

## Original Papers

*Polish Psychological Bulletin*  
 2012, vol. 43(1), 1-11  
 DOI - 10.2478/v10059-012-0001-x

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### The Anxiety-Buffering Properties of Cultural and Subcultural Worldviews: Terror Management Processes among Juvenile Delinquents

*Terror management research indicates that people reminded of mortality strongly affirm values and standards consistent with their cultural worldview and distance themselves from values and standards inconsistent with it. However, limited research has addressed how individuals holding beliefs inconsistent with the dominant worldview cope with death-related anxiety. The present article aims to determine which worldview subcultural groups rely on when reminded of mortality: mainstream or subcultural? Juvenile delinquents living in residential reformatories in Poland were invited to participate in a terror management study examining the anxiety-buffering strategies of individuals belonging to a group largely outside mainstream culture. Following reminders of mortality, juvenile delinquents increased support for values consistent with the mainstream cultural worldview and decreased support for values consistent with the subcultural worldview, as compared to control conditions. The present results suggest that when faced with existential threat, the subcultural worldview does not provide an adequate anxiety buffer, leading members of this subcultural group to display increased identification with mainstream cultural values. Additionally, participants' state anxiety following death reminders was mediated by mainstream cultural worldview defense.*

**Keywords:** *terror management theory, cultural worldview, mortality salience, juvenile delinquents*

The capacity for self-awareness is both a gift and a nuisance to human beings. It is a gift because this level of cognitive complexity and flexibility grants humans the ability to reference the self in the past, contemplate how that relates to the self in the present, as well as what that means for the self in the future. However, it is also a nuisance because with this self-awareness comes the recognition of the inevitability and irreversibility of death. Many view thanatological thoughts as a common phenomenon, which is inevitable and resistant to all rational arguments (e.g. Keępiński, 1987). Arguably, concerns about death are reflected in the multitude and diversity of funeral customs present in all world cultures (e.g. Parkes, Laungani, & Young, 2001), such as Muslims' custom of washing and perfuming the body before wrapping it in a special burial shroud, using identical shrouds for all, symbolizing equality of all people before God. Similar Hebraic rituals are followed by the shattering of the container used for washing, symbolizing the transition from life to afterlife. Mourning periods are also marked by various rituals of

differing cultures, such as Papuas' abstinence from cutting or combing their hair while in mourning, or the practice of sprinkling oneself with the deceased's ashes, as observed among widows' in some African countries (e.g. Senegal and Uganda; Thomas, 2001). Archaeological discoveries also reveal evidence of funeral ceremonies (e.g. scattering of ashes, and various burial customs, such as placing skeletons in the embryonic position and painting skeletons with ochre) from more than 40,000 years ago (Thomas, 2001). These examples provide merely a small fraction of the variety of death-related rituals taking place across cultures, illustrating that for millennia, mortality has been a significant issue for humans to psychologically contend with.

#### Terror management theory

The issue of death and death-related anxiety has troubled philosophers and psychologists for centuries, including Kierkegaard, Heidegger, Freud, Frankl, May, and Becker. Based on these ideas, terror management theory (TMT;

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Greenberg, Pyszczynski, & Solomon, 1986; Solomon, Greenberg, & Pyszczynski, 1991) posits that much human behavior is motivated by the need to manage death-related concerns. According to TMT, the conflict between humans' instinctual drive for survival and their awareness of their own mortality creates the potential for overwhelming anxiety. People are acutely aware of the many threats to their existence and equally aware that regardless of how healthy or safe they may feel now, life's end will inevitably occur. Living with this awareness would generate a level of anxiety making everyday functioning difficult, so people employ an anxiety-buffering system to manage their existential terror; it consists of a cultural worldview and self-esteem.

The cultural worldview consists of values and beliefs, providing guidelines for what is right and wrong and the behaviours which will be rewarded or punished. Following the standards of the culture provides several rewards, including literal immortality (e.g. assurance of an afterlife), symbolic immortality (e.g. achievements allowing for something to live on after one's death, such as children), and self-esteem. Because the anxiety-buffering system is central in protecting individuals from the anxiety associated with the awareness of mortality, the maintenance of this system is essential. As a result, when the anxiety-buffering system is threatened, people take steps to preserve their faith in the worldview and self-esteem.

The worldview is a cultural construction, rather than an impartial representation of reality; therefore, to maintain its anxiety-buffering properties, people rely on the validation of the cultural worldview from others. Those who hold beliefs similar to one's own provide that validation, while individuals with beliefs in opposition to one's worldview call its validity and effectiveness as an anxiety-buffer into question, presenting threats to one's faith in the cultural worldview and overall self-esteem, the consequences of which will be addressed shortly.

### **Empirical support for TMT**

TMT is an empirically well-substantiated theory, its theoretical assumptions confirmed by over 350 studies conducted in 16 different countries (see Greenberg, Solomon, & Arndt, 2008 for a recent review). Of the TMT hypotheses, the mortality salience hypothesis has received the most empirical support. This hypothesis suggests that to the extent the cultural worldview and/or self-esteem buffer against death-related anxiety, reminders of death will increase the need for these structures. As a result, when reminded of mortality, people respond more favorably towards those who support the worldview, thereby validating its anxiety-buffering properties. Conversely, reminders of death lead people to respond less favorably towards those who question its legitimacy, thereby calling into question its ability to provide protection in

the face of existential threat. This is referred to as cultural worldview defense, and indeed, studies concerning the mortality salience hypothesis indicate that reminders of death (mortality salience; MS) lead to increased cultural worldview defense, reflected in an increased preference for the standards of value of one's culture, as well as increased liking for those who obey the cultural standards. On the other hand, MS results in increased negative opinions of values and standards inconsistent with the cultural worldview and increased disdain, even derogation, or those who deviate from the worldview.

For instance, compared to control conditions, reminders of mortality have been shown to lead American students to report increased liking of authors of pro-American essay and decreased liking of authors of anti-American essays (Greenberg, Pyszczynski, Solomon, Simon & Breus, 1994), lead Christian students to report increased liking of other Christian students and decreased liking of Jewish students (Greenberg et al., 1990) and lead American students to increase anti-Semitism and lower support for Israel (Cohen et al., 2009). Some studies indicate that MS leads Iranians to show increased approval of the World Trade Center attacks of 9/11 and Americans to show increased acceptance of President Bush's anti-Iranian policies (Pyszczynski et al., 2006). Even among issues unrelated to God and country, MS has a proven to have a significant impact on people. Reminding participants of their mortality leads to support for more restrictive punishment for a man who left his wife and children (Oschmann & Reichelt, 1994 as reported in Pyszczynski et al., 1997), a person accused of prostitution (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989), perpetrators of various moral offenses (Florian & Mikulincer, 1997), as well as to greater respect for cultural symbols (Greenberg, Porteus, Simon, Pyszczynski, & Solomon, 1995) increased prosocial behavior, especially towards charities aiding one's own culture (Jonas, Schimel, Greenberg, & Pyszczynski, 2002) and attributed stronger humanness to the ingroup (Vaes, Goldenberg, Heflick (2010). The recent review of research on TMT presents Hayes et al (2010) and Lukaszewski (2010) in Polish literature.

Although there is substantial evidence that MS leads to increased identification with one's worldview, terror management theorists emphasize that these effects are not limited to support of in-group worldviews and derogation of out-group worldviews. The theory suggests that when reminded of MS, people will take the necessary steps to restore and maintain self-esteem. Frequently, this restoration involves affirmation and defense of one's cultural worldview, yet there are also instances in which people will distance themselves from their in-group. If there are negative associations with an in-group, people would be less likely to garner self-esteem from endorsing it and would therefore be less likely to seek shelter in this

worldview when threatened. For example, when primed with MS, Hispanic participants distanced themselves from other Hispanics, but only after reading a story about the arrest of a Hispanic drug dealer; this effect did not occur after reading neutral or positive portrayals of Hispanics (Arndt, Greenberg, Schimel, Pyszczynski, & Solomon, 2002). Similarly, prior to a football game, university students reminded of mortality expressed preference for the football team and optimism about the upcoming season; however, after the football team was defeated in the first game of the season, participants in the MS condition reported greater interest in the basketball team (Dechesne, Greenberg, Arndt, & Schimel, 2000). These examples suggest that when there are negative aspects associated with the in-group worldview, defense of and identification with this worldview will not effectively buffer against the existential anxiety raised by reminders of death. In fact, people may benefit from distancing themselves from their in-group to boost and maintain self-esteem.

### Present Research

The aforementioned research included participants whose worldviews were predominantly in line with mainstream culture worldview (e.g. college students). However, terror management research has not fully addressed how individuals with minority or alternative worldviews cope with death-related anxiety. Studies examining Hispanic participants' (dis)identification with their ethnicity (Arndt et al., 2002) are a notable exception, but to our knowledge, there has not been an empirical investigation of the terror management processes of individuals who, based on their own volition, endorse a worldview outside of the mainstream. The present study aims to determine whether individuals choosing to endorse unconventional, even anti-social, values and beliefs will respond to MS by seeking the anxiety-buffering properties of the cultural worldview or the subcultural worldview.

Existing research provides evidence for differing responses to MS and support for the endorsement of values differing from the mainstream. For example, Israeli researchers found that when reminded of death, the tendency for faster and more reckless driving of a car simulator increased (Taubman Ben-Ari, Florian, & Mikulincer, 1999). This only occurred among participants identifying driving ability as an essential skill. There were no changes in driving among participants who did not identify driving as an important skill. Thus, after reminders of mortality, participants defended worldviews of importance for them, rather than the cultural worldview, as it is generally assumed that most do not perceive reckless driving as an important and mainstream cultural standard. Additionally, one's values regarding the physical body influence responses to MS. In Western culture, physical attractiveness is undoubtedly an asset and, for many people, an important

element influencing the structure of "self." However, MS only led to stronger identification with one's own body among participants reporting high self-esteem regarding the physical body. Among participants with low self-esteem regarding their physical body, MS did not result in stronger identification with the body (Goldenberg, McCoy, Pyszczynski, Greenberg, & Solomon, 2000).

Although these studies do not answer the question concerning which worldview (the cultural or subcultural) helps buffer against death anxiety, these results do indicate that when confronted with reminders of death, people defend values important to them and not necessarily the values of the majority. Certainly, when the values of cultural and subcultural worldviews align, a conflict does not occur, and in such cases, self-esteem defense can be interpreted as the cultural worldview defense. However, the situation is more complicated when a part of an individual's worldview important to the "self" is inconsistent with the worldview. One way to determine which worldview, individual or cultural, is most effective in reducing death-related anxiety is to investigate groups endorsing beliefs partially inconsistent with the dominant cultural worldview.

Juvenile delinquents are an example of a group holding beliefs and values deviating from the mainstream cultural worldview. Based on previous work with this population, it is known that juvenile delinquents' worldview consists of values and standards characteristic of the criminal world (e.g. vindictiveness, aggressiveness, dishonesty, aspiration for quick pleasure, beliefs that one should not cooperate with the police or plead guilty (Poznaniak, 1982; Szałański, 1993). Therefore, we feel comfortable identifying the subculture of juvenile delinquents as an example of a group holding worldviews counter to the majority. If MS increases identification with the values typical for the criminal subculture and decreases identification with values inconsistent with the cultural worldview, we can infer that the individual worldview is more effective in reducing death anxiety. Conversely, if MS increases juvenile delinquents' affirmation of the cultural values and decreases the affirmation of criminal values decreased, it can be assumed that only beliefs consistent with the mainstream worldview have the effect of reducing death anxiety.

The present research examines the relationship between death anxiety and selected aspects of the worldview of juvenile delinquents. To address elements identified as important to a person's worldview (Koltko-Rivera, 2004; Mądrzycki, 1996), we looked at several variables including the level of endorsement of 1) mainstream cultural values, 2) subcultural values, 3) beliefs in a just world, and 4) beliefs about human nature. These aspects of the cultural worldview were selected based on beliefs proven to be important to the anxiety buffering system in terror management research (e.g. Greenberg et al., 1990; Hirschberger, 2006; Landau et al., 2004). The classification

of cultural and subcultural values and standards was based on results from a survey in Poland concerning the differences in values of well-adjusted youth and youth with adjustment disorder (Poznaniak, 1982; Szałański, 1993). We followed Lerner's (1980) general approach to defining belief in a just world as the general conviction that people receive what they deserve and deserve what they receive. Finally, our conceptualization of beliefs in human nature was based on Wrightsman's (1992) dimensions of human nature involving beliefs that humans are generally helpful whenever it is necessary, supportive, not egoistic, moral, honest, and rational.

### Research Hypotheses

The above review of existing research, showing that in certain circumstances personal values (not the cultural worldview) help buffer against death anxiety, has been used here to illustrate an inconsistency between the results and TMT hypotheses. We do not consider the results to be evident enough to propose a hypothesis predicting that young offenders staying in residential reformatories identify with the criminal subcultural worldview. However, the results tend to inspire hypotheses which are in line with TMT but concern terror management processes among a group having a worldview to some extent or in some respect different from the mainstream view. We aimed to address four research questions. First, we examined juvenile delinquents' endorsement of cultural and subcultural values. TMT research suggests that following MS, participants given feedback that they were strongly non-conformist tended to express views in line with mainstream society (Simon, Greenberg, Arndt, Pyszczynski, Clement, & Solomon, 1997), suggesting that despite non-conformists' general aversion to mainstream culture, the cultural worldview is still an effective shield from existential anxiety. In a related vein, mildly depressed individuals reported increased worldview defense following reminders of death (Simon, Greenberg, Harmon-Jones, Solomon & Pyszczynski, 1996), indicating that even though they were generally less prone to identify with the cultural worldview, they still sought the shelter of the worldview when confronted with mortality. Based on these findings, we predict that juvenile delinquents reminded of death will display increased identification with the mainstream worldview and decreased endorsement of the criminal worldview.

With our second hypothesis, we address whether MS impacts belief in a just world among juvenile delinquents serving sentences in reformatories. The belief in a just world indicates the conviction that good, moral people will experience positive outcomes, while those who are immoral will experience negative outcomes; this is also accompanied by a greater sense of stability and control of one's surroundings (Lerner, 1980). Little is known about these beliefs among juvenile delinquents. Perhaps

situational circumstances, such as confinement to a reformatory, have led this group to view the world as an unjust place. However, Czapiński (1994) suggests that people cannot accept evil, and feel more comfortable viewing the world as just. Furthermore, previous research with Israeli and American students indicates that MS reminders increase the tendency to interpret information in a way supportive of the existence of a just world (e.g. Hirschberger, 2006; Landau et al., 2004). Therefore, we predict that death-related reminders will lead to increased belief in a just world.

Our third hypothesis concerns general assumptions about human nature, which are related to the belief in a just world because the perception of other people as good or bad is associated to the perception that the world is just or unjust. Therefore, we examine the effects of MS on assumptions about human nature, as these beliefs may be a form of defense against death-related anxiety. Whether one is part of mainstream culture or not, it seems that when threatened, it is psychologically beneficial to hold benevolent views of fellow man. Therefore, we predict that MS will increase positive views of human nature.

Finally, as suggested by the presented hypotheses, we predict that defense of the mainstream cultural worldview will be a more effective way to reduce death-related anxiety compared to subcultural worldview defense. To provide additional support for these hypotheses, the relationship between these elements of the cultural worldview and state anxiety will also be examined. If state anxiety is negatively correlated with mainstream worldview defense and beliefs in a just world and good human nature among participants reminded of mortality, it can be assumed that engaging in worldview defense assists in the reduction of death anxiety. Additionally, if state anxiety is positively correlated with support of subcultural values among participants reminded of mortality, it can be assumed that rejection of the subcultural worldview is a form of defense, further indicating that subcultural values do not serve as an effective buffer against death-related anxiety for people identifying with that subculture. If the hypothesized correlations exist, we cannot infer causality but will have further support for the suggestion that mainstream cultural beliefs are effective anxiety buffers, even among individuals associated with subcultural values.

## Method

### Participants

Participants were recruited from six residential reformatories for juvenile delinquents; all reformatories were in Poland. Participants ranged in age from 17 to 21 years ( $M = 18.70$ ), including 34 females and 199 males. They were randomly chosen – every  $k$ th person, whereas

reformatories were carefully selected. We aimed to select reformatories similar in terms of discipline imposed, and age and level of depravation of offenders. Therefore, we decided on open custody facilities, whose residents did not qualify to be placed in open youth care institutions but still received and could respond to educational and rehabilitation programs. The study was conducted by participants in a doctoral seminar concerning the problems of emotions including death anxiety.

### Procedure

Participants completed questionnaires in small groups of 6 to 10 people at the reformatories where they resided. Participation was voluntary and did not involve compensation. The study was presented as an investigation of attitudes toward a variety of social phenomena.

Participants completed a short version of the State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lusene, 1970), adapted in Polish by Wrześniewski and Sosnowski (1987). This assessment of trait anxiety was included to control for pre-existing individual differences in level of anxiety. Past research indicates that there is a strong correlation between overall anxiety and death anxiety (Brewer, 2002); therefore, people characterized by higher levels of trait anxiety may have stronger reactions to MS manipulations.

Following the STAI, participants were randomly assigned to either the MS, dental pain (DP), or control condition. Several methods have been used to induce death-thought accessibility (e.g. true-false or open-ended questions about one's own mortality, subliminal priming of death-related words, viewing videos depicting death and dying, and proximity to a funeral home). In the current MS condition, participants first looked at four pictures presenting scenes of death and dying; they were then asked to write down five thoughts which come to mind when imagining the experience of their own death. The effectiveness of mortality salience manipulation had been earlier tested in a pilot study involving a different group of 120 students from state schools of secondary education. In the DP condition, participants first looked at four pictures presenting dental tools and the procedure of pulling out a tooth; they were then asked to write down five thoughts which come to mind when imagining the experience of a painful dental procedure. Reminders of DP are unpleasant but unrelated to mortality; therefore this group represents an aversive control, which allows us to infer that reactions to MS are specific to mortality-related concerns and not simply a response to thinking about a negative experience (examples of other aversive control topics used in TMT studies include thinking about an upcoming exam, physical pain, social exclusion, and paralysis, to name a few). The final group represents a true control in which participants are not reminded of any aversive or pleasant topics. Based

on the tenets of TMT, the two control conditions should not differ because the defensive responses observed in these studies are specific to reminders of death.

Next, participants completed the Landolt C rings test (Potocki, 1992), consisting of 24 pictures of Landolt rings (circles with a large, single gap along the circumference, corresponding with an hour on a clock face). To complete the task, participants write down the time indicated by the gaps. This task was included to divert participants' attention from the primes. Previous research suggests that a 4 to 5 min period of delay and distraction is necessary to observe MS effects, which allows thoughts of mortality to leave focal attention (Greenberg, Arndt, Simon, Pyszczynski, & Solomon, 2000).

Following the distracter task, participants completed questionnaires covering the dependent variables. These questionnaires were completed in the following order: cultural and subcultural values, beliefs in a just world, and beliefs in human nature.

The assessment of identification with cultural and subcultural values and standards was developed specifically for the present study and consisted of 20 items: 10 referring to mainstream cultural values (e.g. "I return borrowed things even if the person who lent them to me does not ask me to do this") and 10 items referring to subcultural values (e.g. "I do not cooperate with the police even if I am a crime witness"). For both, 7-point scales (1 = I definitely disagree to 7 = I definitely agree) were used. Higher scores indicating greater support for the mainstream or subcultural views. Cronbach's alpha reliability coefficient for the cultural and subcultural worldview scales was .81 and .83 respectively. The questionnaire used to measure the cultural and subcultural values and standards is presented in the appendix.

To assess beliefs in a just world, the Just World Belief Questionnaire (Skrzypińska, 2002) was used. Although not a direct translation of Lerner's scale, this questionnaire is based on Lerner's theory of a just world (e.g. "Many people in the world suffer, although they do not deserve to"). The 10 item questionnaire used a 7-point scale (1 = I definitely disagree to 7 = I definitely agree), creating total scores ranging from 10 to 70, with higher scores suggesting greater endorsement of beliefs in a just world. Cronbach's reliability alpha coefficient for the questionnaire was .66.

Next, participants completed a questionnaire regarding beliefs about human nature (Skrzypińska, 2002). This 20-item questionnaire examining beliefs about the nature of humanity (e.g. "People are envious and do not like it when someone else succeeds") also used a 7-point scale (1 = I definitely disagree to 7 = I definitely agree), creating total scores ranging from 20 to 140, with higher scores indicating more positive assumptions about human nature. The reliability of the questionnaire was satisfactory (Cronbach's alpha = .90). Finally, participants completed

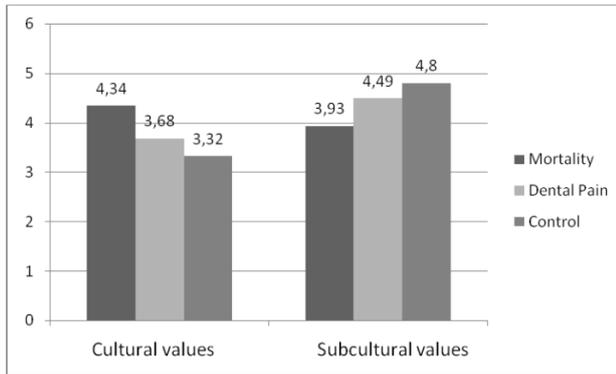


Figure 1. Affirmation of cultural and subcultural values.

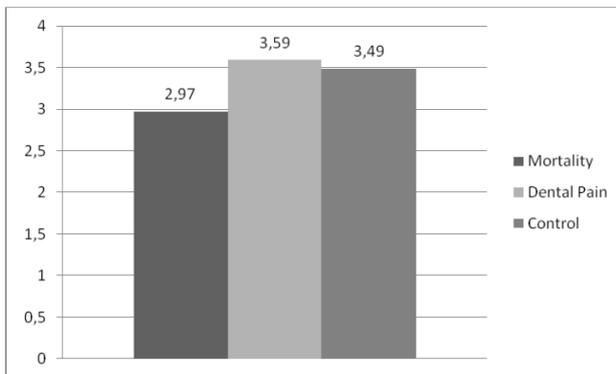


Figure 2. Belief in a just world.

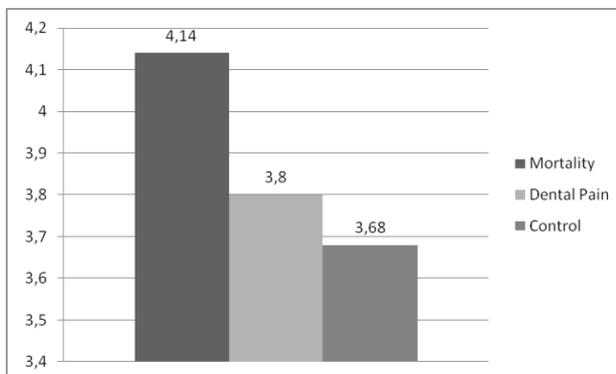


Figure 3. Assumptions about human nature.

Polish version of the STAI assessing state anxiety level. After finishing questionnaire packets, participants were thoroughly debriefed about the true purpose of the study and provided with the opportunity to ask questions about the research.

## Results and Discussion

One way analysis of variance (ANOVA) was used in the present analyses, comparing the three levels of the independent variable: MS, DP, and control. Because participant gender did not significantly impact results, this variable was not included in the reported analyses. Additionally, trait anxiety assessed prior to priming

condition did not differ significantly between the three groups,  $F(2, 223) = 2.54, p < .09$ . Sheffe's post-hoc analyses indicate that the three groups did not significantly differ in reported trait anxiety,  $p's > .10$ .

### Affirmation of cultural and subcultural values

For items regarding mainstream cultural values, ANOVA confirmed that priming condition significantly influenced responses,  $F(2, 219) = 16.75, p < .01$ . Participants primed with MS were characterized by the strongest level of identification with the mainstream cultural worldview ( $M = 4.34, SD = 1.12$ ), which was significantly higher than both the DP ( $M = 3.68, SD = 1.06$ ) and control conditions ( $M = 3.32, SD = 1.11$ ),  $p's < .01$ . The two control conditions did not statistically differ,  $p = .20$ . See Figure 1.

The pattern for the affirmation of subcultural values was reversed. On a measure of endorsement of subcultural values, priming condition significantly influenced responses,  $F(2, 216) = 8.28, p < .01$ . Participants in the MS condition reported significantly lower identification with the values and standards of juvenile delinquents ( $M = 3.93, SD = 1.38$ ) than participants in the DP ( $M = 4.49, SD = 1.27$ ) and control groups ( $M = 4.8, SD = 1.31$ ),  $p's < .05$ . The two control conditions did not differ significantly,  $p = .40$ .

### Belief in a Just World

On a measure of belief in a just world, a significant effect for priming condition emerged,  $F(2, 219) = 4.43, p = .01$ . Participants in the MS condition ( $M = 2.97, SD = 1.17$ ) reported weaker belief in a just world compared to the DP ( $M = 3.59, SD = 1.57$ ) and control conditions ( $M = 3.49, SD = 1.37$ ),  $p's < .05$ . The DP and control conditions did not differ,  $p = .87$ . See Figure 2. Although these results do not support our hypothesis in its original form, we believe the results are consistent with TMT due to cultural differences in Polish individuals' belief in a just world. This will be addressed in greater detail in the discussion section.

### Assumptions about Human Nature

Responses on a questionnaire regarding assumptions about human nature, participants also varied according to priming condition,  $F(2, 219) = 6.35, p < .01$ . Participants in the MS condition reported significantly stronger beliefs in the goodness of humanity ( $M = 4.14, SD = 0.88$ ) compared to those in the DP ( $M = 3.8, SD = 0.71$ ) and control conditions ( $M = 3.68, SD = 0.78$ ),  $p's < .01$ . The DP and control groups did not differ,  $p = .47$ . See Figure 3.

### The Relationship between State Anxiety and Worldview Defense

In testing our final hypothesis concerning the relationship between state anxiety and worldview defense, we used correlation and regression analyses. We examined how state anxiety correlated with the examined aspects

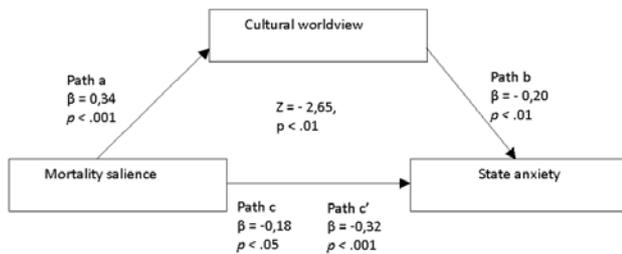


Figure 4. Mediating role of cultural worldview.

of cultural and subcultural worldviews among juvenile delinquents. We predicted that among participants in the MS condition, the correlation between state anxiety and cultural worldview defense would be negative and that the correlation between state anxiety and the subcultural worldview would be positive. These predictions were largely confirmed. In the MS group, state anxiety was negatively correlated with the affirmation of the cultural values and standards ( $r = -.58$ ,  $\beta = -.07$ ) and belief in good human nature ( $r = -.42$ ,  $\beta = -.42$ ), while it was positively correlated with trait anxiety ( $r = .59$ ,  $\beta = .50$ ) and affirmation of subcultural values and standards ( $r = .31$ ,  $\beta = .13$ ),  $p$ 's  $< .05$ . Belief in a just world did not correlate with state anxiety ( $r = .16$ ,  $\beta = .03$ ). Although the existence of correlations does not allow for conclusions about causality, based on the order of presentation of materials, it is more probable that worldview elements influenced state anxiety than vice versa. It appears that as a result of the increased identification with the cultural worldview as experienced following MS, participants experienced less state anxiety. In order to provide additional support for these conclusions, we also conducted a regression analysis, which indicated that the strongest predictors of state anxiety were trait anxiety ( $\beta = .50$ ), positive assumptions about the nature of humanity ( $\beta = -.42$ ) and subcultural worldview ( $\beta = .13$ ). The other factors, i.e. belief in a just world and cultural worldview did not prove to significantly predict state anxiety. Presented statistical methods indicated that among participants reminded of mortality, state anxiety was negatively correlated with the affirmation of cultural values, belief in a just world, and belief in the good nature of humans, while it was positively correlated with trait anxiety and affirmation of subcultural values, thus confirming our final hypothesis.

In order to examine whether cultural worldview defense reduces death anxiety, we compared the level of state anxiety among those in the MS condition to those in the control conditions. According to TMT, reminders of mortality create the potential for existential anxiety, which leads people to cultural worldview defense as an anxiety buffer. If the identification with socially approved values is indeed a buffer against the potential for death anxiety, participants in the MS condition should be characterized by a lower level of state anxiety compared to participants in the control conditions. Statistical analyses confirmed

these assumptions,  $F(2, 209) = 3.57$ ,  $p < .03$ . Participants in the MS condition were characterized by generally lower state anxiety ( $M = 4.33$ ,  $SD = .91$ ) than participants in the DP ( $M = 4.75$ ,  $SD = 1.06$ ,  $p = .06$ ), and control conditions ( $M = 4.68$ ,  $SD = .90$ ,  $p = .10$ ). Those in the two control conditions did not differ,  $p = .95$ . Although this trend did not reach significance, it was especially interesting because the groups did not significantly differ in assessments of trait anxiety assessed prior to priming condition.

### Mediational Analysis

To determine whether the relationship between MS and state anxiety was mediated by cultural worldview defense, we conducted mediational analyses, as recommended by Baron and Kenny (1986). These analyses involved four steps: 1) MS must predict state anxiety, 2) MS must predict worldview defense, 3) worldview defense must predict state anxiety, and 4) the relationship between MS and state anxiety must be significantly reduced or eliminated when the variance due to worldview defense is removed. A Sobel test was used to determine whether the addition of worldview defense significantly reduces the effect of MS on state anxiety.

Regression analyses indicated that state anxiety was predicted by MS ( $\beta = -.18$ ,  $p = .01$ ,  $R^2 = .03$ ). The mediator, in this case the endorsement of mainstream cultural values, was also predicted by MS ( $\beta = .34$ ,  $p < .01$ ,  $R^2 = .12$ ), and cultural worldview defense predicted reported state anxiety ( $\beta = -.20$ ,  $p < .01$ ,  $R^2 = .04$ ). Additionally, after controlling for cultural worldview defense, MS was no longer a significant predictor of state anxiety,  $p = .08$ . A Sobel test ( $Z = -2.65$ ,  $p = .01$ ) indicated that the change was significant, suggesting that MS effects were partially mediated by worldview defense, as assessed by a measure of the endorsement of mainstream cultural values. A reverse mediation analysis with state anxiety as the mediator and mainstream worldview defense as the dependent variable revealed that MS was a significant predictor of cultural worldview defense when controlling for state anxiety, ( $\beta = .32$ ,  $p < .01$ ,  $R^2 = .14$ ), thus supporting the suggestion that cultural worldview defense mediated MS effects on state anxiety rather than vice versa. See Figure 4.

### Discussion

The present study aimed to investigate which worldview – the cultural or subcultural – was affirmed by socially maladjusted persons when confronted with death-related anxiety. The results obtained revealed that mortality salience led juvenile delinquents to turn to generally approved standards and values and to distance themselves from the standards and values endorsed by the criminal subculture (H1). The study also confirmed

that they displayed increased positive assumptions about human nature (H3) when compared to participants in the control conditions. The research showed, however, that contrary to what we proposed in hypothesis 2, reminders of mortality negatively affected belief in a just world instead of increasing it. Although the results appeared to disprove our hypothesis, we still find it consistent with TMT. We assumed that juvenile delinquents staying in reformatories follow subcultural standards as those are more important to them than cultural standards. However, the participants were living in open custody type of reformatories, were relatively young and while being in conflict with the law, they did not serve very severe sentences. Hence, it could be assumed that juvenile delinquents participating in the study still upheld many cultural standards, which provided protection in the face of death-related anxiety. Additionally, several Polish studies (e.g. Doliński, 1991; Czapiński, 1998; Wojciszke & Grzelak, 1995; Skrzyńska, 2002) revealed more negative assumptions about just world among Poles. Thus, if we assume that belief in an unjust world is a norm for this culture, then the results pertaining to hypothesis 2 can be considered consistent with TMT, which posits that when confronted with mortality, juvenile delinquents tend to seek protection in the socially approved values. What is more, our studies showed that state level anxiety, assessed after the opportunity to identify with the worldview, tended to be lower in the MS group compared to the two control groups (H4), although the level of trait anxiety assessed prior to experimental manipulation did not differ among the three groups. These results indicate that participants confronted with death-related concerns effectively neutralized the potential for anxiety. The mediating role of the cultural worldview in the relation between MS manipulations and state anxiety was further supported by mediational analysis.

The interpretation of results can lead to the statement that the cultural worldview is more likely to effectively reduce death anxiety than the subcultural worldview, even among those who deviate from mainstream cultural standards in everyday life. Participant in the MS condition who identified with cultural values displayed better terror management than those affirming standards and values of the criminal subculture. Thus, it appears that the values and standards of the criminal subculture do not provide an adequate anxiety buffer when reminded of death, or reduce death-related anxiety to a smaller extent than the mainstream cultural worldview. Consequently, an assumption could be made that the vital element in the process of terror management is not only the worldview (cultural vs subcultural) but its underlying ideas and beliefs. In other words, part of juvenile delinquents may put value in the fact that they did not get caught stealing, while for others value lies in the belief that it is not right to steal. Thus, both groups build their self-esteem on different values.

Considering the fact that participants in the study were not thoroughly corrupt, we can assume that the majority who violated the law wished to bear responsibility for that and become part of the society again. When confronted with mortality, those individuals will turn to the worldview endorsed by the culture they originated from. We assume that most participants in the study came from communities for which the norm was to observe the law, but various life circumstances or poor internalization of those values led those individuals to be sent to reformatories. It should be noted that it is not the norm itself or its moral assessment but the level of internalization which affects the effectiveness of terror management. Despite committing an offence, juvenile delinquents from open custody reformatories, could be still socially rehabilitated. Some of them may seek reintegration in the society and continue to base their self-esteem on the mainstream standards and values that they endorsed in the rehabilitation process and not on the standards and values of the criminal subculture. Therefore, when reminded of death, they tend to turn to those values. A clear answer to the question whether the minority (e.g. subcultural) worldview can also help effectively reduce death anxiety would require additional research involving groups selected on the basis of more specific subculture-relating criteria, e.g. kite-flying habitual offenders with heavy sentences or minority groups rejected or hardly tolerated by the mainstream culture.

#### Limitations and Directions for Future Research

There are certain limitations to the present study. First, on the basis of one subcultural group, one cannot, of course, conclude how other groups outside the mainstream (e.g. religious, ethnic or sexual minorities) deal with death-related concerns. Juvenile delinquents' values, social standards and assumptions about the world and human nature are not necessarily considered representative of the beliefs of other minority groups. Therefore, additional research is needed concerning terror management mechanisms among other social minorities (e.g. Roms, homosexuals, homeless or HIV-positive persons). Ideally, they should hold minority views in relation to worldview standards subject to assessment. Such approach would require different assessment tools. The assessment instruments would have to investigate what specific standards and values different social groups tend to endorse in confrontation with MS and not only if the level of belief in a just world and human nature changes.

Apart from the study of other social minorities (Roms, homosexuals or religious minorities) and their terror management mechanisms (identification with the cultural vs subcultural worldview, poorly vs. strongly internalized) another direction of further research can be suggested. It may be fruitful to conduct research concerning the potential benefits of incorporating thanatical fears in youth

rehabilitation programs. If thinking about death leads to greater acceptance of cultural values and standards and to distancing from subcultural values and standards, reformatory programs may benefit from incorporating reflections on the sense of human life and death, and life after death. Research on this topic should also explore whether MS, beyond short-lived opinion change, can also influence juvenile delinquents' behaviour (e.g. reduce aggressive behavior or their criminal subculture related behavior) on a long-term basis. As stated above in the discussion, we have no knowledge on whether the participants were an anti-social group or whether they were a minority isolated from the society but still affirming some of the mainstream standards and values. It is difficult to predict how more corrupt notorious criminals would respond to death-related issues. In a similar vein, the durability of the opinion change is another issue worthy of further examination to determine whether a more lasting change of worldview elements as a result of the aforementioned existential reflections is possible. These topics for research are especially pertinent to juvenile delinquents with poorly specified values and weakly internalized standards. Provided the answers to the above questions prove positive, then the use of mortality-related themes could have a significant impact on the education and rehabilitation of juvenile delinquents.

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## APPENDIX

### BEHAVIOURS QUESTIONNAIRE

INSTRUCTIONS: This questionnaire consists of 20 items. Read each of them and put a circle around the response which best describes how you think. Make sure that you have circled the response for the appropriate item.

Circle as appropriate:

- 1 – definitely disagree or item is completely not true
- 2 – disagree or item is not true
- 3 – slightly disagree or item is rather not true
- 4 – hard to say or neither agree nor disagree
- 5 – slightly agree or item is rather true
- 6 – agree or item is true
- 7 – definitely agree or item is completely true

1	I have every right to lie to other people if it is to my benefit	1	2	3	4	5	6	7
2	I do not cooperate with the police even if I am a crime witness	1	2	3	4	5	6	7
3	I care about other people's things as about my own	1	2	3	4	5	6	7
4	If I dislike somebody, it is OK for me to wish them ill	1	2	3	4	5	6	7
5	I discourage other people from doing things that can be dangerous to them, e.g. taking drugs	1	2	3	4	5	6	7
6	I usually admit to the things I have done	1	2	3	4	5	6	7
7	It is OK for me to beat up a person who is getting in the way of my goals	1	2	3	4	5	6	7
8	I will achieve prosperity through hard and honest work	1	2	3	4	5	6	7
9	I often help other people no matter what effort I have to make	1	2	3	4	5	6	7
10	If somebody has caused harm to me I aim to take revenge on them	1	2	3	4	5	6	7
11	I usually stand up for a weak person if others are doing them harm	1	2	3	4	5	6	7
12	I will give false testimony before the court if this was to protect my friend	1	2	3	4	5	6	7
13	I do not resolve conflicts with other people by force	1	2	3	4	5	6	7
14	I do not steal even if the theft cannot be discovered	1	2	3	4	5	6	7

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15	When somebody is getting on my nerves I have every right to hit them	1	2	3	4	5	6	7
16	I admire those who, when being questioned by the police, do not rat on their mates	1	2	3	4	5	6	7
17	I return borrowed things even if the person who lent them to me does not ask me to do this	1	2	3	4	5	6	7
18	If somebody is weaker than me, I can use them to my own advantage	1	2	3	4	5	6	7
19	When I find a valuable thing that belongs to somebody else, I try to give it back	1	2	3	4	5	6	7
20	If somebody is not nice I have every right to talk about them behind their backs	1	2	3	4	5	6	7

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