A Terror Management Analysis of the Psychological Functions of Religion

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Abstract

From a terror management theory (TMT) perspective, religion serves to manage the potential terror engendered by the uniquely human awareness of death by affording a sense of psychological security and hope of immortality. Although secular beliefs can also serve a terror management function, religious beliefs are particularly well suited to mitigate death anxiety because they are all encompassing, rely on concepts that are not easily disconfirmed, and promise literal immortality. Research is reviewed demonstrating that mortality salience produces increased belief in afterlife, supernatural agency, human ascension from nature, and spiritual distinctions between mind and body. The social costs and benefits of religious beliefs are considered and compared to those of secular worldviews. The terror management functions of, and benefits and costs associated with, different types of religious orientation, such as intrinsic religiosity, quest, and religious fundamentalism, are then examined. Finally, the TMT analysis is compared to other accounts of religion.

> Fear, first of all, produced gods in the world.
>
> Statius (45–96 A.D.)

Religion is a universal and uniquely human endeavor. Religions are belief systems that suppose the existence of supernatural entities capable of effecting changes in the natural world (Boyer, 2001) and typically serve as gatekeepers to life after death.[1] The archeological record shows that ritual burials with items suggestive of afterlife beliefs appeared at the same time as modern humans, during the "cultural big bang" 40,000 to 60,000 years ago (Mithen, 1996). Over the course of human history, people have held a vast array of religious beliefs, ranging from polytheistic totemism to monotheistic deities, although the specific nature of these supernatural entities and afterlives vary considerably across cultures and time. Despite Nietzsche's (1887/1974) famous 19th-century declaration that "God is dead" and the scientific and technological advances of the 20th century that provide more compelling explanations for natural phenomena, religious beliefs continue to influence human behavior throughout the world. As Edmund Burke (1790/2001, p. 239) put it, "Man is by constitution a religious animal."

Given the ubiquitous role of religion in human affairs, what are the psychological functions of religion? Some argue that religion serves no psychological functions in and of itself; rather, it is an adaptation that fosters social solidarity and coordinates social behavior for group benefit (Durkheim, 1912/1995; Sloan-Wilson, 2002). Others argue that religion serves no psychological or sociological functions at all; rather, religious beliefs are incidental byproducts of other adaptive cognitive processes (e.g., agent detection, theory of mind; attachment; Bloom, 2005; Boyer, 2001; Kirkpatrick, 2004). Religious beliefs have also been characterized as "memes," nongenetic entities that parasitize human minds to replicate themselves, often at great expense to their hosts (Dawkins, 1976). Marx (1843), Freud (1927), and more recently Sam Harris (2004), Richard Dawkins (2006), and Christopher Hitchens (2007) have argued that religion is an infantile psychopathology that is responsible for many of the world's evils.

Others (e.g., Becker, 1973; Burkert, 1996) have posited that religion serves to address existential concerns that inevitably arise as a result of humankind's awareness of their mortality. Terror management theory (TMT; Greenberg,

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Pyszczynski, & Solomon, 1986) follows in this tradition of construing religious belief as a solution to the persistent and pervasive problem of death. TMT helps explain *why* people develop and maintain religious beliefs, *how* various religious orientations differentially address universal existential concerns, and *what* the social costs and benefits of religion are. Although religious and secular beliefs bear many similarities, religious worldviews provide a uniquely powerful form of existential security. Indeed, there may be no antidote to the human fear of death quite like religion.

TMT and the Ideology of Immortality

> As long as we are not assured of immortality, we shall never be fulfilled. (Eugene Ionesco)

TMT (Greenberg et al., 1986), building on the ideas of Ernest Becker (1962, 1973) and Otto Rank (1936/1950), posits that an especially important function of religious beliefs is to quell the potentially overwhelming terror that results from human awareness of death. Only human beings are aware of their own existence and able to ponder the past, imagine possible futures, and conceive of things that do not presently exist and transform these figments of their imagination into concrete reality. Although highly adaptive, these capabilities produced the problem of awareness that death is inevitable and can occur at any time for a multitude of unpredictable and uncontrollable reasons. These unsettling realizations make humans prone to debilitating terror that could undermine their capacity for effective instrumental behavior and consequently reduce their reproductive fitness.

According to TMT, humans responded to the problem of death (unconsciously) by creating or modifying existing cultural worldviews to help them manage their anxiety. As humankind began using their newly evolved cognitive abilities to understand their surroundings, the emerging awareness of death made belief systems that denied the finality of death especially appealing, more likely to be communicated to others, and accepted by groups of people as codified cultural knowledge.

For most of human history and for the most humans today, successful worldviews embed individuals in conceptions of reality that promise literal immortality, as in beliefs regarding heaven, paradise, reincarnation, or some form of consciousness persisting after death that are found in virtually all religions (Burkert, 1996). Hope of transcending death is provided by cosmologies that include a spiritual dimension in which life could continue after death, deities that oversee this dimension and serve its gatekeepers, and prescriptions for valued behavior and characteristics that render one qualified to enter this eternal domain. One's value as a human being, and thus one's worthiness for immortality, depends on believing in and living up to the standards of value prescribed by one's cultural worldview.[2] This sense of value, which is referred to as virtue or grace in religious discussions and as self-esteem in psychological ones, enables people to manage the potential anxiety caused by awareness of the inevitability of death and thereby live with relative equanimity.

Cultural worldviews and self-esteem also provide symbolic immortality, whereby people construe themselves as valuable and enduring parts of an eternal natural or social entity greater than themselves. Symbolic immortality can be achieved in a variety of ways—including producing children or enduring cultural contributions such works of art, producing scientific advancements, producing successful commerce and industry, amassing great fortunes—that will persist after one's demise. On a more modest scale, symbolic immortality is attained by believing one will be remembered fondly by family and friends after death. The motivation underlying the pursuit of both literal and symbolic immortality is the same: denying that death entails absolute self-annihilation.

Religions provide literal immortality, via the afterlife beliefs they promote, and symbolic immortality, via the community of believers to which people belong. Both types of immortality depend on living up to the moral values of one's worldview. The spiritual dimension that makes immortality possible is also useful in that it affords a sense of control over practical problems associated with staying alive. Believing in omnipotent gods affords an all-encompassing view of reality that explains everything and enables people to believe they can control their surroundings (including uncontrollable events) by currying favor with beings more powerful than themselves who can do things they themselves cannot. Thus, in addition to ensuring an afterlife, devotion to deities also helps people believe that the things they need to stay alive—such as food, rain, protection from predators, and malevolent other humans—can be obtained.

Empirical Evidence for TMT

A large body of research (reviewed in Greenberg, Solomon, & Arndt, 2008) supports the basic propositions of TMT. These studies have shown that when one's self-esteem or worldview is threatened, death thought accessibility (DTA) increases; other studies have shown that boosting self-esteem or faith in one's worldview decreases the accessibility of such thoughts and reduces anxiety (e.g., Harmon-Jones et al., 1997). The most commonly tested derivation from TMT is the mortality salience (MS) hypothesis: Reminders of death should increase striving for the protection provided by one's cultural worldview and self-esteem. These studies show that MS typically increases positive reactions to worldview-supportive others and hostile reactions to worldview-threatening others (e.g., punitiveness toward those who violate cultural norms, in-group favoritism, reverence for cultural symbols, and liking for charismatic leaders who proclaim the superiority of one's culture). Various control

conditions, including pain, failure, uncertainty, social isolation, paralysis, and meaninglessness, do not produce the same effects as a MS induction. Other studies have demonstrated that DTA increases when one's self-esteem or worldview is threatened. In addition, boosting self-esteem or faith in one's worldview decreases DTA and reduces worldview defense in response to MS.

Empirical Evidence for the Existential Function of Religion

People who believe in an afterlife become more confident in its existence after being reminded of death (Osarchuk & Tatz, 1973; Schoenrade, 1989). In addition, MS increases self-reported anxiety when participants use a revered religious symbol, a crucifix, in a disrespectful fashion (Greenberg, Simon, Porteus, Pyszczynski, & Solomon, 1995), and challenges to religious beliefs, in the form of information about inconsistencies in the Bible or arguments supporting evolutionary theory, increase death-related but not other types of negative thoughts among religiously devout persons (Friedman & Rholes, 2007; Schimel, Hayes, Williams, & Jahrig, 2007). Research has also shown that presenting people with ostensible scientific evidence for an afterlife eliminates worldview defense and self-esteem bolstering in response to MS (Dechesne et al., 2003).

Death reminders also increase faith in supernatural agents. Specifically, MS increased the impact of articles providing purported evidence for the efficacy of prayer to the Christian God, Buddha, or shamanic spirits on faith in each of these supernatural agents, among those who believed in God but not among nonbelievers (Norenzayan & Hansen, 2006). From our perspective, MS increases the appeal of supernatural agents foreign to one's own worldview because their existence makes faith in one's own deity more plausible. Indeed, we suspect that many people view the deities of other cultures as different manifestations of their own God. Although other theorists (e.g., Sloan-Wilson, 2002; Wright, 2009) emphasize the value of supernatural agents for maximizing material outcomes that facilitate physical survival—and this is surely *part* of their appeal—TMT posits that supernatural agents are important and alluring aspects of religion because they serve as gatekeepers to an afterlife. Theories that construe supernatural agents as providing perceptions of control over only earthly affairs cannot explain the ubiquitous nature of afterlives in virtually all religions.

In addition, religions, and the supernatural realms and afterlives that come with them, separate us from our animal nature. Like other animals, humans are ensconced in physical bodies that break, bleed, secrete waste, and deteriorate. These creaturely aspects of human bodies present a problematic reminder of the inevitability of death. Consistent with this notion, DTA increases following exposure to creaturely aspects of human nature, such as disgusting body products

(e.g., urine, excrement; Cox, Goldenberg, Pyszczynski, & Weise, 2007) or disease (Arndt, Cook, Goldenberg, & Cox, 2007). Believing ourselves to be spiritual beings with the potential of becoming part of an eternal dimension free of natural laws is perhaps the most straightforward way of escaping our mortal and corporeal nature. Believing in a God who created humans in his own image and gave them "dominion over all living things" elevates our species above the rest of the natural world. Accordingly, MS increases preference for an article emphasizing the unique ascendancy of humanity over other animals (Goldenberg et al., 2001), and spiritually oriented people respond to MS by increasing the distinction between their bodies and selves (Goldenberg & Hart, 2009). Similarly, heightened awareness of death leads religious fundamentalists to increase their sense of disconnection from the natural world (Vess & Arndt, 2009). In a related vein, participants expressed increased desire to fly after reminders of death and engaging in flight fantasy eliminated defensive reactions to MS (Cohen et al., 2009), suggesting that humankind's ubiquitous fantasies of flight serve a terror management function by denying our physical limitations.

These studies provide converging support for the TMT view that a major function of religion is to help people cope with the problem of death. Although we agree with theorists who argue that religion does other things for people, such as providing understanding of the world in which they live, a sense of control over both controllable and uncontrollable events, and enhanced social solidarity, theories that ignore the death-denying function of religions are unable to account for the findings reviewed above. Indeed, belief in an afterlife controlled by an all-powerful deity helps religion serve these other functions (Diamond, 1997).

The Social Nature of Faith

Because cultural worldviews, including their religious elements, are humanly created concepts for which there is no concrete proof, faith in them depends heavily on consensual validation from others. When others share one's worldview, it implies that it is correct and valid; when others reject one's worldview or hold alternative beliefs, it implies that one's worldview might be wrong. Consensual validation of religious beliefs from others may be especially important because religious beliefs tend to run counter to direct experience. Gods and spirits are, by their nature, generally invisible and always ineffable. Religious faith involves accepting and attaching great value to things that can neither be seen nor verified directly.

The need for social validation of death-denying beliefs helps explain why hostility and violence are so often directed toward those with different religious beliefs. By garnering support for their beliefs from others, people can feel more certain that their beliefs are correct; similarly, people can

augment the perceived validity of their own worldview by derogating, converting, or annihilating followers of competing ways of life. Initial support for the idea that religious conflicts are at least partly rooted in protection from death-related fear comes from research showing that reminding Christians of their mortality led them to evaluate a Jewish person more harshly and more stereotypically (Greenberg et al., 1990). In addition, attending religious services, an indication of striving for consensual validation of one's religious belief, is strongly related to violent defense of one's worldview through support for terrorism (Ginges, Hansen, & Norenzayan, 2009). Other recent research has shown that Iranian students in a benign state of mind strongly preferred a fellow student who argued that his goal in life was to make the world understand that Islam is a peaceful religion. However, when reminded of death, these same students shifted their preference to a fellow student who advocated martyrdom missions to kill Americans in the name of Allah (Pyszczynski, Abdollahi, et al., 2006). And among Israeli settlers in formerly Palestinian territories and Israeli students, those high in denial regarding the 2006 Israeli withdrawal from Gaza viewed violence against the Palestinians as more justified after being reminded of death (Hirschberger & Ein-dor, 2006).

Extending these findings, Hayes, Schimel, and Williams (2008) presented one group of Christian participants with a neutral control topic, a second with a threat to their worldview (the Islamization of Nazareth), and a third with this worldview threat plus information about a plane crash that killed a group of devout Muslims. Participants in the threat-only condition showed both increased DTA and hostile worldview defense, but participants in the Muslims-killed condition showed neither. These findings suggest that the death of out-group members alleviates death anxiety and the defensive responses that it otherwise generates. From early tribal wars, through the Crusades and Inquisitions of the Middle Ages, to the current conflicts in the Middle East, Central Asia, and elsewhere, disputes about religion have resulted in the death of millions. Research by Monica Toft (2007) suggests that religious wars are more common than secular ones, more brutal, and more likely to recur. These studies provide converging evidence for the oft-noted capacity of religious zeal to foster violent conflict (e.g., Dawkins, 2006; Hitchens, 2007) and show that at least part of the reason this occurs is because of the protection from death anxiety that religions provide.

Although religious conflicts have been responsible for many wars and genocides over the millennia, it is important to note the similar atrocities have been committed in the name of secular and even explicitly atheistic institutions and ideologies. Genocides committed in the last century by the Nazis, Stalinists, Maoists, Khmer Rouge, Hutus, and Serbians, many of whom denigrated religion as a threat to their ideology, make this abundantly clear. TMT views religions as one type of cultural worldview that meet the same human needs as all other worldviews. However, religions have some features that make them especially powerful means of serving these needs, which make people especially sensitive to threats to their religious faith.

The idea that people require social consensus to maintain their faith, especially in things that cannot be seen and that violate their observations of the natural world, sheds a different light on the argument that the primary function of religion is to promote group solidarity. Although most proponents of this view eschew the idea that religious motivation is related to the problem of death (e.g., Kirkpatrick & Navarrete, 2006), from the perspective of TMT it is the role of religion and other cultural beliefs and values in denying death that brings people together and promotes social solidarity. Explanations for religion rooted in the function of promoting coalitional solidarity do little to account for the defining features of religion, such as supernatural agency or hope of an afterlife. From these perspectives, any goal or function that requires individuals to congregate and cooperate would serve the same function. Belief in things that run counter to experience would be counterproductive if the central function of religion were to promote cooperation because such beliefs would be more likely to engender disagreement and conflict than beliefs that bear a close relationship to observed experience with nature. However, if religious beliefs function to manage human fear of death, their counterintuitive nature would increase the need for validation from others and make them particularly effective as a device for promoting coalitional solidarity.

The Sacred and the Secular

> Society . . . everywhere is a living myth of the significance of human life, a defiant creation of meaning. Every society thus is a "religion" whether it thinks so or not: Soviet "religion" and Maoist "religion" are as truly religious as are scientific and consumer "religion," no matter how much they may try to disguise themselves by omitting religious and spiritual ideas. (Becker, 1973, p. 7)

According to TMT, both religious and secular cultural worldviews are social constructions that provide protection from the potential for mortal terror by imbuing our lives with meaning and value in pursuit of immortality. TMT research has documented many parallels between the function of religious and secular beliefs. Just as Friedman and Rholes (2007) found that confronting devout Christians with errors and contradictions in the Bible increased DTA, research has shown similar effects among Canadians in response to insults to Canada (Schimel et al., 2007). Just as reminders of mortality increased the discomfort people experienced when using a crucifix to pound a nail into a wall, the same study

showed a parallel effect of MS on discomfort using an American flag to sift colored dye from sand, thus staining the flag (Greenberg et al., 1995). Just as MS increased Christians' preference for a fellow Christian over a Jew (Greenberg et al., 1990), it also increased Germans' preference for the deutsche mark over the euro (Jonas, Fritsche, & Greenberg, 2005). Similar increases in nationalistic bias have been produced by reminders of death among American, Scottish, Dutch, French, Israeli, Japanese, and Italian populations (e.g., Castano, 2004; Florian & Mikulincer, 1998; Jonas, Schimel, Greenberg, & Pyszczynski, 2002). Just as Pyszczynski, Abdollahi, et al. (2006) found MS increased Iranian's support for martyrdom attacks to defend Islam, they also found MS increased Americans' support for military tactics that would kill thousands of civilians to defend the United States against terrorism. Similarly, Routledge and Arndt (2008) found that MS made British students more willing to sacrifice themselves to defend their nation.

These lines of inquiry suggest that the terror management function served by religion is similar in many ways to that served by secular worldviews. Where, then, do the differences between secular and religious belief systems lie?

Are Religious Worldviews More Powerful Than Secular Worldviews?

A growing body of research has documented benefits associated with religious devotion. Those committed to religious doctrines tend to live longer and be better adjusted psychologically (e.g., Pargament, 1997; Smith, McCullough, & Poll, 2003). From a TMT perspective, these findings reflect the fact that most religions address the problem of death anxiety directly through the promise of literal immortality. Such beliefs are particularly attractive options for overcoming mortal terror because they explicitly deny that death is the end. Harding, Flannelly, Weaver, and Costa (2005) reported that among Episcopal parishioners, belief in God and belief in an afterlife were negatively correlated with death anxiety and positively associated with death acceptance (for related findings, see Florian & Kravetz, 1983; Spilka, Stout, Minton, & Sizemore, 1977; Templer, 1970).

As Fromm (1950, 1955) and others (Brown, 1959; Tillich, 1952; Yalom, 1980) have argued, the terror of death impels people to adorn their concrete surroundings with a symbolic *invisible* element of *sacred* invulnerability. The very term *supernatural* implies an entity that does not conform to natural laws and therefore cannot be completely comprehended or empirically evaluated by the human mind. Although secular worldviews remain somewhat grounded in physical reality and are consequently vulnerable to rebuttals based on logic and evidence, religious worldviews are more difficult to assail because they are not subject to such rules. In many places, social norms explicitly discourage challenging religious beliefs. The irrefutability of these types of beliefs is

one of the main criticisms leveled against religion (see Dawkins, 2006; Hitchens, 2007). However, although bewildered critics hard pressed to understand the survival of such irrationality may view religious beliefs as harmful parasites clinging to unwitting hosts, we propose that concepts such as eternal life and spiritual realms serve their death-denying function and enhance social solidarity, in part, *because* they are removed from the realm of rational argument and empirical evidence. This nonmaterial advantage of religious worldviews may be one reason those lacking tangible means of attaining symbolic immortality are especially high in religious faith (Pew Research Center, 2002).

Unfortunately, to our knowledge, no research has yet directly compared the effectiveness of worldviews that promise literal immortality to those that promise only symbolic immortality; such research is needed to assess our claim that literal immortality beliefs are more appealing because they are especially powerful means of buffering death anxiety. Although Dechesne et al. (2003) demonstrated that providing evidence of a literal afterlife eliminates the effect of MS on the pursuit of symbolic immortality by striving for self-esteem or defending one's worldview, definitive support for the greater defensive utility of literal immortality would require that enhancing symbolic immortality be less effective in reducing the pursuit of literal immortality. Another approach to this issue would be to determine if reminders of mortality increase preference for information supporting a literal afterlife over information suggesting that one's accomplishments will continue to affect the world or that one's friends and family will preserve one's memory.

The Consequences of Different Religious Orientations

There is general agreement that despite the common themes and functions shared by the world's religions, there is amazing variability in the content of religious beliefs and the way they operate. Indeed, one of the most influential books ever written about religion was William James's (1902) *The Varieties of Religious Experience*. Different religious orientations and beliefs have unique benefits and costs for both their adherents and the people with whom they live.

Religious orientation refers to an individual's approach to religious faith, independent of its specific doctrines and beliefs. For example, religious fundamentalism assumes that

> the belief that there is one set of religious teachings that clearly contains the fundamental, basic, intrinsic, essential, inerrant truth about humanity and deity; that this essential truth is fundamentally opposed by forces of evil which must be vigorously fought; that this truth must be followed today according to the fundamental, unchangeable practices of the past; and that those who

believe and follow these fundamental teachings have a special relationship with the deity. (Altemeyer & Hunsberger, 1992, p. 118)

Friedman and Rholes (2008) demonstrated that although those low in religious fundamentalism increased their defense of a secular aspect of their worldview in response to MS, those high on fundamentalism did not. Content analyses revealed that when writing about their own death religious fundamentalists were less cognitively complex but more focused on peace, acceptance, and certainty of an afterlife, which mediated defense of their secular worldviews. Friedman and Rholes interpreted these results as evidence that fundamentalism entails a unique approach to existential issues that is a particularly effective defense against death anxiety.

On the other hand, a large body of research has found that religious fundamentalism is positively associated with racial prejudice (e.g., Altemeyer, 2003; Altemeyer & Hunsberger, 1992; Laythe, Finkel, & Kirkpatrick, 2001), religious ethnocentrism (Altemeyer, 2003), and support for militarism (e.g., Henderson-King, Henderson-King, Bolea, Koches, & Kauffman, 2004; Nelson & Milburn, 1999). Many of these attitudes are mediated by the absolutist authoritarian structure of the fundamentalist's belief system (Laythe et al., 2001; Vail, Motyl, & Arndt, 2009). A rigid black-and-white orientation to truth is likely to make beliefs that deviate from one's own especially threatening and thus encourage more vigorous attempts to assert the correctness of those beliefs; derogation of and violence toward those with different beliefs are ways of bolstering confidence in the veracity of one's own beliefs. Religious fundamentalism is also associated with anti–animal rights attitudes, pro–vivisectionist attitudes, and low empathy for animals (Broida, Tingley, Kimball, & Miele, 1993; DeLeeuw, Galen, Aebersold, & Stanton, 2007). This may reflect a stronger need to distance oneself from animals.

On the other side of the spectrum of rigidity and need for certainty, those with intrinsic or quest religious orientations derive a sense of security from a more flexible and open orientation to their religious beliefs (Allport, 1950; Batson, Eidelman, Higley, & Russell, 2001). According to Allport (1950), intrinsic religiosity integrates the self with a superordinate sense of meaning and purpose that enables people to more courageously face human existential dilemmas and provides a master motive for life. Accordingly, intrinsic religiosity is associated with higher levels of life satisfaction, lower anxiety, a clear sense of meaning, and high levels of adherence to a set system of religious beliefs (Batson, Schoenrade, & Ventis, 1993). Jonas and Fischer (2006) recently assessed how intrinsic religiosity affects responses to death reminders. Some participants high or low in intrinsic religiosity but not others were allowed to affirm their religious beliefs. MS was then manipulated, and secular worldview defense (allegiance to participants' home city) was assessed. MS increased secular defense for everyone except participants high in intrinsic religiosity who were

allowed to affirm their religious beliefs. The fact that religious belief affirmation eliminated defensive responses to MS for people high in intrinsic but not extrinsic religiosity suggests that, at least in this context, intrinsic religiosity is more effective for terror management. In a follow-up study, low intrinsic religiosity participants showed the usual delayed increase in DTA in response to MS; in contrast, high intrinsic religiosity participants did not. Similarly, affirming one's religiosity when death is salient helps sustain positive mood, an effect mediated by intrinsically religious persons' boosted sense of self-efficacy in the face of existential fear (Fischer, Greitmeyer, Kastenmuller, Jonas, & Frey, 2006).

An even more open and flexible approach to religion is conceptualized as quest orientation (Batson et al., 2001). As Batson and Stocks (2004) put it, "As a quest, religion is experienced not as a solution but as a search" (p. 150). They used Mahatma Gandhi (1948) as an example of the quest orientation: "I worship God as Truth only. I have not yet found Him, but I am seeking Him" (pp. 5-6). Research reviewed by Batson and Stocks showed that quest orientation is associated with reduced prejudice and increased concern for the needy. Presumably this is because a quest orientation does not require certainty in any particular doctrine, which makes those who are different and experiencing negative outcomes in life less threatening. Because the quest orientation entails spiritual exploration without an apparent need for dogmatic structure, people high in quest can seek existential meaning in the face of death by exploring novel religious beliefs and rituals. Consistent with this possibility, Vess, Routledge, Landau, and Arndt (in press) found that MS led those low in need for structure, which is typical of the quest orientation, to perceive increased meaning in life when they engaged in cultural exploration.

Although fundamentalism entails a fortress mentality in which security is maintained by continually affirming the superiority of one's own beliefs over all others, intrinsic religiosity is more open and flexible but still tied to specific doctrines, and quest oriented religiosity entails actively embracing ambiguity and uncertainty. It is important to note that the extant literature on the detrimental and salutary nature of different types of religious orientations is almost entirely correlational, and causal relationships have not yet been established. It may be that these different orientations reflect more general underlying ways of approaching the threats and ambiguities inherent in life rather than those specific to religious faith. On the other hand, given the close link between death and religion, the different ways of construing existential problems may lie at the root of these alternate forms of religiosity.

It is ironic that fundamentalists' pursuit of absolute certainty regarding their faith leads to attitudes and behavior that are inconsistent with some of their core values. For example, although virtually all modern religions (and many ancient ones) extol the virtue of peace, compassion, and respect for all humanity, religious fundamentalists, who are most committed

to unwavering obedience to the values of their faith, tend to be high in prejudice, ethnocentrism, and support for violent solutions to international conflicts. From our perspective, this inconsistency results from the fact that religions serve to deny deeply rooted fears of death. People do this by maintaining faith in the absolute validity of their worldview and conceiving themselves as living up to the associated standards of value. Because those who view the world differently threaten the basis on which their faith depends, people respond to deviant others with hostility and violence. This challenge to their faith often overrides attempts to live up to the standards of the belief systems being defended.

However, reminding people of the teachings of their religion encourages behavior consistent with these precepts. For example, Bushman, Ridge, Das, Key, and Busath (2007) demonstrated that exposing American Christians to verses from the Bible that condone or glorify violence increased their aggressive behavior in the laboratory. Other research has shown that MS increases upholding salient prosocial values such as egalitarianism, helping, and tolerance (e.g., Gailliot, Sillman, Schmeichel, Maner, & Plant, 2008; Greenberg, Simon, Pyszczynski, Solomon, & Chatel, 1992). In addition, reminders of either death or one's religious faith can increase helping behavior (e.g., Jonas et al., 2002; Shariff & Norenzayan, 2007), and in some contexts even subliminal priming of religious concepts boosts charitable behavior (Pichon, Boccato, & Saroglou, 2007; Shariff & Norenzayan, 2007). This raises the question of whether these tendencies can be used to promote more positive relations with those who do not share one's beliefs and reverse the oft-found tendency for reminders of death to encourage negative reactions toward people who are different.

Rothschild, Abdollahi, and Pyszczynski (2009) recently addressed this question by investigating the effect of making compassionate religious values salient on the way death reminders affect religious fundamentalists' militaristic attitudes. Christian fundamentalists were especially supportive of extreme military policies under all conditions but one. After being reminded of death, exposure to compassionate scriptures (e.g., "Love your neighbor as yourself . . .") *decreased* religious fundamentalists' support for war to the level found among nonfundamentalists. A parallel study, conducted among Muslim fundamentalists in Iran, found that reminding participants of death increased their hostile attitudes toward the Western world when they were exposed to non-religion-based reminders of compassionate values. However, exposure to compassionate Koranic scripture (e.g., "Do good to others, as Allah has done good to you") reversed this effect, such that MS led to less hostility toward the West. These studies show that the compassionate values of religious doctrines that fundamentalists revere but do not always follow can encourage a more peaceful approach to intergroup relations when they are salient and the need for the protection that one's religion provides against existential fear is activated.

In addition to preaching the value of compassion, many religions promote the sense that all humans share a common humanity and that we are "all God's children." Research has shown that priming these values reduces the inclination to respond to existential threat with prejudice toward outgroups. For example, Motyl et al. (2009) activated a sense of shared humanity in some participants, finding that MS led to increased bias against out-groups among control participants but that common humanity primes eliminated this bias in one study and reversed it in an other, such that MS led to more positive implicit attitudes toward Arabs among Americans. In related studies conducted during the 2009 Israeli incursion into Gaza, Pyszczynski et al. (2009) found that both Jewish Israelis and Muslim citizens of Israel who construe diverse groups of people as sharing a common humanity and were reminded of a global threat to humanity responded to MS with increased support for peaceful coexistence with each other; similar findings were also obtained with an American sample.

How TMT Relates to Other Theories of Religion

TMT is compatible with many but not all current theories of religion. For example, Bering (2006; also see Mithen, 1996) argued that religious belief results primarily from cognitive processing errors (e.g., imputing agency, teleological reasoning) that children retain through adulthood. Although this view provides a descriptive account of how religious beliefs initially emerged in the early days of humankind and how they are acquired in early childhood, it cannot explain the complexity of adult religious belief (Watson, 2005) or why although many of our childish beliefs are relinquished over time, religious beliefs persist and even increase into old age (Greenberg, Sullivan, Kosloff, & Solomon, 2006). Nor can it explain any of the research presented above demonstrating the death-denying function of religious beliefs.

TMT is also somewhat compatible with theories that view religion as a nonadaptive byproduct of other evolutionary adaptations (e.g., Boyer, 2001). We agree that preexisting cognitive architecture surely plays a role in the formation of religious belief. Like most, if not all, complex forms of human behavior, early humans (quite unconsciously) used these propensities, which initially evolved in response to different selection pressures, as building blocks to create solutions to new adaptive problems. In this case, early humans used cognitive proclivities that evolved for other reasons to develop religious beliefs to quell existential fear. These beliefs spread and persisted because they were effective in doing so.

This view is consistent with Dawkins's and others' view of religions as memes that spread within populations because they effectively replicate themselves. TMT simply adds the proposition that a very important reason that religious memes spread so rapidly and effectively is the protection from

existential fear that they afforded to those who possessed them. Because of human awareness of the inevitability of death, people were and are predisposed to accept ideas and values that assuage this fear. Because the effectiveness of these beliefs depends on our faith or confidence in them, people were predisposed to promulgate these ideas to others, in the hopes of gathering converts, which increased their own faith in the veracity of their beliefs. This helps explain why religious beliefs are especially valuable means for bringing people together and increasing group solidarity, a function of religion emphasized by Sloan-Wilson (2002), Kirkpatrick and Navarrete (2006), and others.

The TMT proposition that religion provides emotional security is compatible with Kirkpatrick's (2004) view that religious devotion is rooted in children's attachment to their parents as sources of security. From this perspective, much like parents, gods function to quell human distress and provide emotional security. This idea is quite consistent with the TMT view, which also accords early attachments a prominent role in providing emotional security and protection from fears, both early in life and throughout the lifespan (cf. Mikulincer, Florian, & Hirschberger, 2003). However, TMT provides an explicit account of how these early attachments enable cultural worldviews (including religious ones) and self-esteem (including the religious concept of personal virtue) to assume anxiety-buffering functions independent of specific attachment figures.

TMT is also compatible with perspectives that argue that belief in and worship of supernatural beings reflect attempts to meet material needs, especially when people lack more direct instrumental behavior to accomplish this (e.g., Wright, 2009). TMT posits that coping with knowledge of the inevitability of death is among the most important functions that religions serves, not that it is the only function. Acquiring food, water, and safety is essential to sustaining life—and staving off death. From a TMT perspective, people fear death because they desire life. Doing what one believes will sustain life is thus consistent with the motives that are posited to underlie death denial. Imbuing deities with the power to defeat death also may be a dramatic way of establishing their power to control other things.

Despite being compatible with many other contemporary theories of religion, TMT departs sharply from perspectives that argue that religion serves no psychological function and is solely an accidental and useless byproduct of other adaptations. TMT posits that religion improves subjective well-being and mitigates existential distress, which are beneficial for staying alive and reproducing in a self-conscious animal explicitly aware of the inevitability of death. Once human intelligence reached a certain level of sophistication, ideas and knowledge became both adaptive challenges *and* strategies for responding to these adaptive challenges. Thus, awareness of death became a problem that needed to be solved, and worldviews, including religious ones, became useful ways of alleviating the distress caused by these ideas.

The central point of this article is that religion cannot be understood without acknowledging the role that it plays in helping people cope with death and deny the possibility that it entails the absolute end of life. Given the pervasive presence of afterlife beliefs in religions, past and present, it is surprising to us that so many theorists ignore the role that these beliefs play in religious motivation. We would never claim that positing that religion functions to deny death is all that one needs to know to understand religion. But we are convinced that the many attempts to account for religion without carefully considering the role of most, if not all, religious doctrines in assuaging the fear of death are doomed to fall short.

Some theories of religion, and human motivation in general, claim that concerns about death reflect some more general human concern, such as a need for meaning, certainty, control, or social connections (e.g., McGregor, 2006; Proulx & Heine, 2006). Many of these theories have been proposed explicitly as alternative explanations for some of the findings of terror management research and the phenomena that TMT was designed to explain. These theories attempt to explain why death is threatening, without assigning any special status to the problem of death. According to TMT, although certainty, perceived control, and social connections serve many functions, awareness of death increases the need for these psychological entities because worldviews and self-esteem require them to function effectively. Consistent with this view, research has shown that reminders of death increase pursuit of structure, meaning, certainty, and social support (for a review, see Greenberg et al., 2008). Consequently, it is not surprising that threats to these sources of security sometimes produce effects similar to those of reminders of the underlying fear—death—that these things help protect people against.[3]

Religion is surely one of the most complex of human adaptations; it elicits some of the worst and best of human behavior. Religions serve the very powerful human need to control anxiety in the face of awareness of our ultimate mortality. Although there are other ways of meeting this need, including secular worldviews that eschew supernatural powers and literal immortality, thus far these solutions to the human existential dilemma seem insufficiently compelling to dissuade most humans from their religious beliefs. It may thus be more useful to encourage more humane forms of religion than to seek a nonreligious world, which may be neither possible nor desirable.

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Notes

1. A few cultures, such as the Nuer of East Africa, do not have explicit afterlife beliefs as part of their worldviews or religions. However, there are typically other cultural norms that help the members deny their mortality. Taboos against the mere mention of death are common. For example, the "Nuer avoid so far as possible speaking of death and when they have to do so they speak about it in such a way as to leave no doubt that they regard it as the most dreadful of all dreadful things" (Evans-Pritchard, 1956, p. 154).

2. Some have suggested that, in very earliest hunter-gatherer religions, eligibility for immortality did not depend on valued behavior and the specifics of one's fate after death may have depended on how one died or other capricious factors. For example, Wright (2009) argued that the link between valued behavior during one's life and a pleasant afterlife emerged as people settled into larger communities as part of the "cultural big bang," 40,000 to 60,000 years ago. This is part of Wright's more general point that religions evolve over time and likely will continue to evolve in the future. Of course, ideas about the content of the various earliest religious beliefs are speculative and difficult to verify. Nonetheless, the idea of a capricious afterlife, that soon gave way to one that is more bound to one's earthly behavior, is consistent with the basic terror management theory premise that concerns about death exerted a profound influence on the evolution of human culture.

3. However, studies show that other types of threats (e.g., those that undermine certainty, meaning, or other aspects of one's anxiety-buffering system) sometimes produce effects similar to MS. See Pyszczynski, Greenberg, Solomon, and Maxfield (2006) for a discussion of the relationship between the problem of death and other threats.

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