

SACRED ARMOR: RELIGION'S ROLE AS A BUFFER AGAINST THE ANXIETIES OF LIFE AND THE FEAR OF DEATH

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Religiousness, psychological investment in institutionalized sacred beliefs and practices, is central to the lives of individuals and societies. In his classic treatise, Allport (1950) equated religion to sex as an almost universal human interest. In every human group that exists today, or is known to have existed, people create and communicate shared representations of supernatural worlds (e.g., Atran, 2002; Burkert, 1960). Even in the modern era, with atheism widespread in many countries, 85% of people worldwide report having religious beliefs (Zuckerman, 2005).

Furthermore, for most people, religion is not an occasional or incidental interest: About 82% of people worldwide state that religion constitutes an important part of their everyday life (Crabtree, 2009). Indeed, many people invest substantial material resources and emotional energy into their religion and religiousness permeates major aspects of their lives, from birth celebrations to rites of passage to memorial occasions. Moreover, throughout history, clashes between competing religious ideologies have fueled bitter conflict and bloodshed.

Given religion's central significance, we begin with a basic question: What psychological functions does religion serve for people? Classic and contemporary scholars in philosophy, psychology, and the social sciences have proposed a number of factors that may contribute to the psychological appeal and value of religion. Amid this diversity of viewpoints, we can identify a recurring theme that forms the central thesis of this chapter: A primary function of religiousness is to buffer the individual against anxiety.

In elaborating on this claim, we first discuss how classic theorists such as William James (1902) and Sigmund Freud (1913/1919, 1927/1961) each, in his own way, highlighted religion's anxiety-buffering function. We then present a brief overview of perspectives that focuses on how adherence to religious ideologies may buffer anxiety by providing people with attachment, structure, and hope, particularly when people have doubts about having the internal or external resources to obtain desired outcomes and avoid undesired ones. Next we focus on a core source of anxiety—the awareness that the self will inevitably die—and provide an account of religion's anxiety-buffering function derived from terror management theory (TMT; Greenberg, Pyszczynski, & Solomon, 1986; Solomon, Greenberg, & Pyszczynski, 2004). According to this theory, people manage the potential anxiety stemming from their awareness of mortality by subscribing to *cultural worldviews*, which afford opportunities to view life as valuable and continuing on in some way after death. From this perspective, religiousness serves to buffer anxiety about mortality by offering opportunities to attain immortality, thereby making death less threatening.

We buttress our theoretical analysis with historical, correlational, and experimental evidence for the role of terror management processes in motivating adherence to religion. Also, we review research showing that motivated adherence to religion shapes people's attitudes and behaviors regarding a range of domains, including intergroup relations and medical decision making. In these ways, we

show that TMT provides a unique and empirically substantiated account of religion's significance in human affairs that can be used to organize diverse evidence regarding religion's social and personal import.

CLASSIC PERSPECTIVES ON RELIGION'S ANXIETY-BUFFERING FUNCTION

Fear, first of all, produced gods in the world.

—Stautius (AD 45–96, quoted in Burkert, 1960, p. 31)

James (1902) and Freud (1913/1919, 1927/1961), two of the most influential architects of modern psychology, put forward accounts of religion that, at first glance, completely contradict each other. Whereas James viewed religion sympathetically as a powerful tool for improving well-being, Freud dismissed it as an infantile neurosis and an illusion that humankind may hope someday to outgrow in favor of a rational and scientific worldview. Despite their differences, both theorists recognized that religion often serves as a defense mechanism that keeps anxiety at bay.

James brought the topic of religion into psychology with his lecture series published in 1902 under the title *The Varieties of Religious Experience*. James emphasized religion's power to foster individual growth and happiness. James presented a multifaceted view of religion that explored both religion's growth-oriented and defensive aspects. James recognized that religion is able to promote positive psychological engagement in large part by providing the individual with relief from "evils" in the world. He ultimately concluded that religious experience is on the whole a useful tool for coping with anxiety-provoking stimuli in the natural and social world.

Freud's (1927/1961, 1930/1961, 1939/1961) views were also complex and changed in important ways over his career. Freud's early theory posited that God, like parents, serves psychologically protective functions for the believer (Freud, 1913/1919). While acknowledging this protective function, Freud (1927/1961) ultimately viewed religious belief as a form of psychopathology similar to a delusion. This latter view held that religion arose

out of the need to defend oneself against "the superior force of nature" (Freud, 1927/1961, p. 17). He described the function of religion as threefold: to exorcise the terrors of nature, reconcile man to the cruelty of fate and mortality, and compensate the individual for society's restrictions on his or her freedom.

This psychodynamic approach to religion emphasizes the importance of early representations of parents and self in determining the development of the individual's religiosity and representations of God (see Volume 2, Chapter 6, this handbook). Because people's relationship with God is largely modeled after childhood experiences with their father, they differ in the extent to which they rely on God for support and care in adulthood. Although Freud's original idea focused narrowly on the relationship between father and son, later psychodynamic theorists such as Erickson (1959, 1963) broadened the focus to include representations of both parents as they relate to individual images of God.

Broadly consistent with the psychodynamic view, Brown and Cullen (2006) found that religious individuals most frequently described their motivation for engaging in religious activities as arising out of a desire to fulfill their needs for love. In addition, correlational evidence shows that people's representation of their parents predicts their conception of God (Birky & Ball, 1988; Godin & Hallez, 1965; M. O. Nelson, 1971; Tamayo & Desjardins, 1976; Vergote & Tamayo, 1981). In some cases the image of God is correlated with the mother rather than with the father (M. O. Nelson & Jones, 1957), in others with both parental images (Birky & Ball, 1988; Justice & Lambert, 1986; Strunk, 1959), and still others with only the parent of the same sex as the individual (Godin & Hallez, 1965) or the preferred parent (M. O. Nelson, 1971).

CONTEMPORARY PERSPECTIVES ON THE ROLE OF RELIGION IN MANAGING ANXIETIES OF LIFE

Psychodynamic theories essentially view religion as serving the same anxiety-buffering function for adults that the parents serve for children; it provides comfort, protection, answers, and hope when people

are distressed or anxious either because good things they want may not happen or bad things they do not want may. A set of precepts and higher powers provides a way to enhance one's chances for attaining good outcomes (e.g., that job one applied for) and for escaping bad outcomes (e.g., the loss of a child to a potentially fatal illness). This perspective is supported by research programs that are based either specifically on the idea that God is a security-providing attachment figure or on the general idea that threats to other psychological resources in people's lives lead to greater reliance on religion.

One influential contemporary approach to religion comes from John Bowlby's (1969) attachment theory. Combining insights from psychoanalysis and evolutionary biology, Bowlby emphasized that as a consequence of their mammalian heritage, human offspring innately respond to threatening stimuli by seeking proximity to attachment figures who regularly provide care. Bowlby then posited that people can regulate distress by bringing to mind mental representations of attachment figures even when those individuals are not physically present.

Kirkpatrick (2005) proposed that the same attachment system that drives the child to seek security from physical proximity to her parents drives the adult to seek security from symbolic proximity to an all-powerful God. In this way, attachment theory explains commonalities in religiousness across individuals and cultures. This perspective suggests that relationships with spiritual figures are modeled after relationships with security-providing parents.

Indeed, most people conceptualize their faith as an intimate relationship with a benevolent caregiver (Birgegard & Granqvist, 2004; Kirkpatrick, 2005). As individuals describe their lives in terms of relationships, religion is also viewed as a relationship between believer and deity (see Chapter 7, this volume). In a poll of Americans, when asked about what best defines their own view of religious faith, 51% indicated that "a relationship with God" was most descriptive (Gallup & Jones, 1989). This may be less true, however, of proponents of certain religions, such as those based on the Buddhist tradition.

Findings obtained in attachment and religion studies support the neo-Freudian emphasis on the protective function of religion, particularly among

individuals with insecure attachment style (see Chapter 7, this volume). Just as infants seek proximity to caregivers, individuals seek proximity to God (Kirkpatrick, 2005). Birgegard and Granqvist (2004) found that activating attachment insecurity by subliminal exposure to such phrases as "mother is gone" led to increased desire to be close to God in securely attached individuals. Although physical proximity to supernatural deities is impossible, beliefs in an omnipresent God, prayer, and symbols of God facilitate psychological proximity (Kirkpatrick, 2005).

Further support for the link between views of one's parents and God comes from factor-analytic research indicating that just as there are individual differences in parental images, similar differences are seen in God images (Kirkpatrick, 2005). In nearly all of these studies, the largest factor to emerge reflects God as a benevolent caregiver. This view of God fits well with the notion of God as serving an anxiety-buffering function. The second-largest factor to emerge, however, characterizes God as a controlling and punishing deity (Kirkpatrick, 2005). Generally, individuals with secure attachment characteristics tend to have a more loving God image than individuals with insecure attachment styles, who view God as more distant (Granqvist, 2006). We will further discuss why God is not necessarily viewed as a benevolent caregiver later in this chapter.

In addition to providing a potent attachment figure who can substitute for other security-providing attachments, religion provides the belief in a higher power who will help people attain positive outcomes and avert negative outcomes as long as they stay in the good graces of that power, such as by being a righteous follower or appealing to deities via prayer. They also provide rules and authorities that one can lean on for support and guidance. These features can reduce anxieties people have about getting the good things in life and avoiding the bad things.

Recent research has supported this idea by showing that when you threaten the psychological resources that provide people with feelings of security and hope for good outcomes, such as their self-worth, their close relationships, and faith in the stability of their culture, they increase their faith in

and defense of their belief in God, confidence in their beliefs, and negativity toward ideas and people who question their religious beliefs (e.g., Kay, Gaucher, McGregor, & Nash, 2010; McGregor, Haji, Nash, & Teper, 2008). In addition, two studies have implicated anxiety as a mediator of increased investment in religious beliefs (Kay et al., 2010).

Religion as a Buffer Against the Fear of Death

The perspectives we have reviewed so far view religion as a resource people rely on to manage general anxieties. But there is one anxiety that religion seems especially suited to quell. As Freud (1927/1961) noted, individuals turn to religion to cope with threats that even their parents cannot vanquish, namely, the cruelties of fate and the inevitability of death.

Terror management theory built on this psychodynamic tradition, particularly as synthesized by Becker (1971, 1973). The theory posits that over childhood, people eventually become aware of the fragility of life and the inevitability of death as well as of their parents limited ability to provide protection. These realizations conflict with people's desire to continue living, and in this way, create the potential to experience debilitating terror. People consequently transfer their primary basis of security to bigger, more compellingly protective constructs, such as the nation, humanity, noble causes, and for many if not most people, God.

According to TMT, this transference of protective power allows people to buffer themselves from threatening cognitions about death. This is accomplished by investing in two interrelated psychological structures. The first is a *cultural worldview*: a set of socially constructed beliefs about reality that provides a meaningful account of the origin and nature of the universe, a set of principles and standards of value by which to live, and the promise of immortality to those who fulfill those standards. The second structure is *self-esteem*: the perception that one is indeed fulfilling those standards and is therefore a being whose soul or identity will transcend physical death in some form.

TMT views both secular and religious worldviews as offering meaningful conceptions of reality that provide avenues for attaining immortality

(indeed, Becker, 1975, viewed even explicitly atheistic cultural worldviews as essentially "religious" in their provision of culturally constructed bases of death transcendence). Both religious and secular worldviews offer standards to uphold in order to attain *symbolic immortality* or to have some aspect of the self "live on" beyond death. For example, academics follow the "publish or perish" maxim in the hopes of leaving some trace of their existence on dusty bookshelves. Additionally, some branches of Judaism place less emphasis on literal immortality and more on living through good deeds and adhering to the Mitzvot, the commandments outlined in the Torah. Religious worldviews typically, although perhaps not always, offer standards by means of which people can also attain *literal immortality*. For example, Christians adhere to the teachings of Jesus to gain entrance to Heaven. Because both secular and religious systems of meaning and personal value are fragile social constructions, however, people must continually strive to buttress the validity of their cultural worldview—and live up to culturally derived standards of value—to avoid the threatening awareness that death may signal the absolute end of their existence.

From the TMT perspective, religions that offer hope of literal immortality are particularly well-suited to buffer people from the terror of inevitable death because they provide socially validated assurance that death does not represent the absolute annihilation of the self; rather, it is merely a transition to eternal life. In this sense (in contrast to personal abilities, science, philosophy, the government or other cultural bases of power and security), such religious belief systems are uniquely suited to handle the problem of death. This TMT view of religion's function illuminates why the earliest known religions focused so much on mortality and immortality. As early as the Upper Paleolithic Era, humans used artistic forms to represent a division of the person into a mortal body and an intangible essence that persists after death (Hauser, 1951), and they adorned burial sites with intricately fashioned goods presumably to equip the deceased for their passage into the afterlife (Tattersall, 1998).

If we fast-forward some millennia, we find the Epic of Gilgamesh—an ancient Sumerian written

narrative believed to have originated around 3000 B.C.—describing the titular hero's confrontation with mortality and his quest for immortality. Gilgamesh, king of Uruk, embarks on a journey in search of immortality after his friend and companion Enkidu dies. Gilgamesh campaigns with the gods for immortality, but in the end, his pleas are denied and he is left with the inevitability of death. This earliest known self-referential narrative is believed to have been the basis for the recounting of the Fall in Genesis, the first book of the Bible, which describes early man being expelled from his earthly paradise. Becker (1973) described how this paradise represents man's ignorant and animal-like state. When man reaches awareness of his condition, he is forced to face his corporeal nature and reconcile the duality of his being both divine and mortal. Abrahamic traditions (Christianity, Judaism, and Islam) propose a solution to this problem in the promise of life everlasting in a heaven where people are free from the constraints of their earthly bodies. Ancient Egyptian and Chinese religious beliefs similarly focused on routes to the afterlife. Beliefs in souls extending beyond physical death were also prominent in Western Mayan and Aztec religions as well as in most known tribal cultures.

More recent Eastern religions, like Hinduism and Buddhism, also offer routes to immortality through the belief in the existence of an eternal soul, or *atman*, which is connected to all other life energies. This soul transcends the physical world and lives on in separate lives throughout a cycle of rebirth (*samsara*) that ends only upon the achievement of enlightenment (*nirvana*). Death is an integral part of this process and contemplation of death is encouraged. Both Western religious traditions (which promise immortality in heaven) and Eastern traditions (which provide guidance regarding the experience of death and process of rebirth) offer comfort from the terror of inevitable death by providing assurance that the end of this life is not *our* end.

A wide breadth of literature supports the idea that at the core of religion's appeal is management of anxiety surrounding death. Initial studies utilized unidimensional definitions of both religion and death anxiety. The majority of these studies found that religious individuals express lower levels of

death anxiety (e.g., Feifel, 195; Kahoe & Dunn, 1976). More recent investigations utilizing a multi-dimensional approach and exploring the nature and strength of various religious beliefs have provided more insight into the relationship between religion and death anxiety. One variable showing particular importance in protecting individuals from anxiety about death is the belief in an afterlife (Alvarado, Templer, Bresler, & Thomas-Dobson, 1995; Harding, Flannelly, Weaver, & Costa, 2005). Active commitment and practice also has been repeatedly associated with lower levels of death anxiety (Feifel, 1977; Feifel & Nagy, 1981; Schulz, 1978). Similarly, an inverse relationship between strength and conviction of religious beliefs and death anxiety was found by Triplett et al. (1995).

Although many of these studies have been conducted using Christian participants, studies of other religious orientations using a variety of measures of religiosity are becoming more prevalent and yield similar results. Using a scale of religiousness designed specifically for Muslims, Suhail and Akram (2002) found that among Pakistani Muslims, more religious participants showed significantly lower concerns about death. Similarly, Roshdieh, Templer, Cannon, and Canfield (1998) used a scale developed by Templer and Dotson (1970) modified for Muslims and found a negative correlation between death anxiety and religious involvement among Iranian Muslims. In a study of Israeli Jews using the Jewish Religiosity Index (Ben-Meir & Kadem, 1979), Florian and Kravets (1983) found differences between highly and moderately religious individuals with regard to their specific concerns about death. The highly religious individuals expressed significantly more fear about punishment in the afterlife and less fear about self-annihilation, whereas the moderately religious individuals expressed significantly more fear of death's consequences to loved ones (Florian & Kravets, 1983).

Evidence also shows that events that increase awareness of death often precede spikes in religious activity. For example, following the murder of 3,000 civilians by terrorists on September 11, 2001, people around the world showed a surge in church attendance (Lampman, 2001), Bible sales (Rice, 2001), and visits to religious websites (Lampman, 2001).

Additionally, studies show that among the different components of religious ideology, belief in an after-life is a particularly strong predictor of low death anxiety (Alvarado et al., 1995; Harding et al., 2005) and more positive associations with death (Schoenrade, 1989).

Experimental Research Supporting the Terror Management Role of Religiousness

These findings are consistent with our claim that religion quells terror, but because they are based on correlations, we cannot be sure that religiousness is causing the lower levels of death anxiety. A growing body of experimental research guided by TMT, however, provides converging evidence for the role of religiousness in coping with mortality concerns. Before describing this evidence, we need to provide a brief overview of the primary methods used to assess TMT hypotheses. Beginning in the late 1980s, researchers developed three broad approaches to testing hypotheses based on TMT that more recently have been used to assess the role of religion in terror management. The first approach is to make mortality salient (MS) and assess whether this motivates greater adherence to and defense of the individual's cultural worldview. The most common MS induction involves responding to two open-ended prompts that are embedded among a series of personality questionnaires: (a) "Please briefly describe the emotions that the thought of your own death arouses in you"; and (b) "Jot down, as specifically as you can, what you think will happen to *you* as you physically die." Participants' proximity to a funeral home, writing a single sentence about death, subliminal primes of the word "death," and completing word-searches containing death-related words have also been used to induce MS. More than one hundred studies have shown that MS does indeed bolster faith in one's worldview and negativity toward those who challenge one's worldview (Greenberg, Solomon, & Arndt, 2008).

The second approach is to assess whether threatening terror management resources increases the accessibility of death-related thought. If faith in the worldview and self-worth protect people from death-related concerns, then threatening these constructs should bring death thoughts closer to

consciousness. When death thoughts are highly accessible, lingering outside conscious awareness, we call this high death thought accessibility (DTA). This broad hypothesis has been supported in a variety of ways (Hayes, Schimel, Arndt, & Faucher, 2010). The third approach is to assess whether calling to mind psychological resources posited to serve terror management reduces anxiety and defensive reactions to death-related thought. Substantial research has supported this idea as well (see Greenberg et al., 2008).

In recent years, these three approaches have been used to examine the role of religion in terror management. Like much of the TMT research showing that MS increases positive reactions to people who share one's worldview and negative reactions to those who violate one's worldview (for a review, see Greenberg, Solomon, & Pyszczynski, 1997), early research on religion found that MS leads religious individuals to bolster the legitimacy of their religious beliefs and defend their religious worldview. In one study, Greenberg et al. (1990, Study 1) had Christian participants rate Christian and Jewish targets (who were portrayed as quite similar except for religious background) after an MS or control induction. In the control condition, there were no differences in participants' evaluations of the targets; however, MS increased affection for the fellow Christian target and exaggerated hostility toward the Jewish target. Similar findings have been shown among Islamic students in Iran, who responded to MS with greater approval for a fellow student who endorsed religiously motivated martyrdom attacks against the United States as well as greater willingness to join the martyr's cause (Pyszczynski et al., 2006).

In addition to affecting reactions to people who do and do not share one's religious beliefs, MS has been shown to increase reluctance to use sacred objects in an inappropriate manner. Greenberg, Simon, Porteus, Pyszczynski, and Solomon (1995) presented participants with an ostensible creative problem-solving task that entailed using different objects to hang a crucifix on the wall. Half the participants were given a block of wood with which to hang the crucifix, whereas for the other half, the most effective way of completing the task was to use

the crucifix itself as a hammer. As predicted, MS participants reported experiencing more difficulty and tension using the crucifix inappropriately compared with control participants, suggesting that terror management motivation heightens reverence for objects that embody cherished religious beliefs.

Research has assessed the effect of mortality reminders on explicit endorsement of religious beliefs. Before TMT, Osarchuk and Tatz (1973) found that among individuals confident in the existence of an afterlife, exposure to disturbing images of death combined with information suggesting a high likelihood of an early death led to an increased belief in an afterlife. In a set of more recent studies, Norenzayan and Hansen (2006) found among Christians but not atheists that MS increased religiosity, belief in God and divine intervention, and belief in higher powers in general. Even more recently, Vail, Abdollahi, and Arndt (2010) conducted two studies, one in the United States and one in Iran. The first found that for Christians but not atheists, MS, relative to a threat to meaning, increased faith in the Christian God while reducing belief in Buddha and Allah. The second study conducted in Iran, in parallel fashion, found that for Iranian Muslims, MS increased faith in Allah while reducing belief in the Christian God and Buddha.

According to the second approach, if adherence to religious worldviews indeed serves to buffer the individual against mortality concerns, then threatening religious beliefs should unleash those concerns. Indeed, Schimel, Hayes, Williams, and Jahrig (2007) found that when participants who subscribe to the Judeo-Christian account of creation read a scientific article arguing against creationism and in favor of evolution, they exhibited heightened DTA, whereas the same article had no such effect on participants who subscribed to an evolutionary account of the origins of life. DTA was measured using a word completion task (Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994; Harmon-Jones et al., 1997) in which participants were instructed to complete word fragments with the first word that came to mind. Some of the fragments are designed so that they can be completed with either neutral or death-related words. For instance, “coff__” could be completed as “coffee or “coffin.”

Related research shows that because religious belief can serve such an important terror management function for its followers, when individuals feel that they are being punished or abandoned by God, a form of what has been called religious struggle (see Exline & Rose, 2005; Pargament, Murray-Swank, Magyar, & Ano, 2005; see also Chapter 25, this volume), a breakdown of the terror management system occurs. In their study with terminally ill patients, Edmondson, Park, Chaidoir, and Wortman (2008) found that the relationship between this kind of religious struggle and depression was mediated by an increase in personal death concerns. Without the protection of a firm belief in their worldview, people experience an increase in anxiety about death.

The third empirical approach used to test the TMT view of religion is to assess whether affirming an afterlife strengthens the individual's buffer against terror and thus attenuates defensive responses to MS. In one relevant set of studies, Dechesne et al. (2003) had participants read an article that attributed near-death experiences to either the existence of an afterlife or a mere by-product of oxygen deprivation. Among participants primed with mortality, those who read the deflationary account of near-death experiences subsequently showed increased self-esteem striving and defense of nonreligious aspects of their cultural worldview, whereas those who read the proafterlife article did not exhibit increased worldview defense. In other words, when individuals receive evidence confirming the possibility of attaining literal immortality, they have less need to pursue symbolic forms of immortality; but when literal immortality beliefs are undermined, it heightens individuals' need to defend their symbolic worldview. This research did not measure defense of religious aspects of worldviews.

Similarly, a recent study found that after MS, people who do not believe in the existence of an immortal soul exhibited increased DTA but people who do hold this belief did not (Weise & Greenberg, 2010). Follow-up research (Heflick & Goldenberg, 2010) showed that this is only true of positive depictions of an afterlife: Affirming beliefs in a negative afterlife (e.g., hell) do not attenuate defensive responses to MS. Other relevant research shows that making

salient the death of religious out-group members—those who challenge the validity of one's own religious beliefs—eliminates defensive responses to MS (Hayes, Schimmel, & Williams, 2008).

Research using the three approaches to assessing TMT hypotheses supports the terror management function of religion. Reminders of death increase defense of and commitment to religious belief. Threats to religious beliefs increase death thought accessibility. And belief that existence extends beyond death and a reminder of misfortune to religious out-groups reduces MS-induced DTA and defensiveness. Taken together, these results indicate that religious worldviews serve a unique function in keeping death-related anxieties at bay.

Individual Differences in Religiosity and Terror Management

The research reviewed so far has taken a normative view, focusing on the terror management function of religion for most people. Complementary work looks at how individual differences in religiosity moderate terror management processes. One such individual difference is Allport and Ross's (1967) distinction between intrinsic and extrinsic religiosity. Individuals high in intrinsic religiosity turn to religion to establish the meaning and significance of their lives, whereas those high in extrinsic religiosity use religion instrumentally as a means of obtaining other ends, such as gaining belonging or social status.

From a TMT perspective, intrinsic religiosity provides strong, internalized faith in a death-transcending ideology and therefore should help individuals to cope with mortality and other existential concerns more so than extrinsic religiosity. Correlational support for this possibility is provided by evidence that high levels of intrinsic religiosity are associated with lower levels of death anxiety (Roff, Butkeviciene, & Klemmack, 2002; Thorson & Powell, 1990) as well as more accepting attitudes toward death (Ardelt & Koenig, 2006; Cohen, Pierce, et al., 2005), whereas variations in extrinsic religiosity do not appear to predict these outcomes. We should acknowledge that some authors have questioned the validity of measures of extrinsic religious motivation (Cohen, Hall, Koenig, & Meador, 2005; Kirkpatrick & Hood, 1990).

More direct evidence for the protective role of intrinsic religiosity comes from a series of experiments conducted by Jonas and Fischer (2006). In one study, they grouped participants as either high or low in intrinsic religiosity, provided half the participants with an opportunity to affirm their religious beliefs by completing a German version of Feagin's (1964) Religious Orientation Scale, manipulated MS, and measured worldview defense (specifically, championing one's home city). MS increased worldview defense among individuals low in intrinsic religiosity as well as those high in intrinsic religiosity who were not given an opportunity to affirm their religious beliefs; however, people high in intrinsic religiosity who were allowed to affirm their religious beliefs did not exhibit an intensified worldview defense in response to MS. Interestingly, this effect did not occur for people high in extrinsic religiosity.

A follow-up study found that following a MS prime, participants high in intrinsic religiosity who had just affirmed their religious beliefs did not show an increase in DTA, whereas individuals low in intrinsic religiosity and high in extrinsic religiosity did. These findings show that, after affirming their religious beliefs, those high in intrinsic (but not extrinsic) religiosity are able to react to MS without worldview defense or heightened DTA.

In addition to examining intrinsic versus extrinsic religiosity, researchers have studied individual differences in religious fundamentalism. Altemeyer and Hunsberger (1992) defined fundamentalism as a belief that there is only one set of religious teachings that embodies the inerrant truth about humans and God and that this truth must be followed according to longstanding practices and rules. Individuals high in fundamentalism are afforded well-defined conceptions of the meaning and purpose of their life as well as clear prescriptions for how to conduct themselves across situations. Fundamentalists believe that by following the traditions and laws set forth by their religion, they can enjoy a special relationship with God and transcend death. They are especially adamant about their belief in a literal afterlife.

This ideological certainty comes with a price, however. Because fundamentalist belief systems emphasize the literal truth of sacred texts and

absolute notions of good and evil, they are particularly vulnerable to any information that contradicts them. It is this proneness to threat that helps explain why fundamentalist individuals display strong aversion to people with dissimilar lifestyles or beliefs (e.g., Altemeyer, 2003; L. L. Nelson & Milburn, 1999; Saucier & Cawman, 2004). A multitude of studies have found that religious fundamentalism and the authoritarian attitudes that tend to be associated with it are positively associated with racial prejudice (Altemeyer, 2003; Altemeyer & Hunsberger, 1992; Laythe, Finkel, & Kirkpatrick, 2001), prejudice against homosexuals (Fisher, Derison, Polley, Cadman, & Johnston, 1994; Saucier & Cawman, 2004), and support for militarism (Rothschild, Abdollahi, & Pyszczynski, 2009; see also Volume 2, Chapter 20, this handbook). Relevant TMT research shows that Christians who are high (vs. low) in religious fundamentalism demonstrated an increase in DTA when exposed to even subtle inconsistencies in the Bible (Friedman & Rholes, 2007).

In addition to influencing sensitivity to threatening information, individual differences in fundamentalism interact with mortality salience to influence attitudes about modern medicine and health. Vess, Arndt, Cox, Routledge, and Goldenberg (2009) reported a series of studies examining whether MS would lead fundamentalist individuals to adhere to their religious beliefs even if it meant foregoing medical treatment. In one study, Christians high in fundamentalism responded to MS with a decreased desire to inform another individual that prayer is not a substitute for medical treatment. A second study showed that these high fundamentalist participants perceive prayer as more effective after MS (Vess et al., 2009). Three additional studies found that MS led fundamentalist Christians to show increased support for the refusal of medical treatment for religious reasons, increased reliance on faith to treat a medical illness, and greater belief in divine intervention as an alternative to medicine. These studies provide strong evidence that terror management processes can motivate reliance on religious beliefs at the risk of physical health, at least among those individuals disposed to fundamentalism.

Most recently, terror management research has begun examining individual differences in

religiousness itself—that is, testing how terror management processes differentially manifest in the responses of individuals who self-identify as religious versus atheist. On the basis of TMT, Hayes, Schimel, Dalton, Webber, and Faucher (2010) reasoned that purely secular worldviews serve a terror management function for atheists, just as religious worldviews do for those of the faith. Supporting this claim, they showed that when atheists read an essay arguing in favor of intelligent design (thereby contradicting evolutionary accounts of the origins of life), they exhibited significantly higher levels of DTA, greater efforts to reconcile the new information with their atheist worldview, and more derogation of the author than their control peers.

These findings fit the idea that even allegedly “secular” worldviews function equivalently to religious worldviews in providing bases of meaning and value that protect individuals against mortality-related concerns. But this finding is far from alone in this regard. In fact, the majority of the research into TMT has explored the role of secular worldviews in quelling death-related concerns. For example, Greenberg et al. (1995) found that following MS, participants experienced difficulty and distress in completing a task that required using a U.S. flag in an inappropriate way just as participants were reluctant to use the crucifix as a hammer. Put simply, both religion and secular or atheistic worldviews serve a terror management function by embedding the individual in a symbolic conception of reality that explains where we as humans come from; our present place in the universe; how we may be valuable contributors to our symbolic reality; and how, through our valued status, we can survive in some way after physical death (for further discussion of this point, see Greenberg, Landau, Solomon, & Pyszczynski, in press). The primary distinction between these worldviews is that religions offer literal as well as symbolic immortality, whereas secular belief systems offer only symbolic bases of immortality.

EXPLAINING THE DARK SIDE OF RELIGIOUS WORLDVIEWS

If a core psychological function of religion is buffering anxiety, why have religious belief systems often

portrayed punitive or vengeful deities, fire and brimstone spewing authorities, strict taboos in domains like sexuality, harsh admonitions against various sins, human sacrifice, ghosts, devils, and hellish afterlives? These concepts certainly do not seem psychologically comforting. A complete answer to this question would take up at least a chapter, if not a book series, of its own, but we can briefly offer a few viable explanations here.

First, some of the reasons for these features may relate to other functions of religious belief. A particularly likely candidate is social control (e.g., see Raven, 1999). As religious conceptions of reality developed, community leaders undoubtedly saw the value of including prescriptions for behaviors that would promote group cohesion, harmony, and success. Admonitions like “Thou shalt not kill” make a lot of sense in this regard, and what better way to promote adherence to such commandments than with a deity who will reign down hard upon violators? More cynically, corrupt leaders given the power of conveying what deities want have often used that power to promote control over others to serve their own self-interest. Cult leaders who convince their followers to turn over all worldly possessions or even their own lives to perform God’s will provide extreme examples, but we also see more subtle illustrations in prominent political figures who claim that God has chosen them to lead a nation.

Although such other factors undoubtedly play a role in the more fearful and controlling aspects of religions, the harsher features of religions also make sense if they are going to be effective anxiety-buffering ideologies. A primary requirement of a worldview that effectively provides psychological security is that it be believable. It must make sense of the events that occur in the world for people to maintain faith in it. If people are struck down by lightning, eaten by lions, drowned by tidal waves, starved by droughts, and so forth, the religious worldviews must offer plausible explanations for such horrors and tragedies of life. Righteous deities striking down the wicked, evil spirits, and avenging ancestors have long been convenient explanations for such things; explanations that help make compelling the overarching conceptualization of spirit, souls, and afterlives that provide hope and comfort to those who

are deserving and devout. After all, if there are evil spirits, there must be benevolent ones as well.

We think it is no coincidence that enduring religions typically convey that the bad acts that spirits commit are for those who do not do what is right. Such beliefs in a just world (Lerner, 1980; Lerner & Miller, 1978) set up the transference of the security base from the parents to God by extending the childhood formula for security equating goodness with safety and badness with loss of protection and punishment (e.g., see Solomon, Greenberg, & Pyszczynski, 1991). Furthermore, many religious taboos focus on controlling people’s more animal-like impulses, thereby facilitating the anxiety-buffering notion that we are more than just corporeal creatures fated only to extinction upon death (e.g., see Goldenberg, 2005). And rituals like human sacrifice typically served to appease the gods for the luckier group members (Becker, 1975).

The overall point is that although on the surface potentially anxiety-producing aspects of religion seem antithetical to its anxiety-buffering function, we would argue quite the opposite. Believing the tragedies of life are punishments from deities and potentially avoidable by doing the right things is far more comforting than believing that they are random, uncontrollable events that could happen to any of us at any time, regardless of our morality and virtue, or any currying favor with the gods. Better to be anxious because I may not be living up to my religious precepts than because this is an arbitrarily dangerous world in which nothing ends well.

REMAINING QUESTIONS AND ISSUES

The empirical research just reviewed provides strong support for the conclusion that religiousness protects people from anxiety in general and fear of death in particular. This work also points to a number of unanswered questions that could be addressed in future research.

Anxieties of Life Versus the Fear of Death

One question concerns how much the appeal of religion is based on its value in helping with day-to-day threats, such as losing one’s job or having a sick child, as opposed to the existential threat of the awareness

of mortality. There is no easy way to answer this question because religiousness clearly can help with both kinds of threats. Conceptually, one could argue that religions are most compelling in handling the threat of death because the promise of an afterlife cannot be definitively disconfirmed. In contrast, if religions promise good fortune to those who pray or follow its precepts, life events can call the efficacy of these practices into question. Furthermore, many threats that engender anxiety, such as crime, economic woes, political instability, illness, and environmental contamination involve the potential threat of death.

Further complicating matters, research shows that threats to sources of terror management, such as self-esteem, cherished beliefs, and close relationships all increase the accessibility of death-related thought (Hayes, Schimel, Arndt, et al., 2010), making this question difficult to address for both conceptual and empirical reasons. Perhaps it is enough to simply conclude that research shows that religiousness helps with anxieties regarding both the vicissitudes of life and the inevitability of death; the relative value of religiousness for coping with each type of threat will vary from situation to situation and person to person.

How Does the Anxiety-Buffering Function Interact With Self-Growth in Shaping Religiousness?

We have argued that a primary function of religiousness is to buffer anxiety, but is that in itself a complete explanation of religiousness in all its richness and complexity? Perhaps people turn to religion not only to assuage fears but also to satisfy their urge to explore the world, experience joy and discovery, and expand their sense of self—strivings that lie at the core of both classic (e.g., Maslow, 1943) and contemporary (Deci & Ryan, 1995) humanistic perspectives on the human quest for self-growth. As an anecdotal illustration, one of us recently saw someone staring at the sky and heard them exclaim, “How can anybody look at that beautiful sunset and not believe that there is a God?” Does this person’s sentiment reflect a child-like clinging to security, or is it more indicative of something like awe or gratitude—reaching out to the world rather than shielding the self from danger?

Even Becker (1975)—who observed so clearly how fear drives religiousness—acknowledged that religion and spirituality can provide the bases for expressions of freedom and self-reliance. In forming a personal, spiritual connection with the divine, the individual can move away from conventional perspectives on God and experience the relationship in a personal way, James (1902) similarly advocated an approach to religion that is both personal and experiential—one that provides both intimacy and meaning (Pawelski, 2007). And Becker saw this view as similar to that expressed by theologian Paul Tillich:

Religion opens up the depth of man’s spiritual life which is usually covered by the dust of our daily life and the noise of our secular work. It gives us the experience of the Holy, of something which is awe-inspiring, an ultimate meaning, the source of ultimate courage. (1959/1964, p. 9)

How can we characterize the interplay of anxiety-buffering and growth-oriented motives in driving religiousness? One possibility is that religiousness can serve both types of motives at different times, or for different people and cultures (see Chapter 14, this volume). Indeed, Batson and Stocks (2004) proposed that religion addresses all the needs that Maslow (1943) proposed in his need hierarchy, from the needs for security (as TMT would emphasize) to the need for self-actualization. Maslow’s theorizing implies that people cannot employ religion as a means of actualizing their potential until they satisfy more basic security needs, either through religion or other sources of meaning and value (for a more complete discussion of the interplay of defensive and growth-oriented needs in adherence to worldviews, see Pyszczynski, Greenberg, & Goldenberg, 2003).

Religious Versus Secular Worldviews: Is One Better at Promoting Individual and Collective Well-Being?

Religiousness certainly has its “upsides” for the well-being of individuals and groups. Anecdotally, individuals often find religion or renew their faith to cope with distressing life events. For example, after being abducted and held captive in Afghanistan by members of the Taliban, American journalist David

Rohde (2009) reported, “For the first time in my life I began praying several times a day, and I found that it centered me” (p. 7). Empirical research confirms that religion is one of the most popular and effective mechanisms for coping with traumatic life events (e.g., McCrae, 1984; Pargament, 1997; see also Chapter 19, this volume). Furthermore, religiosity is positively correlated with various indicators of positive psychological functioning, including hope, a sense of purpose and meaning in life, and perceived self-efficacy (Koenig, McCullough, & Larson, 2001). Also, religious (vs. nonreligious) individuals are less likely to abuse alcohol and drugs; experience less hypertension, heart disease, stroke, cancer, and disability (Koenig et al., 2001); and live longer (Smith, McCullough, & Poll, 2003).

Lifton (1979) argued that symbolic bases of immortality are more mature and constructive than the literal immortality offered by most religions. He noted that religions offer bases of symbolic as well as literal immortality, by offering a place within a longstanding tradition that may continue indefinitely into the future. But it is difficult to deny that hope of literal immortality, when held strongly, can be a unique psychological resource.

Partly on the basis of Kierkegaard, Becker (1971, 1973) argued that worldviews that include a sacred element, some personal spiritual faith, best serve to manage the terror of being mortal. If we all need to believe that we in some way have a significance that transcends our own physical death, than the most compelling belief in that would come from serving some enduring higher power and literally continuing in some form beyond death. Carl Jung proposed that it is in our nature to believe we will in some way last beyond our physical death:

Mythological and religious imagery of life beyond death, that is, constitutes an “archetype,” a primordial, inherited, instinctual structure that is worthy of one’s “faith.” . . . I therefore consider the religious teaching of a life hereafter consonant with the standpoint of psychic hygiene. When I live in a house that I know will fall about my head in the next two weeks, all of my vital functions will

be impaired by this thought; but, if on the contrary, I feel myself to be safe, I can dwell there in a normal comfortable way. (quoted in Lifton, 1979)

Similarly, Otto Rank (1941/1958), who greatly influenced Becker and TMT, concluded that the problem with traditional psychoanalysis was that it deconstructed people’s motives and actions, leaving them devoid of bases for viewing their lives as meaningful. He argued that this is precisely the opposite of what people need; people need something to believe in, some basis of significance. Rank posited that the most reliable basis of significance was some form of religiousness

Religion may be helpful in ameliorating anxiety because of its collective nature. Religion helps to strengthen social connections and feelings of group belonging. Individuals participating in religious activities report larger social support networks and are more satisfied with their relationships (Koenig et al., 2001). As to intergroup relations, a growing body of research shows that focusing people on their religion’s prescriptions for peace and compassion decreases their negative attitudes and aggressive intentions toward out-group members, particularly when their adherence to their religion is increased by mortality salience (Jonas & Fischer, 2006; Norenzayan, Dar-Nimrod, Hansen, & Proulx, 2009; Rothschild et al., 2009).

But even a cursory glance at history and current events shows that religion is implicated in seemingly intractable national conflicts, intergroup terrorism, and other forms of inhumanity. It would be wrong, however, to blame religion as the foremost cause of human discord, as popular writers have done recently (e.g., Hitchens, 2007). Consider that the explicitly atheist and antireligious reigns of Stalin, Mao, the Khmer Rouge, and Hitler inflicted more death and suffering on the human race in 60 years than all the religion-influenced conflicts in recorded history combined. Bigotry and violence can result from faith in any cause or belief system.

These observations suggest that, in itself, religion represents neither the saving grace nor the scourge of humankind. A TMT analysis points out that people are fundamentally motivated to sustain faith that

their lives have meaning and significance beyond mere biological existence. Religion directly serves that need, but secular worldviews do as well. Just as a Christian would be likely to lash out at others who spit on an image of Jesus, a new Mercedes-Benz owner would also lash out at someone who spits on their new vehicle. A more reasonable conclusion, and one that fits best with the research we have reviewed, is that the problem lies in clinging too rigidly onto one's worldview and taking its conceptions of reality and its guidelines for living as absolute truths (see Volume 2, Chapter 4, this handbook). We saw, for example, that individuals who take religious teachings as unerring literal truths showed heightened activation of death-related cognitions in response to intimations that their holy texts are not logically watertight (Friedman & Rholes, 2007) and responded to mortality reminders by taking what might be reasonably considered unhealthy and even fatal attitudes toward modern medicine (Vess et al., 2009).

Perhaps, then, improving the human lot does not require encouraging people to adopt religious or secular worldviews at the expense of the other. Rather, we should encourage people to adopt a more tolerant, relativistic approach to their religious or secular worldview with which they can appreciate that their conceptions of what is and what should be represent only one way to apprehend reality, and that no such conception has a monopoly on truth. The unanswered empirical questions then surround what makes some people particularly prone to developing and relying on rigid narrow worldviews as opposed to tolerant and accepting ones?

Why “Religiousness”?

The editors of this handbook have distinguished between *religiousness*—beliefs, practices, relationships, or experiences having to do with the sacred that are explicitly and historically rooted in established institutionalized systems—and *spirituality*, or beliefs and so on having to do with the sacred not necessarily linked to established systems (see Chapter 1, this volume). We have chosen to focus our discussion on religiousness because we feel that most of the relevant theorizing and research concerning the anxiety-buffering function has focused

on conventional socially validated belief in religion rather than more individualized forms of spirituality.

Our analysis, however, may also illuminate aspects of spirituality so defined, including people's efforts to break free from convention and seek out more personally satisfying answers to the “big” existential questions—what Batson, Schoenrade, and Ventis (1993) have referred to as a “quest orientation.” Although research has not addressed this possibility to the extent it has focused on religiousness, future attempts to fill this gap can rely on a wealth of sophisticated theorizing, including the works of Becker (1975), Tillich (1959/1964), Lifton (1979/1983), and especially Rank (1941/1958) and May (1953).

CONCLUSION

Concepts of deities and religious ideologies supporting them may very well have originated because of our ancient ancestors' inferences of supernatural agency (e.g., Boyer, 2002; see also Chapter 14, this volume) to explain events in the world and their desires to appeal to such higher powers to maximize good events (e.g., rain) and minimize bad ones (e.g., volcanic eruptions). Many of these functions are now served by scientific knowledge and technological advances. And atheism and a focus on symbolic immortality are surely more widespread now than at any time in human history (Davie, 2000; Zuckerman, 2005). But religiosity persists. It is fashionable for evolutionary speculators to try to explain this persistence in terms of the adaptive value of group cohesion, order, and subjugation to leaders. But all sorts of groups and ideologies can serve and have served these functions. We believe that religiousness continues to thrive and serve humans well because a central function, among its numerous ones, is to help people manage the potential anxiety that would result from viewing one's existence as just a pointless exercise, always in peril, and inevitably terminated. The research we have reviewed provides ample support for this central role of religiousness.

As the knight Antonius Block put it in Bergman's classic 1957 film *The Seventh Seal*, if there is no God, “then life is a senseless terror. No one can live with death, knowing that all is nothing.” This may not be the only way to look at life, but it is a persuasive one

in a world that every day is full of seemingly senseless tragedies and miseries. Religion can offer hope regarding one's own fate and that of loved ones as well. What other comfort really is there for the person faced with an inoperable brain tumor? Or for an acquaintance of one of ours who, during the writing of this chapter, lost his child weeks before his 13th birthday? So beneath all of religion's complexities, death, the worm at the core, keeps the appeal of religion very much alive.

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