complete an adapted version of the MAPS. In line with the previous experiment a realistic manipulation, similar to that used in Pickel and Brown (2002), was used. In the PMS condition participants were asked to:

*‘Imagine you were involved in the altercation with the defendant. Imagine you are struck over the head by the defendant, you could have died as a result of your injuries. I would like to ask you to think and write for 2 minutes about what it would be like to die as a result of this altercation’*.

Participants in the VMS condition were asked to:

*‘Imagine the victim who was involved in the altercation with the defendant. Imagine the victim is struck over the head by the defendant, the victim could have died as a result of their injuries. I would like to ask you to think and write for 2 minutes about what it would be like for the victim to die as a result of this altercation’*.

**Dependent Measures.** As in the previous experiment participants first completed the PANAS as a manipulation check before completing dependent measures. As in the previous experiments, participants evaluated the defendant on a feeling thermometer (Haddock et al., 1993) indicating how they felt toward the defendant on a scale ranging from 0 (*attitude extremely unfavourable*) to 100 (*attitude extremely favourable*) with 50 the neutral midpoint. Participants were asked to rate

their similarity to the victim and defendant on two separate 7-point scales ranging from 1 (*not at all similar*) to 7 (*very similar*). This measure replaced the IOS from Experiment 5 as it can be argued that the IOS only includes options that indicate some degree of overlap in the relationship between the self and target group and thus does not provide an equal number of response categories of a negative relationship (dislike) and positive relationship (closeness). As in previous experiments, participants delivered a final verdict, which was scored as a dichotomous variable 0 representing not guilty and 1 as guilty, and were asked to indicate the guilt likelihood of the defendant on a 9-point scale ranging from 1 (*not very likely*) to 9 (*very likely*) with 5 the neutral midpoint.

Participants were then informed that the next section of questions concerned different aspects of death and dying. All participants were asked to indicate if they were happy to continue. Those participants who selected no would be re-directed to demographic questions and then a debriefing. All participants completed the fear of death scale with no participants declining to complete the scale. Participants who indicated that they were happy to continue were presented with the Revised Collett-Lester Fear of Death Scale (FDS; Lester, 1990) as used in Experiment 1. Participants were instructed to indicate on a 5-point scale, ranging from 1 (*not very anxious*) to 5 (*very anxious*), the extent to how anxious each statement regarding different aspects of death makes them feel (e.g. *'The pain involved in dying'*) with higher scores indicated greater death anxiety. The scale is made up of two subscales, fear of death of self and the fear of death of others. After participants completed dependent measures, they completed a demographic questionnaire. All participants were subsequently debriefed and thanked for their participation.

### 6.3.3 Results

#### Manipulation Checks

To assess if the mortality salience manipulation had an effect on conscious mood participants completed the PANAS. The questionnaire was scored according to published instructions and reliability tests conducted. Reliability analysis confirmed an acceptable level of reliability for both the positive affect subscale ( $\alpha = .83$ ) and negative affect subscale ( $\alpha = .73$ ). One-way ANOVA's found there to be no significant effects of mortality salience on positive affect ( $F(2, 72) = 1.62$ ,

$p = .21$ ) or on negative affect ( $F(2, 72) = 2.03, p = .14$ ). It was concluded that mortality primes did not significantly affect conscious mood.

To assess if the mortality salience manipulation made participants feel more similar to the victim which may mediate effects, participants completed a measure of similarity. Perceived similarity ratings as a function of mortality salience was subjected to a 3 (Mortality Salience: control vs. PMS vs. VMS)  $\times$  2 (Similarity Target: victim vs. defendant) mixed ANOVA, the latter factor being within-subjects. The results yielded a main effect of target,  $F(1, 72) = 46.21, p < .001, \eta^2 = .39$ , such that participants felt more similar to the victim ( $M = 2.73, SD = 1.19$ ) than the defendant ( $M = 1.75, SD = .96$ ). However, there was no significant interaction between mortality salience condition and similarity target,  $F(2, 72) = 1.65, p = .20$ .

### Main Analysis

**Evaluations.** Attitude ratings as a function of mortality salience were subjected to a one-way ANOVA. The results yielded an overall effect of mortality salience on ratings of attitude towards the defendant,  $F(2, 72) = 3.74, p = .03, \eta^2 = .09$ . Planned t-tests, with Bonferroni adjusted alpha level of .016 per test due to multiple comparisons, revealed that the PMS condition were less favourable towards the defendant ( $M = 30.40, SD = 13.69$ ) than the control condition ( $M = 40.80, SD = 9.97$ ),  $t(72) = -3.07, p = .004, d = .87$ . While inspection of the means showed the VMS condition were less favourable towards the defendant ( $M = 33.60, SD = 16.80$ ) than the control condition the difference was not significant ( $t(72) = -1.48, p = .07$ ). Finally, although PMS condition indicated less favourable attitudes towards the defendant, the difference between the experimental conditions (PMS vs VMS) was not significant ( $t(72) = -0.74, p = .46$ ). As in previous experiments attitude ratings were compared to the neutral mid-point. Attitudes towards the defendant were significantly lower than the neutral midpoint in the control condition,  $t(24) = -4.62, p < .001, d = .92$ , PMS condition,  $t(24) = -7.16, p < .001, d = 1.43$ , and the VMS condition,  $t(24) = -4.88, p < .001, d = .98$ .

**Guilt.** Examination of the means showed that guilt likelihood was higher in the mortality salient conditions, PMS ( $M = 5.92, SD = 1.29$ ) and VMS ( $M = 6.12, SD = 1.54$ ), than control condition ( $M = 5.16, SD = 1.65$ ). However, this

difference was only marginally significant,  $F(2, 72) = 2.85, p = .06, d = .71$ . Compared to the neutral midpoint guilt likelihood ratings made by the control condition did not significantly differ from the midpoint ( $t(24) = .49, p = .63$ ) while guilt likelihood ratings were significantly higher than the midpoint by participants in PMS condition,  $t(24) = 3.57, p = .002, d = .71$ , and VMS condition,  $t(24) = 3.65, p = .001, d = .73$ .

For final verdict a chi-square test was performed. A significant association between verdict and mortality salience condition was found between the control and PMS conditions ( $\chi^2(2) = 5.13, p = .02$ ) and also marginally between control and VMS conditions ( $\chi^2(2) = 2.89, p = .09$ ). However there was no association between verdict and mortality saliency condition between the two experimental conditions ( $\chi^2(2) = .35, p = .556$ ). Based on the odds ratio, the odds of a participant giving a guilty verdict were 3.8 times higher if they were reminded of their own mortality (PMS) than if there were not reminded of their mortality. The odds of a participant giving a guilty verdict were 2.7 times higher if they were reminded of a victims mortality (VMS) than if there were not reminded of their mortality, see Figure 6.6

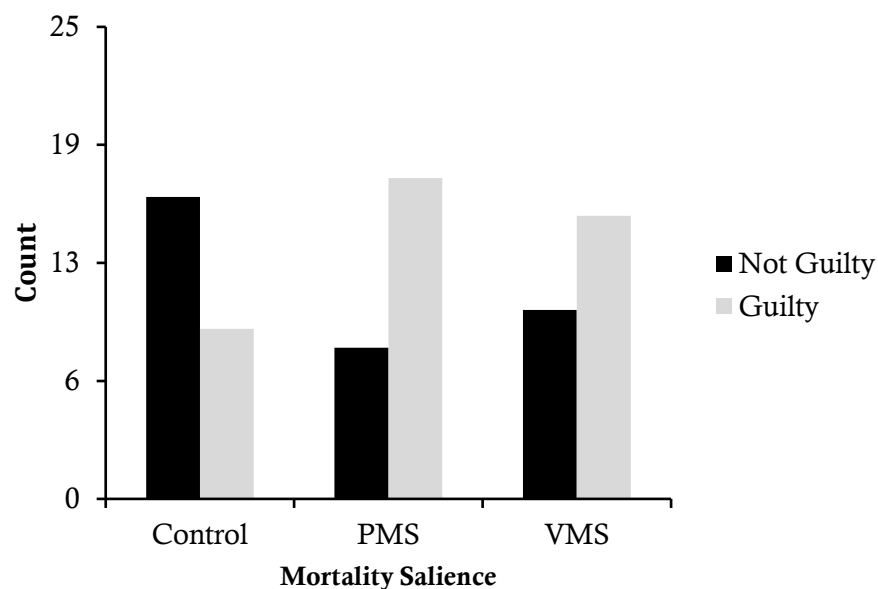


Figure 6.6. Experiment 6: Verdict as a function of mortality salience condition.

**Death Anxiety.** The FDS was scored according to published instructions and reliability analysis confirmed both subscales, fear of death of self and the fear of death of others, had acceptable levels of reliability ( $\alpha = .90$ ), see Table 6.1.

*Table 6.1.* Experiment 6: Means and standard deviations for measures of death anxiety.

	Control	PMS	VMS
Fear of death of self	46.40 (10.87)	53.80 (13.60)	54.36 (12.53)
Fear of death of others	52.40 (12.38)	55.40 (12.53)	61.56 (9.22)

Note: Standard deviations given in parenthesis

The subscale for fear of death as a function of mortality salience was subjected to a 3 (Mortality Salience: control vs. PMS vs. VMS) x 2 (Fear of death target: self vs. others) mixed ANOVA, the latter factor being within-subjects. There was a main effect of mortality salience,  $F(2, 72) = 4.33, p = .02, \eta^2 = .02$ ). Planned *t*-tests, with Bonferroni adjusted alpha level of .016 per test due to multiple comparisons, revealed that there was no significant difference in overall death anxiety between the control condition and PMS ( $t(48) = -1.68, p = .10$ ) nor between PMS and VMS ( $t(48) = -1.15, p = .254$ ). However, the VMS condition scored significantly higher on overall death anxiety ( $M = 115.92, SD = 18.03$ ) than the control condition ( $M = 98.80, SD = 21.0$ ),  $t(48) = 3.09, p = .003$ ). There was also a main effect of death anxiety target,  $F(1, 72) = 12.97, p < .001, \eta^2 = .15$ , such that participants indicated greater fear of death of others ( $M = 56.45, SD = 11.95$ ) than fear of death of self ( $M = 51.52, SD = 12.75$ ). There was no interaction between mortality salience and death anxiety target,  $F(2, 72) = 1.55, p = .22$ .

### Mediation Analysis

To test Greenberg et al.'s (1994) proposals, that VMS effects may arise through indirectly reminding us of our own death mediation analysis was conducted to assess if measures of death anxiety regarding death of self mediate the effects of VMS on legal decision making. The first mediation model that was examined, using Hayes (2013) bootstrapping Process for SPSS (Model 4), was to establish if there was a mediating role of anxiety regarding death of self on PMS and verdict, see Figure 6.7. Results revealed that the effect of the PMS manipulation on verdict ( $b = 1.33, SE = .60, z = 2.22, p = .043$ ) was reduced after fear of death of self was

included in the model ( $b = .98$   $SE = .65$ ,  $z = 1.50$   $p = .13$ ) and that the indirect effect through death anxiety was significant ( $a*b$ :  $.53$   $95\%$   $CI = [.03, 1.58]$ ). Thus personal mortality salience indirectly affected final verdict via anxiety regarding one's own death.

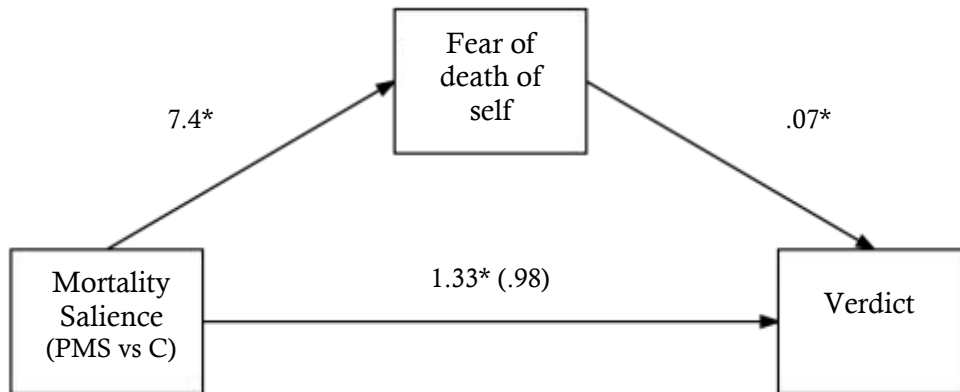


Figure 6.7. Experiment 6: Fear of death of self mediates the effect of experimentally induced personal mortality salience on verdict. Asterisks indicate levels of significance (\* $p < .05$ , \*\*  $p < .005$ , \*\*\*  $p < .001$ ).

A second mediation model was examined, using Hayes (2013) bootstrapping Process for SPSS (Model 4), to establish if measures of death anxiety regarding death of self mediate the effects of VMS on legal decision making, see Figure 6.8. Results revealed that the effect of the VMS manipulation on guilt likelihood ( $b = .48$ ,  $SE = .23$ ,  $t = 2.13$ ,  $p = .04$ ) was reduced after fear of death of self was included in the model ( $b = .33$   $SE = .23$ ,  $t = 1.42$ ,  $p = .16$ ) and that the indirect effect through death anxiety was significant ( $a*b$ :  $.15$   $95\%$   $CI = [.01, .41]$ ). Thus victim mortality salience indirectly affected guilt likelihood via anxiety regarding ones own death.

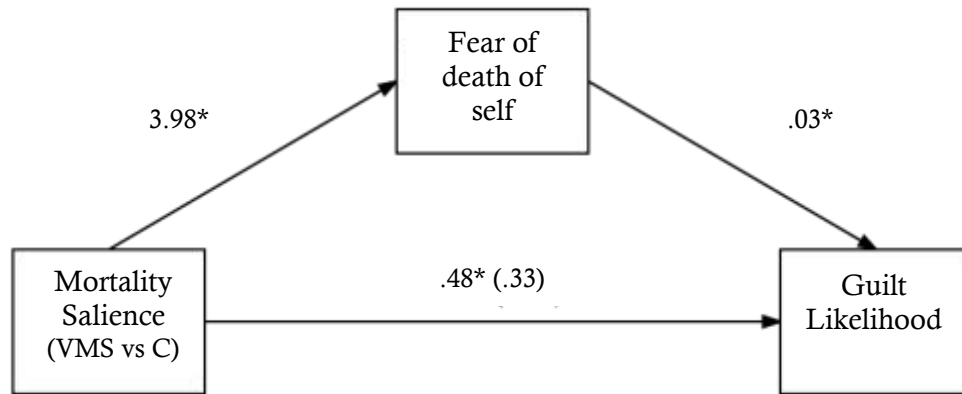


Figure 6.8. Experiment 6: Fear of death of self mediates the effect of experimentally induced victim mortality salience on guilt likelihood. Asterisks indicate levels of significance ( $p < .05$ ,  $** p < .005$ ,  $*** p < .001$ ).

### 6.3.4 Discussion

Firstly, in terms of PMS, findings replicated those of Experiment 5 and those previously reported in Chapter 5. Compared to the control condition, reminders to one's own mortality (PMS) led to significantly less favourable attitudes towards the defendant in addition to a significant association with a guilty verdict. While ratings for attitude towards the defendant were significantly lower than the midpoint across both PMS and control conditions the effect reminded largest after PMS.

In terms of VMS, a similar pattern of results was observed to that of Experiment 5. Although not achieving significance, reminders to the death of another person (VMS) led to less favourable attitudes towards the defendant than the control group. However, a significant association was found between VMS and verdict. Again, ratings for attitude towards the defendant were significantly lower than the midpoint after VMS, but the effect was larger than that of the control condition. As in Experiment 5, across measures of evaluation and guilt there was no difference between the experimental conditions but in line with Greenberg et al (1994) the effect of mortality salience was always stronger in the PMS condition than the VMS condition.

The primary aim of Experiment 6 was to investigate the mechanism through which the mortality of others (VMS) may produce mortality salience effects. Firstly, results showed that there was no significant difference in overall death anxiety between the control condition and PMS condition nor between the two experimental conditions. The finding of no significant difference in death

anxiety between the control and PMS condition is slightly unexpected since it would be expected that reminded of mortality participants would show greater death anxiety than control participants. However, as alluded to in Experiment 1 in Chapter 5, it may have been that the fear of death scale in itself worked as a mortality salience prime, making people consider their own mortality regardless of condition by simply asking them questions about mortality. However, a significant difference in overall death anxiety was found between the VMS condition and the control condition. There was also a main effect of death anxiety target, such that participants overall indicated greater self-reported fear of death of others than fear of death of self. While on the face of it this finding seems counter to TMT's underlying biologically rooted instinct for self-preservation, examination of Table 6.1 suggests it could be that the effect is being driven by the inflated mean score for fear of death of others by the VMS condition.

The first mediation model supports the underlying assumption of TMT, that fear of one's own death is the process by which mortality salience impacts on juror decision making. However, of greater interest is the second mediation model whereby the fear of oneself dying was also the process through which PMS impacted on ratings of guilt likelihood. This finding therefore provides empirical support to Greenberg et al.'s (1994) proposal that VMS effects may arise through simply indirectly reminding us of our own death.

## 6.4 General Discussion

Given the propensity for which the mortality of others may be salient in the courtroom the two experiments reported in this chapter aimed to investigate if mortality salience effects, as observed in Chapter 5, can also be elicited when the mortality of *another* person is made salient. The chapter also considers the potential process by which such effects may occur given that the fundamental theoretical underpinnings of TMT do not necessarily account for the effects of making another person's death salient. The rationale for this chapter is in line with Diamond's (1997) recommendation to follow up 'Stage One' juror research, such as that conducted in Chapter 5 whereby effects are established using simplistic methods, with 'Stage Two' juror research which uses more ecologically valid and representative methods. To do this the two experiments reported in this chapter



have not only considered whose death is most likely to be salient in the courtroom, that of a victim, but also the method by which it may naturally arise in the courtroom. Drawing upon previous research, in the two experiments reported in this chapter mortality salience was manipulated within attorney statements similar to those used in Pickel and Brown (2002).

Firstly, across the two experiments reported in this chapter additional evidence was found to support findings from Chapter 5 on the impact of personal mortality salience on juror decision making. In Experiments 5 and 6 personal mortality salience resulted in worldview defence behaviours with more negative attitudes towards a legal transgressor, greater blame attributions, an increased guilt likelihood and greater odds of the transgressor being found guilty compared to a control group. Furthermore, Experiment 5 provided further evidence via mediation analysis of the underlying process, as established in Chapter 5, by which mortality salience impacts on juror's decisions. The findings from the experiments reported in this chapter extend those of Chapter 5, increasing ecological validity as the effects were elicited using a realistic mortality salience manipulation.

However, the primary aim of Chapter 6 was to investigate the impact that reminders of the mortality of others may have on juror decision making. Across two experiments initial evidence was found to suggest the salience of another person's mortality can elicit comparable, but not as strong, effects of mortality salience on juror decision making as personal mortality salience. Importantly, mediation analysis revealed that the process by which other mortality salience influences juror's decision making is the same as that when considering personal mortality. Broadly, these findings are in line with previous research by Greenberg et al. (1994) who found that contemplating the death of another person produced similar mortality salience effects, albeit it significantly weaker, as that when specifically contemplating one's own death. Furthermore Greenberg et al.'s (1994) proposed mechanism through which other mortality salience produces mortality salience effects was supported by mediation analysis. It was found that, like personal mortality salience, victim mortality salience effects juror decision making through simply indirectly reminding us of our own death.

## Chapter 7

### Mortality Salience and the Jury

The previous chapters have highlighted the significant impact that the salience of mortality in the courtroom can have on various aspects of juror decision making. These effects, however, have only been demonstrated at the individual juror level. In light of this, the final empirical chapter reports a final experiment which examines the impact reminders of mortality may have at the group (jury) decision making level.

#### 7.1 Introduction

In 725 AD the Morgan of Glamorgan, a Welsh King, declared *'for as Christ and his 12 apostles were finally to judge the world, so human tribunals should be composed of king and 12 wiseman'*. In the centuries that have followed 12 has firmly remained the magic number for juror composition on criminal trials in England, the United States, and many other jurisdictions across the globe. While it may be jurors as 12 individuals who independently listen to, observe, and process trial information, it is the jury as one who serve as the final arbiter of the defendant's guilt. To date however there has been no examination of the impact of mortality salience on jury collective decision making. Adhering to Diamond's (1997) recommendation to first conduct 'Stage One' research using simplistic methods to establish effects before attempting to replicate in 'Stage Two' research that uses more ecologically valid and representative methods, the aim of this final study was to investigate the impact of mortality salience on jury decision making.

## **7.2 Experiment 7**

### **7.2.1 Aims and Hypothesis**

The aim of the present experiment was to investigate the impact that mortality salience may have on jury decision making within a realistic adversarial legal context. Employing the same basic experimental design as in the previous experiments reported in this thesis, mock juries of 5-6 jurors were asked to either consider their own mortality or pain (control) while reading an adversarial criminal case. To increase the ecological validity of the study mortality salience was manipulated within an attorney's closing statement. Mock jurors first gave their individual judgements before deliberating as a jury to decide their final group judgements. Based upon the theoretical model supported so far in the thesis it was predicted that there would be a significant difference between the decisions made by mortality salient juries compared to non-mortality salient juries.

### **7.2.2 Method**

#### **Participants and Design**

Participants were recruited via opportunity sampling through an initial email sent via the University of Sheffield volunteer list, which is a mailing system for advertising for participants. As such participants included both students and staff from the University of Sheffield. Participants who had taken part in previous experiments were ineligible to take part in order to ensure participants were naive to the experiment. Due to scheduling availability a total of one hundred and forty volunteers from the University of Sheffield (65 female and 39 male;  $M_{age} = 27.27$  years,  $SD = 8.56$ ) were recruited. At the end of the experiment participants were provided with a list of the current eligibility criteria for jury duty in the UK as outlined in The Juries Act 1974 and The Criminal Justice Act 1998, see Appendix H. Based upon this criteria 72% of the sample would be eligible to serve on a real jury in the United Kingdom. Only 2.9% of the sample had previously taken part in jury duty. A total of 20 mock juries were randomly created based upon participant availability each consisting of between 5 and 6 jurors. Once formed, mock juries were randomly assigned to one of two mortality salience conditions (mortality salient vs. control) with the researcher blind to condition. All participants received entry into a prize draw for their participation.

## Materials and Procedure

On arrival participants were seated around a large table in a university seminar room. Participants were informed by the experimenter that they were to take part in a mock jury task and that they should approach the task as they would do in a real case. Each participant was provided with a juror number to preserve confidentiality.

**Criminal Case Summary.** After obtaining informed consent participants were asked to read a summary of a criminal court case on their own. The case depicted an alleged incident of assault between a male defendant and male victim, see Appendix I. As in previous experiments, to portray a case reflective of an adversarial legal system, the summary included a closing statement from the prosecution and one from the defence so the guilt of the defendant was ambiguous. The main arguments were that the defendant either assaulted the victim or acted in self-defence. A small pilot study was conducted prior to the experiment to deem if the materials were sufficiently ambiguous. Twenty pilot participants read the criminal case study and rated the guilt likelihood of the defendant on a 9-point scale ranging from 1 (*not very likely*) to 9 (*very likely*) with 5 the neutral midpoint. A one-sample t-test using 5 as the test value found ratings did not significantly differ from this mid-point ( $t(19) = -0.5, p = .62$ ). Thus, the criminal case materials were considered to be sufficiently ambiguous. To standardise the time across all mock jury's participants were given 10 minutes to read the case. This was deemed sufficiently adequate based on pilot testing.

**Mortality Salience Manipulation.** In order to increase the ecological validity of the study, mortality salience was manipulated via the defence attorneys concluding closing statement. In the mortality salient condition, the defence concluded their closing statement with:

*I want you to take a minute to imagine you are the victim. Imagine you are out on a night and at the end of that night you leave to go home when you are subjected to an unprovoked attack in which the defendant, strikes you causing you to fall to the floor. Your injuries are serious; **you could have died as a result of them.** Just take a minute to consider that. **Imagine you could have died as a result of your injuries.** I would like to ask you to think about what it would be like to be the victim in this altercation.*

In the control condition, the defence concluded their closing statement with:

*I want you to take a minute to imagine you are the victim. Imagine you are out on a night and at the end of that night you leave to go home when you are subjected to an unprovoked attack in which the defendant, strikes you causing you to fall to the floor. Your injuries are serious. Just take a minute to consider that. I would like to ask you to think about what it would be like to be the victim in this altercation.*

**Pre-Deliberation Dependent Measures.** As in the previous experiments, participants were asked to complete the PANAS as a manipulation check before completing pre-deliberation dependent measures. Participants were instructed to complete these measures without deliberation with their fellow jurors. As in the previous experiments, participants evaluated the defendant on a feeling thermometer (Haddock et al., 1993) indicating how they felt towards the defendant on a scale ranging from 0 (*attitude extremely unfavourable*) to 100 (*attitude extremely favourable*) with 50 the neutral midpoint. In order to further assess findings from previous experiments in Chapter 5 that mortality salience may elicit a fundamental attribution bias participants were also asked to indicate the extent to which they felt the defendant's behaviour was due to situational factors (e.g. stress) or internal factors (e.g. personality) on a 9-point scale ranging from 1 (*totally situational factors*) to 9 (*totally internal factors*) with higher scores indicating greater dispositional attributions of behaviour. Participants indicated the guilt likelihood of the defendant on a 9-point scale ranging from 1 (*not very likely*) to 9 (*very likely*) with 5 the neutral midpoint before giving their final verdict, which was scored as a dichotomous variable 0 representing not guilty and 1 as guilty. Participants were then asked to indicate how confident they were in their verdict on a scale ranging from 1 (*not at all*) to 9 (*very much*).

**Post-Deliberation Dependent Measures.** After collecting the pre-deliberation questionnaires, the experimenter explained to participants that they would now form a jury and deliberate the verdict as a group. Participants were once again reminded of their objective to reach a unanimous verdict but no deliberation procedures were suggested. Post-deliberation dependent measures were the same as pre-deliberation measures: attitude to defendant, attribution of defendant's behaviour, guilt likelihood, verdict and verdict confidence. Participants were informed that they must answer all questions as a jury. After

participants completed dependent measures, they completed a demographic questionnaire and juror eligibility questionnaire. All participants were subsequently debriefed and thanked for their participation.

### 7.2.3 Results

#### Manipulation Check

To assess if the mortality salience manipulation had an effect on conscious mood, which may mediate effects, participants completed the PANAS. The questionnaire was scored according to published instructions and reliability tests conducted. Reliability analysis confirmed an acceptable level of reliability for both the positive affect subscale ( $\alpha = .88$ ) negative affect subscale ( $\alpha = .77$ ). A one-way ANOVA found there to be no significant effect of mortality salience on positive affect ( $F(1, 102) = .18, p = .67$ ) or on negative affect ( $F(1, 102) = 1.35, p = .25$ ). It was concluded that mortality primes did not significantly affect conscious mood.

#### Pre-deliberation Judgements

Participants' pre-deliberation judgments were collected privately before participants interacted as a group. These data therefore satisfy the independence assumption of standard participant-level analysis.

**Evaluation of Defendant.** Participants who had been reminded of their mortality indicated a significantly less favourable attitude towards the defendant ( $M = 44.42, SD = 15.78$ ) compared to participants in the control condition ( $M = 50.19, SD = 12.44$ ),  $t(158) = -2.07, p = .04, d = .41$ . As in the previous experiments, one sample t-tests were computed against the mid-point for each evaluation measure. While attitude towards the defendant in the control condition did not differ significantly from the expected neutral 50 midpoint ( $t(51) = .11, p = .91$ ) evaluations made in the mortality salient condition were significantly lower than the mid-point,  $t(51) = -2.5, p = .01, d = .35$ .

**Attribution of Defendant's Behaviour.** Participants who had been reminded of their mortality gave higher ratings on the behavioural attribution scale ( $M = 5.0, SD = 1.77$ ), indicating greater dispositional attributions, compared to the control condition ( $M = 4.10, SD = 1.51$ ),  $t(102) = 2.80, p = .006, d = .55$ .

**Guilt.** While assessment of the means indicated higher guilt likelihood ratings in the mortality salience condition ( $M = 5.67, SD = 1.69$ ) compared to the control condition ( $M = 5.36, SD = 1.88$ ) the difference was not significant ( $t(102)$

= .88,  $p = .38$ ). Guilt likelihood ratings were also compared to the neutral midpoint. While ratings made by the control condition did not significantly differ from the neutral midpoint ( $t(51) = 1.41$ ,  $p = .17$ ) ratings were significantly higher than the neutral midpoint in the mortality salient condition,  $t(51) = 2.87$ ,  $p < .006$ ,  $d = .40$ .

For final verdict a chi-square test was performed. A significant association was found between mortality salience condition and whether or not the defendant was found guilty,  $\chi^2(1) = 3.99$ ,  $p = .04$ , as illustrated in Figure 7.2. Based on the odds ratio, the odds of a participant giving a guilty verdict were 2.27 times higher if they were reminded of their mortality than if there were not reminded of their mortality.

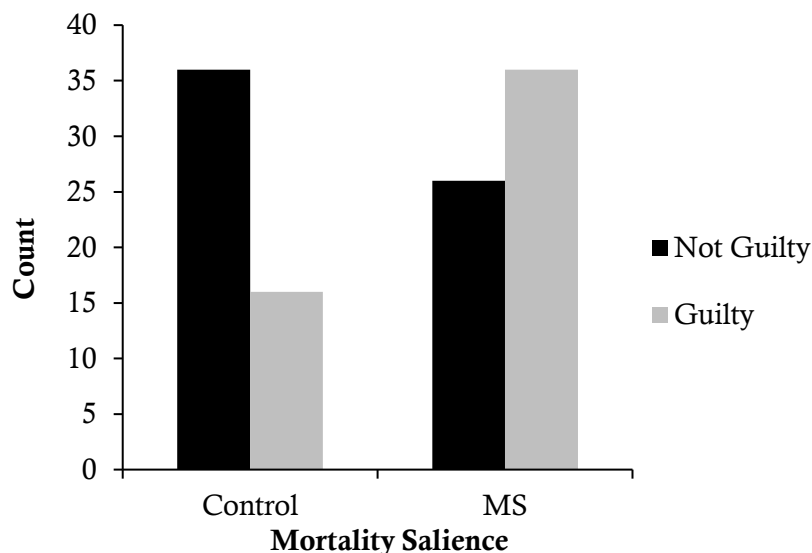


Figure 7.1. Experiment 7: Verdict as a function of mortality salience condition.

**Verdict Confidence.** While assessment of the means indicated that the control condition ( $M = 5.75$ ,  $SD = 1.94$ ) were more confident than the mortality salient condition ( $M = 5.46$ ,  $SD = 1.98$ ) in their verdict, the difference was not significant ( $t(102) = .75$ ,  $p = .46$ ).

### Post-deliberation Judgements

**Evaluation of Defendant.** Juries who had been reminded of mortality indicated a significantly less favourable attitude towards the defendant ( $M = 41.00$ ,  $SD = 8.76$ ) compared to juries in the control condition ( $M = 53.00$ ,  $SD = 8.23$ ),  $t(18) = -3.16$ ,  $p = .005$ ,  $d = 1.41$ . As in the previous experiments, one sample t-tests

were computed against the mid-point for each evaluation measure. While attitude towards the defendant in the control condition did not differ significantly from the expected neutral 50 midpoint ( $t(9) = 1.15, p = .28$ ) evaluations made in the mortality salient condition were significantly lower than the mid-point,  $t(9) = -3.25, p = .01, d = 1.02$ .

**Attribution of Defendant's Behaviour.** While assessment of the means indicated higher ratings on the behavioural attribution scale, indicating greater dispositional attributions, in the mortality salience condition ( $M = 4.80, SD = 1.48$ ) compared to the control condition ( $M = 4.50, SD = .85$ ) the difference was not significant ( $t(18) = .56, p = .54$ ).

**Guilt.** While assessment of the means indicated higher guilt likelihood ratings in the mortality salience condition ( $M = 5.60, SD = 1.58$ ) compared to the control condition ( $M = 5.50, SD = .97$ ) the difference was not significant ( $t(18) = .17, p = .87$ ). Guilt likelihood ratings were also compared to the neutral mid-point. Ratings did not significantly differ from the mid-point in either the control ( $t(9) = 1.63, p = .14$ ) or the mortality salient condition ( $t(9) = 1.20, p = .26$ ).

For final verdict a chi-square test was performed. A significant association was found between mortality salience condition and whether or not the defendant was found guilty,  $\chi^2(1) = 5.00, p = .03$ , as illustrated in Figure 7.2. Based on the odds ratio, the odds of a jury giving a guilty verdict were 2.27 times higher if they were reminded of their mortality than if they were not reminded of their mortality.

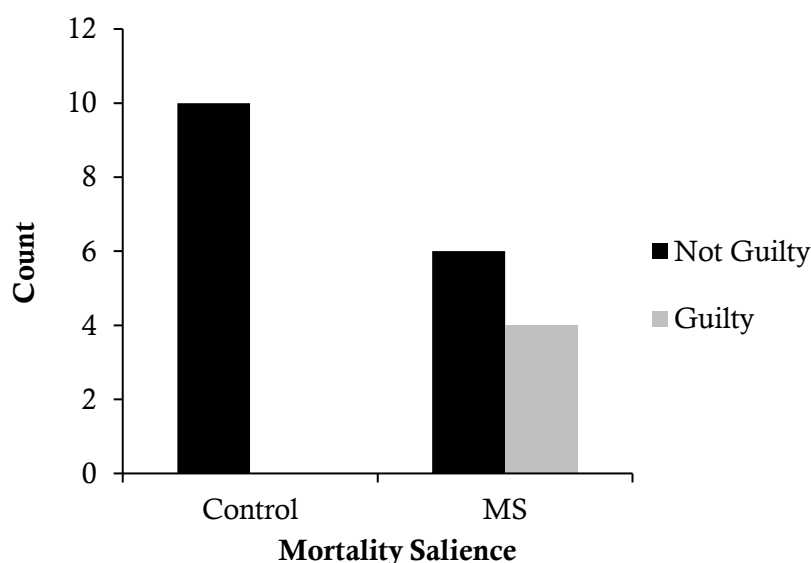


Figure 7.2. Experiment 7: Verdict as a function of mortality salience condition.



**Verdict Confidence.** Juries who had been reminded of mortality indicated lower confidence in their verdicts ( $M = 3.80$ ,  $SD = 1.32$ ) compared to control condition juries ( $M = 5.60$ ,  $SD = 2.27$ ),  $t(18) = 2.17$ ,  $p = .04$ ,  $d = .97$ .

### 7.3 General Discussion

To date there has been no examination of the impact of mortality salience on jury collective decision making. The experiment reported in this final chapter aimed to address this and build upon research presented thus far in the thesis and investigate the impact which mortality salience may have on jury decision making within a realistic adversarial legal context. Mock juries of 5-6 jurors were formed and jurors were presented with closing arguments from a criminal case. For half of the juries the closing statement made reference to mortality while for the other half (the control condition) there was no mention of death.

Firstly, pre-deliberation measures broadly supported those reported previously in the thesis. Before deliberation jurors on mortality salient juries were significantly less favourable towards the defendant than those in the control condition. In addition, their evaluations were significantly lower than the midpoint expected of an impartial juror. While there was no significant difference in guilt likelihood ratings there was a significant association between mortality salience and whether or not the defendant was found guilty. Building on findings from Experiment 4 and 5, suggesting that mortality salience may elicit a fundamental attribution bias, participants were also asked to indicate the extent to which they felt the defendant's behaviour was due to situational factors (e.g. stress) or internal factors (e.g. personality). In line with findings from Experiment 4 and 5 it was found that participants in mortality salient juries indicated greater dispositional attributions for the defendant's behaviour than those in the control condition.

Post-deliberation measures generally supported the key outcomes seen at the individual juror level. Mortality salient juries were significantly less favourable towards the defendant than juries in the control condition and again their attitudes deviated significantly from the expected fair midpoint. Importantly, there was also a significant association between mortality salience and whether or not the defendant was found guilty. At the group level, mortality salience had no effect on

attribution of defendant's behavior. The means however were in the predicted direction. Of interest is the finding that verdict confidence was significantly lower by juries who had been reminded of mortality compared to those who were not. This is a striking finding since typically after group discussion people become more certain about their choices (Johnson & Johnson, 2012; Watson, 1931).

Overall this experiment provided the first empirical examination of the impact of mortality salience on jury collective decision making. The results provide initial evidence that within an adversarial legal mortality salience can have significant impacts on the decisions juries make.

## Chapter 8

### Summary and General Discussion

*'No one is actually dead until the ripples they cause in the world die away.'*

Terry Pratchett, *Reaper Man* (1991)

This final chapter provides a summary and discussion of the key contributions of the research included in this thesis. The chapter first provides an overview of the scheme of research followed by a summary of the key findings. The chapter then moves on to critiques of the scheme of research presented and directions for future research.

#### 8.1 Overview

The overriding aim of this thesis was to draw upon social psychological theory to gain new perspectives on the underlying processes which may influence the behaviour of jurors in the courtroom. With the pervasiveness of the topic of mortality in the courtroom, and the well documented effects of mortality salience on a broad range of social behaviours, the thesis drew specifically upon the novel existential social psychological perspective provided by Terror Management Theory (TMT). To date TMT research in the legal domain has primarily concentrated on the impact of mortality on the *outcome* of juror decision making, that is the culpability of a defendant. While the research has documented significant effects of mortality in the legal domain there has been a distinct absence of research examining the influence of mortality on jurors preceding attitudes and cognitive processing of information. Within a reflective theoretical model of how it is that jurors make their decisions in the courtroom, such as that provided by the Story Model of juror decision making, it is imperative to consider the impact of

mortality on jurors preceding attitudes and cognitions since it is these which juror's final decisions and judgements are contingent upon. Therefore, the aim of the thesis was to examine the influence of mortality salience on juror's decision making within a reflective theoretical model of *how* jurors make their decisions. Doing so can help us gain new perspectives on the underlying processes which may influence the behaviour of jurors in the courtroom.

## 8.2 Summary of Findings

To help achieve this overall aim, the thesis was guided by four specific questions, as outlined in Section 4.4.2. Each of these questions will now be considered in turn, summarising the main findings from the thesis.

### **What impact does mortality salience have on juror attitudes?**

A key aim of Chapter 5 was to investigate not only the impact of mortality salience on juror's decisions of culpability but specifically on the preceding attitudes leading to these final judgements. Jurors general pre-trial attitudes were measured (Experiment 1) in addition to their specific attitudes towards a non-descript defendant after mortality salience was experimentally manipulated (Experiments 2, 3 and 4). Across the four experiments there was clear evidence that mortality salience can unduly influence juror's attitudes towards defendants. What's more is that in these cases purposefully designed to be ambiguous to guilt, reminders of mortality elicited responses that *significantly* deviated from the expected neutral midpoint which may be expected of an impartial juror. Mediation analysis provided evidence that changes to juror's attitudes in these experiments were the process by which mortality salience influenced juror's final decision making.

### **What impact does mortality salience have on juror's information processing?**

Chapter 5 also aimed to investigate the impact which mortality salience has on juror's information processing. More specifically, the impact of mortality salience on the way in which jurors recall trial evidence (Experiment 3) and interpret trial evidence (Experiment 4). Participants were asked to consider their own mortality or a control topic before engaging in a free recall of evidence task (Experiment 3) and rating evidence in terms of its probable implications for the defendant (Experiment 4). Across the two experiments preliminary evidence was found to

suggest that as well as influencing jurors attitudes mortality salience can also impact on information processing. Although not achieving statistical significance, in Experiment 3 mortality salient participants showed evidence of recalling more incriminating than exonerating evidence. In Experiment 4 however there was a significant interaction between evidence type and mortality salience condition for implication of evidence. Participants reminded of their own mortality interpreted incriminating evidence significantly more unfavourable for the defendant than those in the control condition. What's more, preliminary evidence was found in mortality salience conditions indicative of a fundamental attribution error (Jones & Harris, 1967). From a TMT perspective, a fundamental attribution bias after mortality is made salient may serve as another means by which to instil the world with order and meaning to reduce the anxiety associated with death. Finally, in line with the Story Model of juror decision making, a reflective theoretical model of *how* jurors make their decisions, mediation analysis provided evidence that changes to juror's attitudes and the way in which they interpret evidence were the process by which mortality salience influenced juror's final decision making.

### **What impact does the mortality of another person have on juror decision making?**

Chapter 6 aimed to adopt a more realistic approach as to how mortality may be made salient in the courtroom by investigating the impact of the mortality of *others* on the juror decision making process. Specifically, participants were asked to consider either their own mortality, that of a victim or a control topic. Unlike previous experiments mortality salience was manipulated within the context of an attorneys statement, rather than via the MAPS (Rosenblatt et al., 1989) as used in the previous experiments. The purpose of doing so was to increase the ecological validity of the research. In terms of personal mortality salience, results echoed those of Chapter 5. Whilst not achieving significance, victim mortality salient participants indicated less favourable attitudes towards the defendant than the control group. However, a significant association was found between victim mortality salience and verdict. Comparing the two experimental conditions no significant differences were found across measures of attitude and guilt. In line with personal mortality salience, mediation analysis provided evidence that changes to juror's attitudes in these experiments were also the process by which

victim mortality salience influenced juror's final decision making. Finally, a mediation model supported proposals by Greenberg et al. (1994) that the death of another person produces mortality salience effects simply via reminding us of own death. The mediation model showed that self-reported anxiety regarding ones own death mediated the effect of both personal mortality salience and victim mortality salience on measures of culpability.

### **What impact does the mortality salience have on jury decision making?**

Chapter 7 aimed to extend findings reported in the thesis by applying it to the group level, investigating the effects of mortality salience on jury decision making. The aim of doing so was to provide a realistic examination of the implications of mortality within the courtroom. Mock juries of 5-6 jurors were formed and jurors were presented with closing arguments from a criminal case. For half of the juries the closing statement made reference to mortality for the control condition it did not. Jurors first gave individual judgements before then deliberating as a jury to decide their final group judgements. Pre-deliberation measures broadly supported those reported previously in the thesis. Before deliberation jurors on mortality salient juries were significantly less favourable towards the defendant than those in the control condition and there was a significant association between mortality salience and whether a guilty verdict was returned. Furthermore, building on findings from Experiments 3 and 4 jurors in mortality salient juries displayed a fundamental attribution bias, giving higher ratings for dispositional factors for the defendant's behaviour than those in the control condition. Post-deliberation measures generally supported the key outcomes seen at the individual juror level. Mortality salient juries were significantly less favourable towards the defendant than juries in the control condition and, most importantly, there was a significant association between mortality salience and whether or not the defendant was found guilty.

### **8.3 Critique of Present Research**

There are several key strengths to this scheme of research which increases the reliability and validity of the results and the subsequent conclusions drawn from them. Firstly, research to date investigating the effects of mortality salience on legal decision making have tested it in the absence of an adversarial legal

framework such as that operated in the UK and America. In an adversarial framework, rather than simply determining the culpability of the defendant, jurors first have to make an evaluative decision, often choosing between two conflicting accounts of the truth. In this thesis, to represent an adversarial legal system participants were presented with fictional criminal cases which were specifically designed so that the guilt of the defendant was always ambiguous. As such the results obtained in this thesis offer a degree of ecological validity.

Another strength of the scheme of research was the use of active control conditions and manipulation checks to rule out alternative explanations. In each experiment the mortality salient condition was compared to a control condition which was matched in terms of aversiveness, often using dental pain. This was to rule out the common critique of TMT, as explained in Chapter 3, that death may simply be a more specific instance of threat in general and it is this which produces the observed effects (Pyszczynski et al., 2015). However, the inclusion of an equally aversive control condition across experiments in this thesis rules out this alternative explanation showing the effects of mortality cannot be elicited simply through any aversive event but rather driven by thoughts of death, as TMT predicts. Added to this, in all of the experimental studies (Experiments 2-7) participants completed the PANAS to assess if the mortality salience manipulation had an effect on conscious mood, which may mediate effects. Across all six experimental studies there was no significant effect of mortality salience on positive or negative affect. As such the effects obtained in this thesis cannot be attributable to changes in affect.

Related to this, is that the effects reported in this thesis have been replicated over a series of different criminal cases. In total four different criminal cases were used in this thesis. The effects obtained in this scheme of research therefore can't be considered due to the specific criminal case used. However, the four criminal cases all depicted the same crime type, a violent crime. Therefore, the extent to which findings from this thesis can be generalised to other types of crime is limited. Future research should therefore consider other types of crime, for instance fraud, burglary and arson, to investigate if the findings reported in this thesis extend beyond violent crime.

Despite a number of strengths associated with this scheme of research there are evidently a number of limitations that must also be considered. First and foremost, sample sizes across the thesis were relatively small, especially in Experiment 7, owing to the use of opportunistic sampling and practicalities associated with the group study. Due to the nature of the topic of the thesis, death, the majority of studies were conducted in the lab so that participants could be fully debriefed after they had taken part in the study which impacted on sample sizes. The modest sample sizes may have limited statistical power in the present thesis and may have played a role in limiting the significance of some of the statistical comparisons conducted, especially in Experiment 7. Findings for Experiment 7 are therefore not conclusive and should be considered preliminary until studies can be conducted on larger sample sizes with more power.

Another weakness of the research is that the results in Chapter 6 may have been due to the severity of the imagined outcome rather than mortality per se due to the manner in which mortality salience was manipulated. In an attempt to increase the ecological validity of the research mortality salience was manipulated within attorney's statements. However, in doing so it may have also created a more aversive manipulation to that used in the control condition. Indeed, Arndt et al. (2005) proposed that the realistic manipulation of mortality salience, via incorporation into attorney arguments, may create a far more powerful mortality salience manipulation. However, no significant effect of mortality salience was found in Experiments 5 and 6 for measures of positive and negative affect which would indicate that mortality primes did not significantly affect conscious mood and thus findings cannot be considered due to the severity of the imagined outcome. However, future research should look to address this issue within the confines of the lab before looking to incorporate more ecologically valid methods such as that used in this thesis. For instance the study could be replicated in the first instance using a modified version of the Mortality Attitude Personality Survey (MAPS, Rosenblatt et al., 1989) to incorporate a question for death of others. The MAPS has been used in 80% of TMT research (Burke et al., 2010) and as such is a reliable method.



## 8.4 Future Research Directions

The research reported in this thesis represents a unique and considerable contribution to current knowledge regarding both TMT and juror decision making. The research has demonstrated that drawing upon social psychological theory, in this case TMT, can shed further light and provide alternative perspectives on the underlying processes that may influence the decisions of jurors. Indeed, the findings obtained in the thesis have prompted questions for future research. While future research is required to improve a number of limitations in the research, as addressed in the previous section, there are a number of potential avenues for future research.

One key avenue for future research is to consider the other main hypotheses of TMT and what their application to jury decision making could offer. As described in Chapter 3 the assessment TMT to date has focussed on three main hypotheses: the anxiety buffering hypothesis, the mortality salience hypothesis and the death thought accessibility hypothesis. In this scheme of research the focus has been solely on the mortality salience hypothesis. However, the examination of the anxiety buffering hypothesis for instance could provide scope for investigating a possible intervention for mitigating the effects of death in the courtroom. According to the anxiety buffering hypothesis if a psychological structure, such as cultural worldviews or self-esteem, serves as an anxiety buffering function then strengthening or activating that structure should *reduce* anxiety in response to threats (Greenberg et al., 1992). Therefore, future research could examine means by which cultural worldviews or self-esteem can be strengthened or activated within a courtroom environment and the impact which doing so has on subsequent decision making. Likewise, the examination of the death thought accessibility hypothesis within the legal domain could also offer insight into the behaviours and decisions of jurors. The death thought accessibility hypothesis proposes that if a psychological structure, such as cultural worldviews or self-esteem, provides protection and buffers against death awareness, then weakening the structure should *increase* the accessibility of death related cognitions while strengthening it should *decrease* accessibility (Schimel, Hayes, Williams, & Jahrig, 2007). In-line with this, the death thought accessibility hypothesis could be used to create a juror screening tool which could form part of a voir dire process. Using

measures such as incomplete word stems which can be completed in death-related ways or non-death related ways (e.g. COFF\_ \_ could be completed as COFFEE or with the death related COFFIN), it could allow a test for how susceptible a juror may be to mortality salience effects.

One of the key original contributions to knowledge that this scheme of research offers is initial evidence that mortality salience can impact on information processing in the legal domain. In Chapter 5 initial evidence was found showing that reminded of their own mortality participants interpreted incriminating evidence significantly more unfavourable for the defendant than those in the control condition. With this in mind another possible avenue for research is to consider the impact of mortality salience on information processing in other areas of the legal system. For instance, in investigative interviewing or in eyewitness testimony.

## 8.5 Conclusion

The aim of this thesis was to draw upon social psychological theory, particularly TMT, to shed further light and gain new perspectives on the underlying processes that may influence the behaviour and ultimately the decisions of jurors. To do this the thesis examined the influence of mortality salience on juror's decision making within a reflective theoretical model of *how* jurors make their decisions in the courtroom. The experiments presented in this thesis provide evidence that reminders of mortality within the legal domain can indeed unduly influence juror's decisions. In-line with the Story Model of juror decision making, the findings from this thesis suggest that changes to juror's attitudes and the way in which they interpret and process trial evidence are the underlying processes by which mortality salience can effect juror's final decisions. This effect of mortality salience on juror's decision making was substantiated across six different experiments using four different criminal case studies in which mortality salience was manipulated both experimentally, via the Mortality Attitude Personality Survey, and through more ecologically valid and representative manipulations, such as attorney statements. One area for future research is to focus on examining another key tenant of TMT, the anxiety buffering hypothesis, which could provide scope for possibly mitigating the observed effects of mortality in the courtroom.

In sum, this thesis has demonstrated that the application of social psychological theory to the legal domain is bi-directionally beneficial, not only has it advanced psychological science through further examination of the theoretical underpinnings of TMT but has also provided an alternative insight into the behaviour of those who are considered to be the cornerstone of the criminal justice system; the jury.

# Appendices

## Appendix A: Experiment 1 Questionnaires

### *The Pre-trial Juror Attitude Questionnaire (PJAQ; Lecci & Myers, 2008).*

In this first survey, we are interested in your opinions and attitudes regarding various legal issues. Please rate to what extent you agree with the following statements.

	<i>Strongly Disagree</i>			<i>Strongly Agree</i>	
	1	2	3	4	5
1. If a suspect runs from police, then he probably committed the crime.					
2. A defendant should be found guilty if 11 out of 12 jurors vote guilty.					
3. Too often jurors hesitate to convict someone who is guilty out of pure sympathy.					
4. In most cases where the accused presents a strong defence, it is only because of a good lawyer.					
5. Out of every 100 people brought to trial, at least 75 are guilty of the crime with which they are charged.					
6. For serious crimes like murder, a defendant should be found guilty so long as there is a 90% chance that he committed the crime.					
7. Defence lawyers don't really care about guilt or innocence; they are just in business to make money.					
8. Generally, the police make an arrest only when they are sure about who committed the crime.					
9. Many accident claims filed against insurance companies are phony.					
10. The defendant is often a victim of his own bad reputation.					
11. Extenuating circumstances should not be considered; if a person commits a crime, then that person should be punished.					
12. If the defendant committed a victimless crime, like gambling or possession of marijuana, he should never be convicted.					
13. Defence lawyers are too willing to defend individuals they know are guilty.					
14. Police routinely lie to protect other police officers.					
15. Once a criminal, always a criminal.					
16. Lawyers will do whatever it takes, even lie, to win a case.					

*The Pre-trial Juror Attitude Questionnaire continued*

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>		
	1	2	3	4	5
17. Criminals should be caught and convicted by "any means necessary."					
18. A prior record of conviction is the best indicator of a person's guilt in the present case.					
19. Rich individuals are almost never convicted of their crimes.					
20. If a defendant is a member of a gang, he/she is definitely guilty of the crime.					
21. Minorities use the "race issue" only when they are guilty.					
22. When it is the suspect's word against the police officer's, I believe the police.					
23. Men are more likely to be guilty of crimes than women.					
24. The large number of African Americans currently in prison is an example of the innate criminality of that subgroup.					
25. A Black man on trial with a predominantly White jury will always be found guilty.					
26. Minority suspects are likely to be guilty, more often than not.					
27. If a witness refuses to take a lie detector test, it is because he/she is hiding something.					
28. Defendants who change their story are almost always guilty.					
29. Famous people are often considered to be "above the law."					

***The General Belief in a Just World Scale (GJWBS; Dalbert, Montada, & Schmitt, 1987; Dalbert & Yamauchi, 1994).***

Below you will find various statements. Most likely, you will strongly agree with some statements, and strongly disagree with others. Sometimes you may feel more neutral. Read each statement carefully and decide to what extent you personally agree or disagree to it.

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

**The Revised Collett-Lester Fear of Death Scale (FDS; Lester, 1990).**

These statements concern how disturbed or made anxious you may feel by different aspects of death and dying. Read each item and answer it quickly. Don't spend too much time thinking about your response, we want your first impression of how you think right now.

	Not very			Very	
	1	2	3	4	5
<b>Your Own Death</b>					
1. The total isolation of death					
2. The shortness of life					
3. Missing out on so much after you die					
4. Dying young					
5. How it will feel to be dead					
6. Never thinking or experiencing anything again					
7. The possibility of pain and punishment during life-after-death					
8. The disintegration of your body after you die					

	Not very			Very	
	1	2	3	4	5
<b>Your Own Dying</b>					
1. The physical degeneration involved in a slow death					
2. The pain involved in dying					
3. The intellectual degeneration of old age					
4. That your abilities will be limited as you lay dying					
5. The uncertainty as to how bravely you will face the process of dying					
6. Your lack of control over the process of dying					
7. The possibility of dying in a hospital away from friends and family					
8. The grief of others as you lay dying					

	Not very			Very	
	1	2	3	4	5
<b>The Death of Others</b>					
1. The loss of someone close to you					
2. Having to see their dead body					
3. Never being able to communicate with them again					
4. Regret over not being nicer to them when they were alive					
5. Growing old alone without them					
6. Feeling guilty that you are relieved that they are dead					
7. Feeling lonely without them					
8. Envious that they are dead					



*The Revised Collett-Lester Fear of Death Scale continued*

	Not very			Very	
	1	2	3	4	5
<b>The Dying of Others</b>					
1. Having to be with someone who is dying					
2. Having them want to talk about death with you					
3. Watching them suffer from pain					
4. Having to be the one to tell them that they are dying					
5. Seeing the physical degeneration of their body					
6. Not knowing what to do about your grief at losing them when you are with them					
7. Watching the deterioration of their mental abilities					
8. Being reminded that you are going to go through the experience also one day					

## Appendix B: Experiment 2 Questionnaire

*The Positive and Negative Affect Schedule-Expanded form (PANAS-X; Watson & Clark, 1994).*

This new scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer. Indicate to what extent you feel this way *right now*.

	1 Very slightly or not at all	2 A little	3 Moderately	4 Quite a bit	5 Extremely
1. Cheerful					
2. Disgusted					
3. Attentive					
4. Bashful					
5. Sluggish					
6. Daring					
7. Surprised					
8. Strong					
9. Scornful					
10. Relaxed					
11. Irritable					
12. Delighted					
13. Inspired					
14. Fearless					
15. Disgusted with self					
16. Sad					
17. Calm					
18. Afraid					
19. Tired					
20. Amazed					
21. Shaky					
22. Happy					
23. Timid					
24. Alone					
25. Alert					
26. Upset					
27. Angry					
28. Bold					
29. Blue					
30. Shy					
31. Active					
32. Guilty					

*The Positive and Negative Affect Schedule-Expanded form continued*

	<b>1</b> Very slightly or not at all	<b>2</b> A little	<b>3</b> Moderately	<b>4</b> Quite a bit	<b>5</b> Extremely
33. Joyful					
34. Nervous					
35. Lonely					
36. Sleepy					
37. Excited					
38. Hostile					
39. Proud					
40. Jittery					
41. Lively					
42. Ashamed					
43. At ease					
44. Scared					
46. Angry at self					
47. Enthusiastic					
48. Downhearted					
49. Sheepish					
50. Distressed					
51. Blameworthy					
45. Drowsy					
52. Determined					
53. Frightened					
54. Astonished					
55. Interested					
56. Loathing					
57. Confident					
58. Energetic					
59. Concentrating					
60. Dissatisfied with self					

**Appendix C: Experiment 2 Criminal Case Summary****Trial # 552441-00**

The prosecution charges that the defendant is guilty of assault and battery.

The defendant was at a bar with several of his friends from work, celebrating his recent promotion. The prosecution claims that everyone was drinking and around 11:00pm, the defendant's co-workers began telling stories about his earlier days with the company. During this "roast," the defendant's girlfriend stood up to make a toast. According to witnesses, the girlfriend poked fun at the defendant for a few minutes and then began making jokes about his physique and sexual performance. The defendant's girlfriend testifies that the defendant interrupted her by forcing her to sit down, telling her, "you know better than to talk that way about a man in front of his friends." According to the defendant's girlfriend, the defendant then slapped her across the face, knocking her off her chair. Witnesses at the bar testify that they saw the defendant's girlfriend fall to the floor, though they admit that they did not hear exactly what the defendant had said to her. The prosecution reveals that the defendant's girlfriend suffered a sprained ankle from the fall caused by this assault.

The defence alleges that injuries to the defendant's girlfriend are mostly due the fact that she had too much to drink that night. A friend of the couple testifies that she "must have had 4 or 5 beers before the argument." The defendant explains that he did take offense to the comments his girlfriend made in front of his friends, and he did force her to sit down when he felt she was making a fool of herself. The defendant says that when his girlfriend continued to ramble on he slapped her in order to "sober her up." The defendant testifies that he regrets causing his girlfriend any injuries, saying, "I apologized to her and she forgave me. I've never laid a hand on her before and I swear to God I never will again." The defence claims that the defendant's slap was not a violent one, and that it would not even have knocked the defendant's girlfriend down if she had not had so much to drink. The defence also asserts that the defendant has no previous record and is not a violent man.

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## Appendix D: Experiment 3 Criminal Case Summary



### INDICTMENT

IN THE CROWN COURT OF YORK

The Queen  
V.  
The defendant

The defendant is charged as follows:

#### Particulars of Offence

The defendant on the 13<sup>th</sup> day of November 2009 between the hours of 1:10am and 1:20am is alleged to have assaulted a Mr XXXX on the corner of Mill Street and Piccadilly Street in York. Mr XXXX was approached from behind and struck over the head numerous times. Mr XXXX then fell to the ground where he landed on his chest. He was then kicked repeatedly until the attacker ran off. The assault resulted near fatal injuries to Mr XXXX.

#### Defendant's Plea

The defendant has entered a plea of not guilty.

*Experiment 3 materials continued*

On 12<sup>th</sup> November 2009 the defendant was overheard making threats towards Mr XXXX after an argument at The Lowther Pub in York (A on map). On one occasion the defendant was overheard saying 'I will make him sorry for this, I will, I'll make him sorry'.

A witness reported that upon leaving The Lowther Pub in York (A on map) on 13<sup>th</sup> November 2009 the defendant's behaviour was nothing out of the ordinary. The witness reported the defendant to be happy and in good spirit with no mention of a previous argument with Mr XXXX. When the witness left the defendant they reported that the defendant was calm and collected.

The defendant and the victim; Mr XXXX, were seen arguing on the night of the assault. An eyewitness at The Lowther Pub (A on map) in York reported seeing a heated argument between Mr XXXX and the defendant on 12<sup>th</sup> November 2009. The exchange is thought to have been the result of Mr XXXX accidentally spilling his drink onto the defendant.

*Experiment 3 materials continued*

Records from the college which the defendant attended four years ago show that the defendant has had previous issues with anger and violence. The records show that in 2005 the defendant was expelled from York College in York, for fighting and troublesome behaviour. The expulsion of the defendant came after three previous warnings about his aggressive behaviour to other pupils and members of staff.

The defendant agrees that he did walk down Piccadilly Street in York on 13<sup>th</sup> November 2009 but did not pass the scene of the assault on Mill Street in York. Instead the defendant claims to have walked the 190 meters of Piccadilly Street before turning onto Walmgate where he continued. This route would take him away from the scene of the assault on Mr XXXX (route indicated by blue line on map).

Given the brutal nature of the attack on Mr XXXX police expected there to be samples of the victim's blood on the attacker's clothes. Examination of the clothes the defendant was wearing on 13<sup>th</sup> November 2009 show no evidence of blood from the victim.

*Experiment 3 materials continued*

On 13<sup>th</sup> November 2009 at around 1:20am Mr XXXX was found assaulted on Mill Street just off Piccadilly Street in York (B on map). The assault on Mr XXXX is thought to have occurred between 1:10am and 1:20am on 13<sup>th</sup> November 2009. CCTV at the end of Coppergate (C on map) shows the defendant heading toward Piccadilly Street in York at around 1:07am on 13<sup>th</sup> November 2009. The defendant was therefore in the area of the assault on Mr XXXX at around the time it is thought to have occurred.

The defendant's employer provided a good character reference. They stated that the defendant is a hard working man who is highly regarded by his colleagues. He has worked at the company for the past three years and in that time has received promotion due to his hard work and dedication. In his time with the company he has always demonstrated himself to be a composed and sincere individual.

A witness reported seeing a male wearing a black top running along Fishergate in York (D on map) on 13<sup>th</sup> November 2009 at around 1:15 am. The witness believes the male had come from the direction of Piccadilly Street. CCTV shows that on 13<sup>th</sup> November 2009 the defendant was wearing a light coloured top.



*Experiment 3 materials continued*

When the defendant was questioned on 13<sup>th</sup> November 2009 he was examined for any signs of injury which would have been expected given the brutal nature of the attack on Mr XXXX. An examination found bruising to the defendants hands.

The defendant has no previous criminal record.

A witness at The Lowther Pub in York (A on map) reported that during an argument between the defendant and Mr XXXX on 12<sup>th</sup> November 2009, the defendant acted in an overtly aggressive manner towards Mr XXXX. The witness said the defendant was 'getting up into Mr XXXX face' trying to intimidate and 'pick a fight' with him.

## Appendix E: Experiment 3 Questionnaire

*The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988).*

This new scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer. Indicate to what extent you feel this way *right now*.

	1 Very slightly or not at all	2 A little	3 Moderately	4 Quite a bit	5 Extremely
1. Interested					
2. Distressed					
3. Excited					
4. Upset					
5. Strong					
6. Guilty					
7. Scared					
8. Hostile					
9. Enthusiastic					
10. Proud					
11. Irritable					
12. Alert					
13. Ashamed					
14. Inspired					
15. Nervous					
16. Determined					
17. Attentive					
18. Jittery					
19. Active					
20. Afraid					

## Appendix F: Experiment 3 Criminal Case Evidence Framework

	Dispositional	Situational
<b>Incriminating</b>	A witness at The Lowther Pub in York reported that during an argument between the defendant and Mr XXXX on 12 <sup>th</sup> November 2009, the defendant acted in an overtly aggressive manner towards Mr XXXX. The witness said the defendant was 'getting up into Mr XXXX face' trying to intimidate and 'pick a fight' with him.	The defendant, and the victim; Mr XXXX, were seen arguing on the night of the assault. An eyewitness at The Lowther Pub in York reported seeing a heated argument between Mr XXXX and the defendant on 12 <sup>th</sup> November 2009. The exchange is thought to have been the result of Mr XXXX accidentally spilling his drink onto the defendant.
	Records from the college which the defendant attended four years ago show that the defendant has had previous issues with anger and violence. The records show that in 2005 the defendant was expelled from York College in York, for fighting and troublesome behaviour. The expulsion of the defendant came after three previous warnings about his aggressive behaviour to other pupils and members of staff	On 13 <sup>th</sup> November 2009 at around 1:20am Mr XXXX was found assaulted on Mill Street just off Piccadilly Street in York. The assault on Mr XXXX is thought to have occurred between 1:10am and 1:20am on 13 <sup>th</sup> November 2009. CCTV at the end of Coppergate shows the defendant heading toward Piccadilly Street in York at around 1:07am on 13 <sup>th</sup> November 2009. The defendant was therefore in the area of the assault on Mr XXXX at around the time it is thought to have occurred.
	On 12 <sup>th</sup> November 2009 The defendant was overheard making threats towards Mr XXXX after an argument at The Lowther Pub in York. On one occasion the defendant was overheard saying 'I will make him sorry for this, I will, I'll make him sorry'.	When the defendant was questioned on 13 <sup>th</sup> November 2009 he was examined for any sign of injury which would have been expected given the brutal nature of the attack on Mr XXXX. An examination found bruising to the defendant's hands.

## Experiment 3 Criminal Case Evidence Summary continued

	<b>Dispositional</b>	<b>Situational</b>
<b>Exonerating</b>	The defendant's employer provided a good character reference. They stated that The defendant is a hard working man who is highly regarded by his colleagues. He has worked at the company for the past three years and in that time has received promotion due to his hard work and dedication. In his time with the company he has always demonstrated himself to be a composed and sincere individual.	A witness reported seeing a male wearing a black top running along Figshergate in York on 13 <sup>th</sup> November 2009 at around 1:15 am. The witness believes the male had come from the direction of Piccadilly Street. CCTV shows that on 13 <sup>th</sup> November 2009 the defendant was wearing a light coloured top.
	The defendant has no previous criminal record.	Given the brutal nature of the attack on Mr XXXX police expected there to be samples of the victim's blood on the attackers clothes. Examination of the clothes the defendant was wearing on 13 <sup>th</sup> November 2009 show no evidence of blood from the victim.
	A witness reported that upon leaving The Lowther Pub in York on 13 <sup>th</sup> November 2009 the defendant's behaviour was nothing out of the ordinary. The witness reported the defendant to be happy and in good spirit with no mention of a previous argument with Mr XXXX. When the witness left the defendant they reported that the defendant was calm and collected.	The defendant agrees that he did walk down Piccadilly Street in York on 13 <sup>th</sup> November 2009 but did not pass the scene of the assault on Mill Street in York. Instead the defendant claims to have walked the 190 meters of Piccadilly Street before turning onto Walmgate where he continued. This route would take him away from the scene of the assault on Mr XXXX.

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## Appendix G: Experiment 5 Criminal Case Summary

Names have been retracted to preserve confidentiality

### **Trial # 552441-00**

*Mr ..... (defendant) is accused of Grievous Bodily Harm with intent contrary to section 18 of the Offences against the Person Act 1861 against Mr ..... (victim). The defendant has entered a plea of NOT GUILTY.*

### **EXECUTIVE SUMMARY OF EVIDENCE**

*The prosecution charges that the defendant is guilty of inflicting grievous bodily harm with intent. The victim and the defendant were both in The Albion pub on the night of the alleged assault. CCTV shows a brief altercation between two men in the pub which have been identified as the victim and the defendant. The prosecution claims that later that evening, following this altercation, the victim was subjected to an unprovoked attack in which the defendant struck the victim over the head with an object causing him to fall to the floor. The victim claims to have not acted aggressive and that the punch by the defendant was beyond reasonable force. The prosecution reveals that the victim suffered serious injuries requiring hospitalization as a result of the attack.*

*The defense alleges that the defendant was acting out of self-defense and that the victim's injuries were mostly due to the victim falling which was in part due to his intoxication. The defendant claims that in earlier altercation the victim was aggressive and threatening towards him. Later on in the evening the defendant and victim met again and there was some 'pushing and shoving' between the two men. The defense alleges that the defendant feeling threatened used reasonable force, delivering a single punch to the victim. It is alleged that the victim staggered and then fell. The defense alleges that the victims injuries were in most part due to the fall.*

## Appendix H: Experiment 7 Eligibility Criteria for Jury Duty in the UK

Below is a list of the eligibility criteria for jury duty in the United Kingdom. Please read each item carefully and indicate at the end if you believe according to this criteria that you would be eligible for jury duty in the United Kingdom.

### You are qualified for jury service if:

- you will be at least 18 years old, and under 76 years old, on the day that you start your jury service; and
- you are registered as a parliamentary or local government elector (Note: in order to be registered to vote you must be a British, Irish, EU or qualifying Commonwealth citizen) and
- you have lived in the United Kingdom, the Channel Islands or the Isle of Man for any period of at least 5 years since you were 13 years old. A person would still be regarded as having lived in the United Kingdom, the Channel Islands or the Isle of Man even if they were temporarily absent during the relevant period, e.g. when they are on holiday or business abroad.

### You are NOT qualified for jury service if:

- you are, for the time being, liable to be detained under the Mental Health Act 1983; or
- you are, for the time being, resident in a hospital on account of a mental disorder within the meaning of the Mental Health Act 1983; or
- you are, for the time being, subject to a guardianship order under section 7 of the Mental Health Act 1983, or to a community treatment order under section 17A of that Act; or
- you lack mental capacity (see below) to serve as a juror, within the meaning of the Mental Capacity Act 2005

### You are disqualified from jury service if:

- you are currently on bail in criminal proceedings; or
- in the United Kingdom, the Channel Islands or the Isle of Man, or if in relation to a service offence under the Armed Forces Act 2006 anywhere in the world you have **ever** been sentenced to:
  - imprisonment, or a term of detention, of 5 years or more;
  - or imprisonment for public protection or detention for public protection;
  - or imprisonment, custody or detention for life;
  - or an extended sentence under either of sections 226A, 226B, 227 or 228 of the Criminal Justice Act 2003, (including such a sentence imposed as a result of section 219A, 220, 221A or 222 of the Armed Forces Act 2006) or section 210A of the Criminal Procedure (Scotland) Act 1995;
  - or detention at Her Majesty's pleasure or during the pleasure of the Secretary of State.

- Or you have in the last **10 years**:
  - served any part of a sentence of imprisonment or detention;
  - or received a suspended sentence of imprisonment or a suspended order for detention;
  - or have been convicted of an offence under section 20A, 20B, 20C or 20D of the Juries Act, paragraph 5A, 5B, 5C or 5D of Schedule 6 to the Coroners and Justice Act 2009, or paragraph 2, 3, 4 or 5 of Schedule 2A to the Armed Forces Act 2006.

**According to the criteria above are you eligible for jury duty in the United Kingdom? (*pleas circle one*)**

Yes

No

## Appendix I: Experiment 7 Criminal Case Summary

### *Part A: Control condition criminal case summary*

This is an excerpt from a criminal case. It includes the indictment (the charges made) and a brief extract from the trial transcript including the brief background to the case and closing arguments made by the defense and prosecution attorneys. The defendant's first name has been blacked out to preserve confidentiality.



## York Crown Court

The Queen v [REDACTED] Johnson  
charged as follows:

### **STATEMENT OF OFFENCE**

Assault Occasioning Actual Bodily Harm, contrary to  
section 47 Offences against the Person Act 1861.

### **PARTICULARS OF THE OFFENCE**

[REDACTED] Johnson on the 17<sup>th</sup> March 2011 assaulted (the  
victim). Johnson has entered a plea of NOT GUILTY.



**Background Information:** What is open to debate is what happened that night (the night of march 17<sup>th</sup> 2011). The facts that we know are that both men (the victim and the defendant) had been in the same pub that evening with their respective parties. We know that during their time at the premises there were reports of a minor altercation of sorts between the two men. We know that at the end of the evening the victim sustained serious injury requiring hospitalisation following a second altercation with the defendant.

**Closing arguments:**

**Defense:** Ladies and gentleman, The State must prove to you beyond a reasonable doubt that [REDACTED] Johnson knowingly intended to cause harm towards the victim. And they must prove that based on facts. I submit to you, that based upon a previous confrontation with the victim, in which there was aggressive and threatening behavior from the victim, the defendant was acting in self-defense. That when the defendant left the premises, and the victim was acting in the same aggressive and threatening manner, the defendant felt threatened and delivered a single blow to the victim using reasonable force out of self-defense. We put to you that the injuries sustained by the victim were, by in large, the result of the victim falling due to intoxication. For this reason I ask you to find [REDACTED] Johnson not guilty.

**Prosecution:** I want you to take a minute to imagine you are the victim. Imagine you are out on a night and at the end of that night you leave to go home when you are subjected to an unprovoked attack in which the defendant, [REDACTED] Johnson, strikes you causing you to fall to the floor. Your injuries are serious. Just take a minute to consider that. I would like to ask you to think about what it would be like to be the victim in this altercation. Just take a minute to consider that.

We put to you that yes there had been a previous altercation between the two men in which both were acting in aggressive and threatening manners but that later the evening when the victim was making his way home the defendant approached the victim delivering a blow to the victim which caused him to fall to the ground and suffer serious injury. We put to you that this blow by the defendant was beyond reasonable force and with intent to harm and for this reason ask that you find the defendant [REDACTED] guilty.

*Part B: Mortality salience condition criminal case summary*

This is an excerpt from a criminal case. It includes the indictment (the charges made) and a brief extract from the trial transcript including the brief background to the case and closing arguments made by the defense and prosecution attorneys. The defendant's first name has been blacked out to preserve confidentiality.



## York Crown Court

The Queen v [REDACTED] Johnson  
charged as follows:

### **STATEMENT OF OFFENCE**

Assault Occasioning Actual Bodily Harm, contrary to  
section 47 Offences against the Person Act 1861.

### **PARTICULARS OF THE OFFENCE**

[REDACTED] Johnson on the 17<sup>th</sup> March 2011 assaulted (the  
victim). Johnson has entered a plea of NOT GUILTY.

**Background Information:** What is open to debate is what happened that night (the night of March 17<sup>th</sup> 2011). The facts that we know are that both men (the victim and the defendant) had been in the same pub that evening with their respective parties. We know that during their time at the premises there were reports of a minor altercation of sorts between the two men. We know that at the end of the evening the victim sustained serious injury requiring hospitalisation following a second altercation with the defendant.

**Closing arguments:**

**Defense:** Ladies and gentleman, The State must prove to you beyond a reasonable doubt that [REDACTED] Johnson knowingly intended to cause harm towards the victim. And they must prove that based on facts. I submit to you, that based upon a previous confrontation with the victim, in which there was aggressive and threatening behavior from the victim, the defendant was acting in self-defense. That when the defendant left the premises, and the victim was acting in the same aggressive and threatening manner, the defendant felt threatened and delivered a single blow to the victim using reasonable force out of self-defense. We put to you that the injuries sustained by the victim were, by in large, the result of the victim falling due to intoxication. For this reason I ask you to find [REDACTED] Johnson not guilty.

**Prosecution:** I want you to take a minute to imagine you are the victim. Imagine you are out on a night and at the end of that night you leave to go home when you are subjected to an unprovoked attack in which the defendant, [REDACTED] Johnson, strikes you causing you to fall to the floor. Your injuries are serious; you could have died as a result of them. Just take a minute to consider that. Imagine you could have died as a result of your injuries. I would like to ask you to think about what it would be like to be the victim in this altercation. Just take a minute to consider that.

We put to you that yes there had been a previous altercation between the two men in which both were acting in aggressive and threatening manners but that later the evening when the victim was making his way home the defendant approached the victim delivering a blow to the victim which caused him to fall to the ground and suffer serious injury. We put to you that this blow by the defendant was beyond reasonable force and with intent to harm and for this reason ask that you find the defendant [REDACTED] guilty.

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