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Terror management theory: The effect of death on criminogenic thought patterns

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Abstract

Terror Management Theory has been applied with judges and juries in the courtroom, but not yet with criminals themselves. The current study looks for an association between criminogenic thought patterns and worldviews of criminal behavior. Thought patterns were assessed with the Measure of Criminogenic Thinking Styles (MOCTS), while worldviews were measured with the associate section of the Measures of Criminal Attitudes and Associates. Results indicated that mortality salience did not increase criminogenic thinking. However, criminogenic thinking scores from the MOCTS were correlated with scores on the associate scale under mortality salience. These findings may suggest that participants with a worldview of criminal behavior resort to their worldview with complementarily high levels of criminogenic thinking following anxiety from a mortality salience.

Keywords: Terror management theory, criminogenic thinking

Terror Management Theory: The Effect of Death on Criminogenic Thought Patterns

Although a breadth of research has been conducted regarding terror management theory (TMT), criminal activity and behavior has been left void. TMT provides as a viewpoint relating to human-beings' anxiety from death that has taken on multiple pathways (Pyszczynski, Greenberg, & Solomon, 1997). An intriguing road for many researchers leads to deviant behavior. Indeed, the legal system, along with many other topics, relates heavily to the components of TMT. Much research has been directed toward courtroom protocol and legal procedures; however, there has been an absence of studies with a focused lens on typical, day-to-day criminal activity in the real-world (Heen, Lieberman, & Arndt, 2016). Moreover, research relating specifically to criminal activity would provide an in-depth picture for crime analysis, prevention, and rehabilitation.

At its core, TMT posits that people develop anxiety related to the inevitability of their death. Mortality salience, or a death reminder, is typically used to induce anxiety in research. In order to cope with this anxiety, individuals have a tendency to develop a stronger association with their worldviews (Greenberg et al., 1990; Heen et al., 2016; Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989). Worldviews may consist of any viewpoint that individuals can relate to, such as political affiliation, religion, or even criminality. Of course, this strong attachment to one's worldview is not done consciously. Rather, the unconscious espousing of certain worldviews works to suppress the anxiety from death and death cognition so that this anxiety does not have a strenuous effect. (Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994; Pyszczynski, Greenberg, & Solomon, 1999; Wegner & Smart, 1997). Strongly associating with one's worldviews, in turn, heightens self-esteem which also helps to suppress death-related anxiety.

To support the idea that worldviews play an essential part in TMT and the legal system, researchers provided evidence that individuals will be more punishing to those who oppose their worldviews when reminded of death. In one study, judges who were reminded of death through a questionnaire set a much higher bond to a prostitute in a hypothetical case brief in comparison to judges who were not reminded of death (Rosenblatt et al., 1989).

Interestingly, in a similar study with students, mortality salience had the same impact on bail bonds; however, the effect was only present with participants who viewed prostitution as inherently wrong and contradictory to their beliefs. Those who were more approving of prostitution were not affected by the reminder of death (Rosenblatt et al., 1989). This shows that death reminders only have an impact on certain individuals in certain situations, depending on the worldviews at play. More importantly, it shines light on those who believe certain criminal activity, or all delinquent behavior, is not permissible. Those who oppose this worldview are more stringent toward members of this worldview after a mortality salience.

Although research regarding TMT has been performed within criminal justice parameters, the vast majority is relevant to courtroom protocol and procedures rather than criminogenic cognitive processes or thinking styles (see Arndt, Lieberman, Cook, & Solomon, 2005). It is clear that TMT is relevant to jury decision-making and capital punishment, but the degree of this relationship is opaque. For example, studies have been performed on jurors' reactions to mortality salience in capital punishment cases, but results have varied. Jones and Wiener (2011) found no mortality salient effect with jurors making capital punishment decisions, even when they were told to consider their own mortality. Of course, subtle reminders of death are conspicuously present in the courtroom and with capital punishment cases; however, upholding and opposing worldviews become more complex in this arena. Race, class, morals,

religion, and political concerns regarding the death penalty may potentially create an intricate blend of incongruous in-groups and out-groups, depending on the juror's characteristics (Kirchmeier, 2008; Lieberman, Arndt, Personius, & Cook, 2001). It is important to have caution with studies applying TMT to the courtroom because, again, there are many interwoven factors that make the reasoning of behaviors, in relation to a mortality salience, unclear.

Similar to the current study, but instead analyzing police behavior, Maskaly and Donner (2015) attempted to integrate social learning theory with TMT to analyze unlawful police shootings. They suggested that the police subculture, acting as officers' worldview in TMT, may play an essential role in why officers overuse deadly force. With an abundance of mortality primes throughout an officer's day, they are forced to strongly support their subculture to manage the anxiety derived from death-related cognitions. It is well known that the police subculture supports authoritarianism, rule following, and loyalty to their own department (Maskaly & Donner, 2015). This integrative model has much support; however, there are still questions to the relationship between TMT and law enforcement. Maskaly and Donner's (2015) research regarding law enforcement's deviant behavior can easily be related to the current study assessing criminogenic thinking patterns that lead to deviant behavior.

A final study that may easily associate with criminal behavior involves the killing of animals. In multiple consecutive studies, participants with mortality primes favored killing animals more than those without the prime (Lifshin, Greenberg, Zestcott, & Sullivan, 2017). Researchers then tested for favorability with the killing of humans but found no effect. However, Lifshin et al. (2017) used hypothetical situations such as abortions, human experiments, and police shootings to test for the support of killing humans. As the study indicated, it is highly unlikely for mortality salience to have such a powerful effect and sway answers with these

socially charged forms of human killing; the phenomenon of reactivity is likely in play here. A notable point of this study, however, is the effect that mortality salience has on killing other living organisms. Indeed, the authors do take note of the potential replication of this effect with the killing of out-group members and mass killing of humans (Lifshin et al., 2017). With the previous research in mind, it certainly does not seem far-fetched to suggest that mortality salience may increase thinking patterns that lead to criminal behavior.

In summary, TMT proposes that the anxiety from death is counterbalanced with a cherishing of cultural worldviews to boost self-esteem, and that this may especially be prominent in the legal system (Heen et al., 2016). Courtroom protocol regarding jurors' reactions to capital and non-capital offenses have been studied and reveal inconclusive findings (Arndt et al., 2005; Jones & Wiener, 2011). Research applied to law enforcement helps with the understanding of potential TMT effects at play in daily endeavors with law enforcement's treatment of offenders (Maskaly & Donner, 2015). Finally, the recent research by Lifshin et al. (2017) introduces participants' tendency to be more favorable toward the killing of nonhuman animals after a mortality prime. This may hint at the potential of criminal behavior or thought patterns after mortality salience as well.

The Present Study

In the current study, there is an attempt to discover insight to criminal activity in regards to TMT. Criminal activity may be acceptable in one's worldview due to learning that it is simply a permissible option from interactions and observations in one's microsystem or exosystem (Agnew, 2016; Bronfenbrenner, 2005). In this scenario, self-esteem may be derived from engaging in the worldview of criminality. Additionally, it can be argued that these environments and social systems that accept delinquent behavior are likely to have more subtle, or severe,

reminders of death. Therefore, criminality is seen as permissible for individuals raised with this worldview; and when anxiety is present from mortality salience, these individuals resort to criminal activity because it promotes self-esteem as well as operates as an anxiety buffer.

It is hypothesized that mortality salience will increase participants' favorability toward criminogenic thinking and that criminogenic thinking will be positively correlated with participants' worldview of criminality only in the mortality salient condition, suggesting a defending of worldviews from the mortality salience. The present study attempts to address gaps in TMT literature while extending research in the legal arena with a more specific domain regarding criminal activity.

Method

Participants

One hundred and twenty-eight participants, with the majority male (55.4%), were students recruited from a Midwestern private liberal arts college. Participants were between 18-53 years old ($M = 20.49$). The three primary racial and ethnic groups identified as White (52.9%), Hispanic (19.8%), and biracial or multiracial (15.7%). Participants were given the opportunity for extra credit in a course, if applicable, for participating in the study.

Materials

Mortality salience and control. The mortality salient questionnaire included the traditional Mortality Attitudes Personality Survey (Rosenblatt et al., 1989), which includes two open-ended questions regarding (1) the emotions that death arouses and (2) what physically will happen once death occurs. This survey induces mortality salience by asking participants to critically think about their own death through both an emotional and physical lens. The control

condition received similarly phrased questions but instead pertaining to their favorite restaurant and consuming their favorite dish at this restaurant (Rosenblatt et al., 1989).

Although not required to induce mortality salience, an eight minute time requirement was used to increase the likelihood of participants critically thinking about the questionnaire, rather than avoiding it and moving on through the packet. Participants were allowed to write as much as they desired during this time period. Experimental and control groups were randomly assigned using block randomization.

Mood. The Positive and Negative Affect Schedule (PANAS) is a 20-item assessment measuring positive and negative affect in the current moment with a five-point Likert Scale from 1 (very slightly or not at all) to 5 (extremely) (Watson, Clark, & Tellegen, 1988). Sample items include “interested,” “upset,” “inspired,” and “nervous.”

The PANAS served two purposes. First, it acted as a dependent variable, measuring for a negative effect on mood that may have derived from the mortality salience. Critics of TMT argue that participants may develop a negative mood from the dismal questions in the Mortality Attitudes Personality Survey, and that this negative mood leads to the effects seen from the theory. Although this mood effect is atypical in previous literature with the theory, mood was measured as a dependent variable for both conditions to test this argument.

Second, the PANAS conveniently functioned as a delay to redirect the thought of death out of participants’ consciousness. Without a delay after the mortality salience questions, there would not be enough time for the anxiety to unconsciously affect participants’ subsequent behavior or decision-making. Research indicates that only with a delay can the effect from mortality salience be present (Burke, Martens, & Faucher, 2010; Greenberg et al., 1994; Pyszczynski et al., 1999).

Criminogenic Thinking. The Measure of Criminogenic Thinking Styles (MOCTS) is a measure assessing criminogenic thinking patterns. These patterns are thinking styles that are present to a certain degree in everyone but can potentially lead to criminal activity. It is assumed that these patterns can change and, in the current study, will increase as a consequence of mortality salience.

The MOCTS is a slightly altered form of the Measure of Offender Thinking Styles-Revised (MOTS-R) that was changed in order to use the same scale on individuals who were not criminals (Mandracchia, 2017; Mandracchia & Morgan, 2011). It is a 70-item assessment with a five-point Likert Scale that calculates the three subscales of control, cognitive immaturity, and egocentrism to create total criminogenic thinking. Inattentiveness is also assessed in order to check the level of participants' attention. A few example items include "I find myself looking for ways to gain power" (control); "I despise people who do not treat me fairly" (cognitive immaturity); and "I prefer to do things myself, that way I know they will be done right" (egocentrism).

Because the only alteration between the MOCTS and MOTS-R was the wording toward potential participants, the reliability and validity should be identical to that of the MOTS-R. Moderate internal reliability and adequate to strong correlations of convergent validity with similar measures such as the Psychological Inventory of Criminal Thinking Styles and the Criminal Sentiments Scale-Modified have been reported (Mandracchia & Morgan, 2011).

Worldviews. Only the "associates" subsection of the Measures of Criminal Attitudes and Associates (MCAA) (Mills, Kroner, & Forth, 2002) was used in order to assess criminogenic worldviews. The worldview is an essential component of TMT that is required to search for a relationship with criminogenic thinking in the mortality salience condition. The associates scale

measures the level of criminality in one's social environment, rather than criminogenic cognition. If one scored with high levels of social criminality on this scale, it is assumed that this individual would have a worldview of criminality.

This questionnaire includes 10-items allowing participants to either "agree" or "disagree" with the statement. It directly asks about participants' friends with reference to criminality with items such as, "I have committed a crime with friends," and, "I always feel welcomed around criminal friends." The MCAA, too, has shown adequate reliability and validity (Mills, Kroner, & Forth, 2002).

Procedure

Participants were randomly provided with either the control or mortality salient condition. They were required to work on it for eight minutes, which the researcher timed. Following the condition, they completed the PANAS, MOCTS, associates section from the MCAA, and a demographics page, respectively. Finally, a debriefing of the study including its purpose and underlying psychological topic was given to participants before they were dismissed.

Design and Analyses

Coding for the associates scale of the MCAA assumed 1 for "agree" and 2 for "disagree." Therefore, in accordance with the hypothesis, it was predicted that there would be a negative correlation between overall MOCT and associates scores only in the mortality salient condition. Lower scores on the associates scale would result in a higher degree of criminality in one's social environment suggesting a worldview of criminality.

Results

Seven participants were thrown out from the pool of data due to high scores on the inattentiveness subscale. Cronbach's Alpha was used to test the reliability of the scales. All scales demonstrated moderate to high reliability (see Table 1).

Independent samples t tests were conducted between conditions for the PANAS; the PANAS did not differ by condition, $t(119) = .398, p = .69$. Independent samples t tests were also performed on the MOCTS and its subscales (see Figure 1). The subscales of control ($t(119) = .584, p = .56$), egocentrism ($t(119) = .717, p = .47$), and cognitive immaturity ($t(119) = -1.132, p = .26$) also showed no significant differences per condition. Additionally, overall MOCTS scores were not significantly different, $t(119) = -.483, p = .63$. However, the Pearson correlation suggested a significant negative association between scores on the associates scale and overall MOCTS only in the mortality salient condition, ($r = -0.37, p = 0.003$), whereas significance was not reached with the control group, ($r = -.24, p = .069$).

Discussion

The results suggest that the mortality questionnaire did not have a negative effect on mood, in that participants were not swayed into an unpleasant mood because of the mortality salient questions. The first hypothesis was not supported. Participants' criminogenic thinking did not increase in the mortality salient condition. However, the second hypothesis was supported, showing that criminogenic thinking scores were correlated with scores on the associates scale only in the mortality salient condition.

These findings provide new insight into the phenomenon of TMT and its relationship with criminal behavior, specifically criminogenic thinking. Overall criminogenic thinking did not increase because not all people have a worldview of criminal activity. The second hypothesis

narrowed this prediction by questioning the correlation between associates and criminogenic thinking only in the mortality salient condition. Participants in the mortality salient condition with a worldview of criminality, assessed by the associates scale, fought anxiety and developed a stronger association to their worldview that contributes to self-esteem by engaging in the elements of criminogenic thinking. This same happening was not found in the control condition because the lack of a death reminder signified that there was no need for one to resort to their worldview. The current study's findings with worldviews is consistent with past research (e.g. Greenberg et al., 1990; Rosenblatt et al., 1989). These results provide a glimpse into the happenings of criminal activity in environments where it is a norm. These environments not only have a worldview of criminality, but likely more reminders of death. The unconscious anxiety developed from these death reminders must be buffered by retreating to the worldview of criminal behavior, resulting in an endless cycle.

Perhaps a stronger correlation was not present because the PANAS did not provide a long enough delay. A recent meta-analysis by Burke et al. (2010) highlights this exactly. Evidence supports both longer and multi-task delays as having a larger effect as well as a stronger correlation. Delays lasting around five minutes generally have a weak correlation (Burke et al., 2010). Although the PANAS in the present study was not timed, it is estimated that the 20-item questionnaire lasted approximately three minutes. Therefore, a longer delay would have likely led to a stronger correlation.

Additionally, college students neither represent the general population nor are they congruent with a forensic population that may have been more harmonious with the measures used. Consequently, the results are not generalizable; however, the majority of TMT research is

used with college students, and the MOCTS assesses cognitive patterns that are present in all individuals, not just criminals.

The sample's demographics may be another explanation as to why the correlation is weak to moderate. College students may lack worldviews of criminality in comparison to other populations. To further expand on this limitation, the content of the study elicits a question about the degree of seriousness participants placed on it. Questions about death along with those measuring egocentrism, cognitive immaturity, and control may bring out colorful answers with college students who may or may not take the study seriously. Although there was no evidence of this in the data, it is still important to consider.

Certainly the short delay and population from which the sample was derived are primary limitations of the study. Another limitation that may have been present is fatigue. There was a total of 100 items following the manipulation, not including the demographics. Participants' attention may have gradually decreased throughout the packet.

Nonetheless, these findings along with their limitations lead to ideas for future research. Future research should continue to focus on TMT with a lens on criminal behavior, rather than simply the behavior of judges and juries in the courtroom. Aforementioned, a similar study with a longer delay is necessary. Perhaps, along with this recommendation, a different criminality scale such as the Psychological Inventory of Criminal Thinking Styles, Criminal Sentiments Scale-Modified, or Attitudes Toward Violence Scale paired with the concept of TMT may lead to more insight (Mandracchia & Morgan, 2011). The MOCTS was used in the present study due to its subtle wording of questions referring to criminal thinking patterns rather than conspicuous criminal activity. Other scales may be more explicit in their wording, which may lead to reactivity or demand characteristics from participants.

An additional avenue to pursue, with support from other literature in TMT (Rosenblatt et al., 1989), is the presence of differing worldviews. Certainly, much criminal activity may be initiated because of the violation of worldviews. Aggression and criminogenic behavior should be studied with TMT to explore the effect mortality salience has on upholding or violating worldviews from the criminal's perspective.

The recent study by Lifshin and colleagues (2017) should be replicated with an emphasis on investigating the harming of human-beings. Results from this study indicate high potential for possible transference from the killing of animals to humans. Other studies should create less socially charged and more implicitly phrased questions to explore a possible effect between death reminders and the harming of out-group members.

A final direction of future research is with the participants. Of course, a sample from the general population is preferred. However, perhaps emphasizing differences between various areas of a geographic location with varying levels of crime may elucidate the relationship between TMT and criminal behavior. Certainly, a sample other than college students is needed in research looking at criminal activity.

In conclusion, this is the first study to relate TMT with criminogenic thought patterns. Mortality salience did not lead to increased criminogenic thinking. However, it did lead to a positive correlation between criminogenic thinking and associates of criminal activity, which was used to identify participants' worldviews. Future research should further pursue the association between deviant activity and TMT using various criminogenic scales.

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Appendix

Table 1

Reliability of Scales

	Cronbach's Alpha	Items
PANAS	0.783	20
MOCTS Total	0.915	65
Egocentrism	0.662	11
Control	0.865	26
Cognitive Immaturity	0.930	28
Associates	0.693	10

Note. PANAS = Positive and Negative Affect Schedule; MOCTS = Measure of Criminogenic Thinking Styles

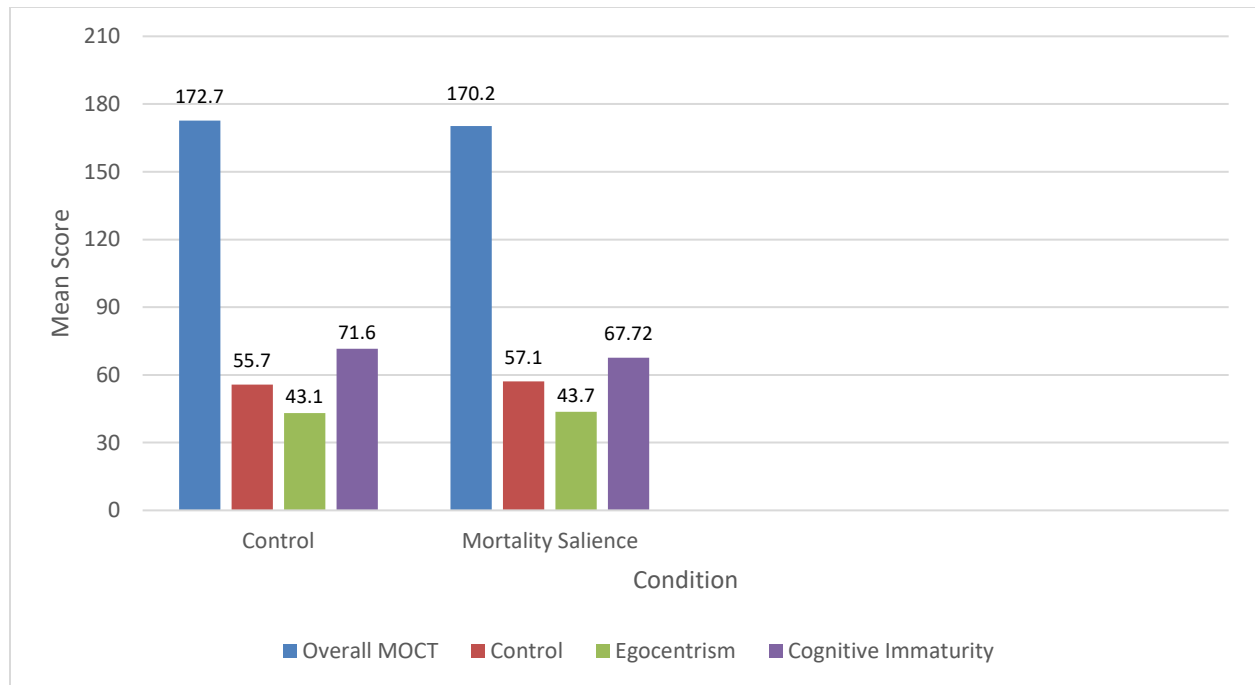


Figure 1: Overall Measure of Criminogenic Thinking (MOCT) and subscale means per condition.