

The Role of Religion in Moderating the Impact of Life Events on Material Life Goals:

Some Evidence in Support of Terror Management Theory

C. Harry HUI<sup>1</sup>, Stephanie W.Y. CHAN<sup>1</sup>, Esther Y.Y. LAU<sup>1</sup>

<sup>1</sup>University of Hong Kong

Shu-Fai CHEUNG<sup>2</sup>, and Doris Shu Ying MOK<sup>2</sup>

<sup>2</sup>University of Macau

<sup>1</sup> Department of Psychology, University of Hong Kong, Pokfulam Road, Hong Kong, China.

<sup>2</sup> Department of Psychology, University of Macau, Avenue Padre Tomás Pereira Taipa, Macau, China.

Key words: life event, existential threat, terror management theory, life goal, religion, Chinese, materialism

This study was supported by a seed grant from the University of Hong Kong to the first author, and a private donation to the first and third authors. We thank Eddie Ng and Sing-Hang Cheung for useful comments on an earlier manuscript, and Jasmine Lam for data management.

Correspondence concerning this article should be addressed to Dr. C. Harry Hui. Phone: (+852) 3917-2291. Fax: (+852) 2858-3518. E-mail: huiharry@hku.hk.

**Abstract**

How would religion and a life event carrying an existential threat (LEET) jointly impact a person's life goals of becoming wealthy and successful in one's career? Goal reprioritization, socioemotional selectivity, and gerotranscendence theories predict a shift away from material goals following a LEET, independent of the effect of religion. However, terror management theory (TMT) predicts that the effect of death thoughts depends on one's prevailing cultural values. As religion can be regarded as a culture, it is possible that Christians' and non-believers' material life goals would be differentially altered by LEET. Data from 1,259 young Chinese adults reveal no main effect of LEET, but a strong effect of religion. Moreover, there was an interaction effect between LEET and religion on material life goals: LEET weakened material goals for Christians but not for non-believers. These findings suggest that TMT is more suitable than the other theories for predicting life goal changes.

The Role of Religion in Moderating the Impact of Life Events on Material Life Goals:  
Some Evidence in Support of Terror Management Theory

A life event that carries an existential threat (LEET) is one that confronts the person with the reality of death and non-being. Examples include serious personal illness and injury, as well as a significant other's serious illness, injury, or death. These events lead us to realize the finitude of our time. They remind us of our own mortality and eventual nothingness, and that our lives may end sooner than we expect or desire. They may affect the way we look at life (Bonanno, 2005) and result in self-transformation (Lancaster & Palframan, 2009), thereby altering our life goals.

Life goals (or personal strivings) are "future-oriented representations of what individuals strive for in various life domains" (Salmela-Aro, 2009, p. 63), and are what individuals attempt to accomplish through their everyday behavior. Consciously accessible and personally meaningful (Emmons, 2005), they are represented in terms of the particular status in life that an individual aims to achieve. Material life goals, which are the focus of the present paper, comprise the strivings for career success, status, material possessions, enjoyment, and leisure. People with strong material life goals define success as possession, and equate happiness with acquisition (Richins, 1987). They seek to gain job promotion and to improve their standard of living. Their emphasis is on the pleasure derived from the material possessions. As characterized by the "American dream", these goals are invariably self-focused and extrinsic in orientation (Kasser & Ryan, 1996).

Another key construct in the present article is religious affiliation. There are several things we know about it. First, religiosity, defined as how deeply one is committed to and

engaged in a religion, negatively correlates with a materialistic and hedonistic value orientation (Arndt, Solomon, Kasser, & Sheldon, 2004). Second, traumatic experience can deepen religiosity (Shaw, Joseph, & Linley, 2005). Third, religion/spirituality can affect how an individual makes sense of and manages trauma (Park, 2005, 2010), although the role of religion can be complex (Lesniak, Rudman, Rector, & Elkin, 2006). Religion/spirituality usually benefits people after a trauma (Shaw, et al., 2005), but religion may sometimes result in post-traumatic decline (Pargament, Desai, & McConnell, 2006).

What is not known is how religion and LEET interact to affect life goals. The present study purports to extend the literature in this direction by investigating how religion and LEET separately and jointly affect material life goals. The following sections briefly review several theoretical perspectives that may inform our prediction.

### **The Goal Reprioritization, Socioemotional Selectivity, and Gerotranscendence Theories**

Goal reprioritization theory posits that the constraints posed by negative life events lead individuals to disengage from unattainable goals and to engage more in attainable goals (Heckhausen, 1997). Consistent with the theory Yalom (1980), for example, found terminally ill patients experiencing a “rearrangement of life priorities” (p. 35). Kinner, Tribberisee, Rose, and Vaughan (2001) interviewed 17 adult victims of serious accidents or cancer and showed that the participants’ life priorities changed following their illness. The participants were less concerned about material wealth and success.

Socioemotional selectivity theory (Fung & Carstensen, 2006; Fung & Siu, 2010) suggests that when individuals are reminded of life’s finitude their goals shift from being “future-oriented” (i.e., information seeking and related to future prospects) to being “emotionally meaningful”, such as enjoying time with loved ones. Corroborating data have been found in

studies on AIDS patients (Fredrickson & Carstensen, 1990), young cancer patients (Kin & Fung, 2004), and Hong Kong Chinese before and after the September 11 attack and an epidemic outbreak (Fung & Carstensen, 2006).

Tornstam's (1999) theory of gerotranscendence posits that human ageing is characterized by "a shift in metaperspective from a materialistic and pragmatic view of the world to a more cosmic and transcendent one" (p. 178). This can lead individuals to "be filled with that spirit of divine discovery or to live their lives in a new way" (p. 151). The anticipation of death is a "catalyst" which promotes the desire for a higher state of consciousness. We would expect that because LEETs are a reminder of life's finitude, they act as a catalyst to accelerate the development towards gerotranscendence.

While the other two theories are not as explicit as gerotranscendence theory in predicting that a LEET would bring about changes in religiosity/spirituality, with regard to material life goals, these three theories predict a main effect on material goals independent of one's religious affiliation. That is,

H1: Compared to those who have not experienced a LEET, those who have recently had such an experience are less likely to have material goals.

### **Terror Management Theory and Religion**

While none of the above theories specifically predicts how religion directly affects life goals or moderates the effects of a LEET, a different prediction can be derived from terror management theory (TMT). This theory states that "the uniquely human awareness of the inevitability of death gives rise to potentially overwhelming terror" (Pyszczynski, Greenberg, & Solomon, 2003, p. 27). According to TMT, we manage this terror by constructing and maintaining our cultural worldviews and investing in our self esteem to generate the sense or

belief that we have worth in the world. Cultural worldviews are the “humanly constructed beliefs about the nature of reality that are shared by individuals in a group that function to mitigate the horror and blunt the dread caused by knowledge of the reality of the human condition, that we all die” (Pyszczynski et al., 2003, p. 16). They give meaning to the world by describing how the world has come to be, and impose standards and expected roles on people who want to be recognized as a valued member of their group (Greenberg, Pyszczynski, & Solomon, 1986). When threatened with the inevitability of death, we “sustain faith in a cultural drama that provides the basis for self-esteem” and “maintain a sense of value within that cultural worldview” (Greenberg et al., 1986, p. 199) to gain a sense of immortality and to reduce the death anxiety. TMT responses are fairly generalizable across cultures (e.g., Heine, Harihara, & Niiya, 2002; Kashima, Halloran, Yuki, & Kashima, 2004; Tam, Chiu, & Lau, 2007; Wakimoto, 2006).

TMT predicts that in modern societies, where financial success and enjoyment are highly valued, people cope with death reminders by holding on to their material goals more strongly to maintain their sense of self-worth. This argument can be supported by a study by Sheldon and Kasser (2008, Study 1), in which students were primed to mortality salience by describing the emotions arising from the thought of their own death. It was found that these students were more likely than the un-primed to pursue extrinsic rather than intrinsic goals. Under this condition of mortality salience, which is unconscious and subliminal, the students had high financial expectations for the next 15 years. They wanted to spend more on clothes, entertainment, and travel. In a scenario relating to timber harvesting, the participants with high mortality salience were more driven by the profit motive (Kasser & Sheldon, 2000).

However, the opposite pattern of results was found for “mortality awareness”, a condition in which death is *consciously* contemplated. During and shortly after a near-death experience or a traumatic event such as an earthquake, people tend to forgo self-interest for altruism. This is also true of participants who were given a scenario to imagine what it was like to make futile attempts to escape from a burning building and then finally giving in to the fire (Cozzolino, Staples, Meyers, & Samboceti, 2004; Kosloff & Greenberg, 2009; Lykins, Segerstrom, Averill, Evans, & Kemeny, 2007). According to the dual process model, a LEET will weaken an individual’s material goals if the person is made constantly aware of their mortality and the limitedness of their own lifespan.

For most people who experience a LEET, an awareness of death initially arises, but then later subsides. Even if the LEET has an intense impact during the first few weeks, it will eventually recede from consciousness. Its place in the individual’s “working memory” will be taken by other more recent thoughts in the person’s daily encounters. Nevertheless, compared to others, the person who has experienced a LEET will be more susceptible to death salience priming by otherwise neutral objects. For example, the sight of an ambulance or a newspaper article on cancer may prime an individual who has had a LEET more easily than someone whose life has been rather uneventful. Therefore, to the extent that the prevalent cultural values and the individual’s own values are materialistic, a LEET would encourage material goals.

TMT also posits that religion serves to relieve the mortality terror. The “terror management function served by religion is similar in many ways to that served by secular worldviews” (Vail et al., 2010, p.88). In line with this, Jonas and Fischer (2006) found that when participants high on intrinsic religiosity were allowed to affirm their faith, they were less likely to recruit secular worldviews as a defense against death reminders. Friedman and Rholes (2008)

demonstrated a similar difference in worldviews between participants who held fundamentalist religious views and those who did not. A parallel line of evidence showed that mortality salience motivates people to defend their own religious faith (Greenberg, Solomon, & Pyszczynski, 1997; Jonas & Fischer, 2006, Study 1).

While the goal reprioritization, socioemotional selectivity, and gerotranscendence theories are relatively silent on whether religious and non-religious people respond differently to LEETs, a prediction can be derived from TMT. This is based on the understanding that religion is a culture (e.g., Cohen & Hill, 2007), and the assumption that religious and non-religious people have different perceptions of the cultural expectations relating to materialism. Specifically, career success and material gain are not as highly valued in religious communities as they are in secular communities (Fromm, 1976). Among church attendees, those who view work as a career have a lower degree of religious salience and participation than those who view work as a “calling” (Davidson & Caddell, 1994). This is so despite Weber’s assertion that the Protestant ethic is one of the cornerstones of capitalist life. In fact, many people regard the pursuit of material wealth to be incompatible with religious fulfillment (Belk, 1983). Church attendance and being a “born-again” Christian were negatively associated with a measure of materialism (LaBarbera & Guerhan, 1997). Empirical data collected in 15 countries converged to show that religious people rejected hedonism, achievement, and power as personal values (Saroglou, Delpierre, & Dernelle, 2004). Such a difference in cultural worldviews between religious and non-religious people may give rise to different consumerist responses to the experimental induction of mortality salience (Arndt et al., 2004). Therefore, TMT predicts that



H2: Religious affiliation moderates the effects of LEETs, such that LEETs strengthen the material goals of non-religious people and weaken the material goals of religious people, when compared to those who have not experienced a LEET.

### **The Present Study**

The purpose of this study is to evaluate the two incompatible hypotheses and to compare the efficacy of the different theoretical approaches as applied to an otherwise healthy population. In doing so, we hope to overcome several limitations of previous research. One such limitation is that many of the LEET studies were conducted in English-speaking countries, with long histories of Judeo-Christian influence. Evidence is still sparse as to whether these theories and research findings are generalizable to other cultures. Second, many of the previous TMT studies were experimental in nature, and focused on immediate and short-term effects. We still need information on the robustness of the medium-term effects of a LEET, and in a real life setting. Third, most studies in this area were conducted with small samples. This limitation is due partly to the requirement for laboratory-based experimental manipulation (in TMT studies) and the difficulty in recruiting participants (for studies on people who go through life crises). Finally, although people's life goals undergo major changes during the transition from adolescence to young adulthood (Roberts, O'Donnell, & Robins, 2004; Salmela-Aro, Aunola, & Nurmi, 2007), very few LEET studies examined this population. Obviously, research samples should extend beyond those who are elderly, ill, or disaster-stricken. To address the above problems, we collected longitudinal data from a large sample of young Chinese adults (aged 18-22).

## **Method**

### **Participants**

The present study was part of a larger panel project. Prospective participants were initially reached via diverse channels (including bulk emails through five universities and one community college in Hong Kong and Macau, bulk emails and public announcements in two churches in Hong Kong, and internet advertising). Some of these individuals propagated the news to their friends via social networking websites such as Facebook. All of them were led to our research website, where the purpose of the research was fully explained. They learned that they would later receive several invitations to complete online questionnaires (in Chinese), at which time they could decide to participate or not. After they had read and agreed with the consent form, they received an email containing an URL to the first questionnaire. The questionnaire session lasted for about 30 minutes.

To be included in the present study, each individual must have provided complete data on the two key study variables in two waves of the survey. They must also have indicated that they were either a Protestant Christian (having practiced for a year or more) or had no affiliation with any organized religion. (We wanted to include people of other religions. However, there were very few in the original sample.) Of our final sample ( $N=1,259$ ), 67.8% were female, 93.8% full-time students, and 24.9% Christians. The mean age was 20.3,  $SD=1.10$ . About 64% reported a monthly family income under HK\$20,000. About 26% of these Chinese participants had been born outside of Hong Kong; however, they were now residing in Hong Kong (90.9%) and Macau (9.1%). Situated at the crossroads of the East and West, Hong Kong people place significant value on materialist pursuits (Chan & Cheng, 2002; Tse, Belk, & Zhou, 1989).

## **Measures**

**Life event.** In Wave 1 (Fall of 2009), participants indicated if they had experienced serious illness or injury, and whether a family member, relationship partner, or good friend of the participant had died or experienced serious illness or injury during the past 12 months.

**Material life goals.** In Wave 2 (Spring of 2010), participants used a 4-point scale (1=“Absolutely not”, 4=“Absolutely”) to indicate whether they wanted to attain the following goals within the next 10 years: “owning a car or real estate”, “securing a job promotion and having career achievement that others affirm”, “having a high quality material life”, and “enjoying a variety of leisure activities, and having fun with friends and peers”. Ratings on the items were averaged ( $\alpha=.72$ ).

**Other measures.** During Wave 1 we collected information on gender, family income, birth place, and religious affiliation. Participants who indicated that they were Christians also responded to Benson, Donahue, and Erickson’s (1993) Faith Maturity Scale (FMS), which operationalizes religiosity.

## Results

The level of the material life goals did not vary with family income ( $F(1,1253)=5.78, ns$ ) or student status ( $t(1257)=-1.21, ns$ ), but did with religious affiliation ( $t(1257)=6.55, p<.001$ ). Unsurprisingly, the Christian participants were lower ( $M= 3.05, SD=.56$ ) than non-believers ( $M=3.29, SD=.54$ ). Individuals born in Hong Kong were higher ( $M=3.31, SD=.54$ ) than those who were born in Mainland China or Macau ( $M=3.20, SD=.56; t(1257)=3.08, p < .001$ ). Within the sample, 498 individuals (39.6%) reported at least one LEET during the past year. Chi-square tests showed that LEET occurrence was not associated with gender, family income, place of birth, and religious affiliation. There was no difference in material goals between those who had LEET and those who did not.

Before we used multiple regression results to evaluate our two hypotheses, we examined if our dataset met the assumptions of normal residuals, homoscedasticity, and linearity. The skewness and kurtosis of material goals are  $-.55$  ( $SE=.07$ ) and  $.10$  ( $SE=.15$ ) respectively. We further found the skewness and kurtosis of the residuals to be  $-.54$  ( $SE=.07$ ) and  $.25$  ( $SE=.14$ ) respectively. To be on the safe side, we conducted a second set of regression analyses, using power transformation of material life goals. As both analyses yielded similar results and identical conclusion, we report only the results on the untransformed material life goals. We also examined the plots of residuals against the predicted values and found no substantial violation of homoscedasticity. Lastly, plots of the residuals against the predictors suggest that linearity is a tenable assumption.

In the first step of the regression analysis, we entered the demographics (i.e., gender, family income, and birth place) as control variables for the prediction of material goals. In the second step, religious affiliation and LEET were entered, followed by the interaction term. Birth place was a significant predictor ( $\beta = -.07, p < .05$ ), as was religion ( $\beta = -.13, p < .001$ ). The participants born in Hong Kong and those who reported being a Christian were lower on material goals. There was no main effect of LEET. H1 did not receive any support. However, consistent with H2, we found an interaction effect between religion and LEET ( $\beta = -.08, p < .05$ ). Subsequent one-way ANOVA revealed that LEET had no effect on non-believers ( $F(1, 944) = .67, p = .42$ ), but a significant effect on Christians ( $F(1, 311) = 4.12, p = .04$ ). Figure 1 illustrates the interaction effect.

To explore if the impact of a personal LEET differs from that of a LEET that occurred to a loved one, we conducted another regression which distinguished between these two types, by creating two dummy coded variables: own-LEET and other-LEET. While birth place ( $\beta = .08$ ,

$p < .05$ ) and religion ( $\beta = -.18, p < .001$ ) remained significant predictors, there was no other main or interaction effects. The two sets of regression results taken together imply that regardless of who the primary victim of the trauma was, LEETs did not affect the non-believers' material goals but further depressed that of the Christians.

To investigate whether religious affiliation had less effect on the material goals of the participants who had not experienced a LEET than on those who had experienced it either personally or vicariously, we split the sample into four groups (no-LEET, own-LEET, other-LEET, and both own- and other-LEET). Comparison of Christians versus non-believers within these four groups showed that the effect size of religious affiliation for the no-LEET group was somewhat smaller (Cohen's  $d = .31$ ) than the effect sizes for the own-LEET group (Cohen's  $d = .69$ ), the other-LEET group (Cohen's  $d = .59$ ), and those who had experienced trauma personally and in relation to loved ones (Cohen's  $d = .53$ ). Religion does make a difference on those who experience LEET.

Although not a primary purpose of the present study, we explored whether a stressful life event might change a person's religiosity. An additional t-test revealed no significant difference on FMS between those Christians who had experienced a LEET and those who had not ( $t(310) = 1.32, ns$ ). Neither did a regression of FMS on demographics (step 1) and LEET (step 2) show any significant effect of LEET ( $F(1,307) = 2.26, ns$ ). Thus, there is no evidence that the Christian participants' level of religiosity was affected by LEETs that had occurred during the past year.

### **Discussion**

This study was based on the assumption that an individual's life goals may change subsequent to a life event that carries an existential threat (Greenberg et al., 1986; Heckhausen,

1997; Jung, 1968; Pyszczynski et al., 2003; Tornstam, 1999; Yalom, 1980). Using the theories of goal reprioritization, socioemotional selectivity, and gerotranscendence, we derived the prediction that those who have had a LEET would exhibit less interest in material goals (H1). Following another line of reasoning offered by TMT, we postulated that after a LEET people would expend more effort to be socially valued. This implies that non-religious people would emphasize material goals more strongly than those who have not experienced a LEET, owing to modern secular society's value on achievement, enjoyment, and material gain. This also implies that as members of a religious community that cherishes "other-worldliness", Christians would be even less interested in pursuing material goals (H2).

Despite possibility of self-selection bias which may restrict generalizability of findings from a questionnaire survey, the present study is unique in several ways. First, the sample is large compared to previous research on life events and death salience. Second, we focused on a rather narrow age group to avoid possible confounds due to changes in life goals resulting from career progress. Third, unlike previous TMT laboratory experiments, this study was concerned about real incidents, thus preserving ecological validity. Furthermore, to the extent that life events occur almost randomly, the present study is similar to a quasi-experiment that can inform us on causality.

We found that (1) across the entire sample, LEETs have no effect on material goals in the following year; and (2) among Christians, LEETs do not alter religiosity. This is inconsistent with the expectation that one who has experienced LEET would see things like an old person does (gerotranscendence theory). Neither does this support some researchers' observation that traumatic events makes people religious (Denney, Aten, & Leavell, 2011; Shaw, et al., 2005). However, it is consistent with Pirutinsky's (2009) finding that mortality salience did not alter

intrinsic religiosity of Judaism believers, and Wink and Dillon's (2002) finding that LEET only change religiosity of some but not everyone.

More importantly, we also found that (3) the impact of LEETs on material goals is different between non-believers and Christians; (4) although Christians in general have lower material goals than non-believers, the difference between the two groups is much larger for people who have experienced a LEET; and (5) the effect of LEET is similar whether experienced personally or vicariously. These findings cast some doubt on the positions advanced by the goal reprioritization theory, socioemotional selectivity theory, and gerotranscendence theory.

A LEET does not necessarily make one less materialistic when forming life goals. Two explanations may be proposed for this absence of a main effect. First, the life events that we investigated were not strong enough to produce any measurable change in the participants' life goals. Second, the lag between the life events and the time we measured the life goals may have been too short for any change to occur, or too long for the quickly dissipating effect to remain. Both explanations can be ruled out at least partially, however, as we were in fact able to show that the life events did influence the material goals of the Christian participants.

In fact, the present finding that religion reverses the effect of LEETs for Christians is more consistent with TMT than with the other three theories. TMT postulates that people respond to existential threats by affirming their cultural worldviews. Inasmuch as the Christians' cultural worldview prioritizes service to God and other people over materialist pursuits, TMT fully accounts for the interaction effect, where Christian believers became even less accepting of material goals after a LEET, while non-believers did not. In short, we agree with other researchers that life goals are affected by encounters with life's fragility. However, we extend the literature by demonstrating the important roles that culture and religion play in the process.

Future research should examine whether the above effect is generalizable to other world religions, many of which also downplay materialism. For now, we can conclude that not everyone automatically becomes more intrinsically oriented and less materialistic when confronted with human finiteness. One's original religious affiliation plays an important role in determining if and in what way the change will take place.



### References

- Arndt, J., Solomon, S., Kasser, T., & Sheldon, K.M. (2004). The urge to splurge: A terror management account of materialism and consumer behavior. *Journal of Consumer Psychology, 14*, 198-212. doi:10.1207/s15327663jcp1403\_2
- Belk, R.W. (1983). Worldly possession: Issues and criticisms. *Advances in Consumer Research, 10*, 514-519.
- Benson, P.L., Donahue, M.J., & Erickson, J.A. (1993). The faith maturity scale: Conceptualization, measurement, and empirical validation. *Research in the Social Scientific Study of Religion, 5*, 1-26.
- Bonanno, G.A. (2005). Resilience in the face of potential trauma. *Current Directions in Psychological Science, 14*, 135-138. doi:j.0963-7214.2005.00347.x
- Chan, K., & Cheng, H. (2002). One country, two systems: Cultural values reflected in Chinese and Hong Kong television commercials. *Gazette: The International Journal for Communication Studies, 64*, 383-398. doi:10.1177/174804850206400405
- Cohen, A.B., & Hill, P.C. (2007). Religion as culture: Religious individualism and collectivism among American Catholics, Jews, and Protestants. *Journal of Personality, 75*, 709-742.
- Cozzolino, P.J., Staples, A.D., Meyers, L.S., & Samboceti, J. (2004). Greed, death, and values: From terror management to transcendence management theory. *Personality and Social Psychology Bulletin, 30*, 278-292. doi:10.1177/0146167203260716
- Davidson, J.C., & Caddell, D.P. (1994). Religion and the meaning of work. *Journal for the Scientific Study of Religion, 33*, 135-147. doi:10.2307/1386600
- Denney, R.M., Aten, J.D., & Leavell, K. (2011). Posttraumatic spiritual growth: a phenomenological study of cancer survivors. *Mental Health, Religion & Culture, 14*,

371–391.

Emmons, R.A. (2005). Striving for the sacred: Personal goals, life meaning, and religion.

*Journal of Social Issues*, 61, 731-745. doi:10.1111/j.1540-4560.2005.00429.x

Fredrickson, B. L., & Carstensen, L. L. (1990). Choosing social partners: How old age and anticipated endings make us more selective. *Psychological and Aging*, 5, 335 – 347.

Friedman, M., & Rholes, W.S. (2008). Religious fundamentalism and terror management.

*International Journal for the Psychology of Religion*, 18, 36-52.

doi:10.1080/10508610701719322

Fromm, E. (1976). *To have or to be?* New York, NY: Harper & Row.

Fung, H.H., & Carstensen, L.L. (2006). Goals change when life's fragility is primed: Lessons

learned from older adults, the September 11 attacks and sars. *Social Cognition*, 24, 248-

278. doi:10.1521/soco.2006.24.3.248

Fung, H.H., & Siu, T.M.Y. (2010). Time, culture, and life-cycle changes of social goals. In T. W.

Miller (Ed.), *Handbook of Stressful Transitions across the Lifespan* (pp. 441-464).

Lexington, KY: Springer.

Greenberg, J., Pyszczynski, T.A., & Solomon, S. (1986). The causes and consequences of a need

for self-esteem: A terror management theory. In R. F. Baumeister (Ed.), *Public Self and*

*Private Self*. New York, NY: Springer-Verlag.

Greenberg, J., Solomon, S., & Pyszczynski, T.A. (1997). Terror management theory of self-

esteem and cultural worldviews: Empirical assessments and conceptual refinements. In M.

Zanna, P. (Ed.), *Advances in Experimental Social Psychology* (Vol. 29, pp. 61-139). San

Diego, CA: Academic Press.

Heckhausen, J. (1997). Developmental regulation across adulthood: Primary and secondary

- control of age-related challenges. *Developmental Psychology*, *33*, 176-187.  
doi:10.1037/0012-1649.33.1.176
- Heine, S.J., Harihara, M., & Niiya, Y. (2002). Terror management in Japan. *Asian Journal of Social Psychology*, *5*, 187-196. doi:10.1111/1467-839x.00103
- Jonas, E., & Fischer, P. (2006). Terror management and religion: Evidence that intrinsic religiousness mitigates worldview defense following mortality salience. *Journal of Personality and Social Psychology*, *91*, 553-567. doi:10.1037/0022-3514.91.3.553
- Jung, C.G. (1968). *Man and his symbols*. New York, NY: Dell Publishing.
- Kashima, E.S., Halloran, M., Yuki, M., & Kashima, Y. (2004). The effects of personal and collective mortality salience on individualism: Comparing Australians and Japanese with higher and lower self-esteem. *Journal of Experimental Social Psychology*, *40*, 384-392.  
doi:10.1016/j.jesp.2003.07.007
- Kasser, T., & Ryan, R.M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin*, *22*, 280-287.  
doi:10.1177/0146167296223006
- Kasser, T., & Sheldon, K.M. (2000). Of wealth and death: Materialism, mortality salience, and consumption behavior. *Psychological Science*, *11*, 348-351. doi:10.1111/1467-9280.00269
- Kin, A.M.-Y., & Fung, H.H. (2004). Goals and social network composition among young adults with and without a history of cancer. *Journal of Psychology in Chinese Societies*, *5*, 97-111.
- Kinnier, R.T., Tribbensee, N.E., Rose, C.A., & Vaughan, S.M. (2001). In the final analysis: More wisdom from people who have faced death. *Journal of Counseling & Development*, *79*,

171-177. doi:10.1002/j.1556-6676.2001.tb01957.x

Kosloff, S., & Greenberg, J. (2009). Pearls in the desert: Death reminders provoke immediate derogation of extrinsic goals, but delayed inflation. *Journal of Experimental Social Psychology, 45*, 197-203. doi:10.1016/j.jesp.2008.08.022

LaBarbera, P.A., & Guerhan, Z. (1997). The role of materialism, religiosity, and demographics in subjective well-being. *Psychology and Marketing, 14*, 71-97. doi:10.1002/(SICI)1520-6793(199701)14:1<71::AID-MAR5>3.0.CO;2-L

Lancaster, B.L., & Palframan, J.T. (2009). Coping with major life events: The role of spirituality and self-transformation. *Mental Health, Religion, & Culture, 12*, 257-276. doi:10.1080/13674670802500684

Lesniak, K.T., Rudman, W., Rector, M.B., & Elkin, T.D. (2006). Psychological distress, stressful life events, and religiosity in younger African American adults. *Mental Health, Religion, & Culture, 9*, 15-28. doi: 10.1080/13674670512331389533

Lykins, E.L.B., Segerstrom, S.C., Averill, A.J., Evans, D.R., & Kemeny, M.E. (2007). Goal shifts following reminders of mortality: Reconciling posttraumatic growth and terror management theory. *Personality and Social Psychology Bulletin, 33*, 1088-1099. doi:10.1177/0146167207303015

Pargament, K.I., Desai, K.M., & McConnell, K.M. (2006). Spirituality: A pathway to posttraumatic growth or decline? In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of posttraumatic growth: Research & practice* (pp. 121-137). Mahwah, NJ: Lawrence Erlbaum.

Park, C.L. (2005). Religion as a meaning-making framework in coping with life stress. *Journal of Social Issues, 61*, 707-729. doi:10.1111/j.1540-4560.2005.00428.x

- Park, C.L. (2010). Making sense of the meaning literature: An integrative review of meaning making and its effects on adjustment to stressful life events. *Psychological Bulletin*, *136*, 257-301. doi:10.1037/a0018301
- Pirutinsky, S. (2009). The terror management function of Orthodox Jewish religiosity: a religious culture approach. *Mental Health, Religion, & Culture*, *12*, 247-256. doi: 10.1080/13674670802455756
- Pyszczynski, T.A., Greenberg, J., & Solomon, S. (2003). *In the wake of 9/11: The psychology of terror*. Washington, D.C.: American Psychological Association.
- Richins, M.L. (1987). Media, materialism, and human happiness. In M. Wallendorf & P. Anderson (Eds.), *Advances in Consumer Research* (Vol. 14, pp. 352-356). Provo, UT: Association for Consumer Research.
- Roberts, B.W., O'Donnell, M., & Robins, R.W. (2004). Goal and personality trait development in emerging adulthood. *Journal of Personality and Social Psychology*, *87*, 541-550. doi:10.1037/0022-3514.87.4.541
- Salmela-Aro, K. (2009). Personal goals and well-being during critical life transitions: The four C's-Channelling, choice, co-agency and compensation. *Advances in Life Course Research*, *14*, 63-73. doi:10.1016/j.alcr.2009.03.003
- Salmela-Aro, K., Aunola, K., & Nurmi, J.-E. (2007). Personal goals during emerging adulthood: A 10-year follow up. *Journal of Adolescent Research*, *22*, 690-715. doi:10.1177/0743558407303978
- Saroglou, V., Delpierre, V., & Dernelle, R. (2004). Values and religiosity: A meta-analysis of studies using Schwartz's model. *Personality and Individual Differences*, *37*, 721-734. doi:10.1016/j.paid.2003.10.005

- Shaw, A., Joseph, S., & Linley, P.A. (2005). Religion, spirituality, and posttraumatic growth: A systematic review. *Mental Health, Religion & Culture*, 8, 1-11.  
doi:10.1080/1367467032000157981
- Sheldon, K.M., & Kasser, T. (2008). Psychological threat and extrinsic goal striving. *Motivation and Emotion*, 32, 37-45. doi:10.1007/s11031-008-9081-5
- Tam, K.-P., Chiu, C.-Y., & Lau, I.Y.-M. (2007). Terror management among Chinese: Worldview defence and intergroup bias in resource allocation. *Asian Journal of Social Psychology*, 10, 93-102. doi:10.1111/j.1467-839X.2007.00216.x
- Tornstam, L. (1999). Late-life transcendence: A new developmental perspective on aging. In L. E. Thomas & S. A. Eisenhandler (Eds.), *Religion, belief, and spirituality in late life*. New York, NY: Springer.
- Tse, D.K., Belk, R.W., & Zhou, N. (1989). Becoming a consumer society: A longitudinal and cross-cultural content analysis of print ads from Hong Kong, the People's Republic of China, and Taiwan. *Journal of Consumer Research*, 15, 457-472. doi:10.1086/209185
- Vail, K.E., Rothschild, Z.K., Weise, D.R., Solomon, S., Pyszczynski, T., & Greenberg, J. (2010). A terror management analysis of the psychological functions of religion. *Personality and Social Psychology Review*, 14, 84-94. doi:10.1177/1088868309351165
- Wakimoto, R. (2006). Mortality salience effects on modesty and relative self-effacement. *Asian Journal of Social Psychology*, 9, 176-183. doi:10.1111/j.1467-839X.2006.00194.x
- Wink, P., & Dillon, M. (2008). Religiousness, spirituality, and psychosocial functioning in late adulthood: Findings from a longitudinal study. *Journal of Religion and Spirituality*, 5, 102-115. doi: 10.1037/1941-1022.S.1.102
- Yalom, I. D. (1980). *Existential psychotherapy*. New York, NY: Basic Books.

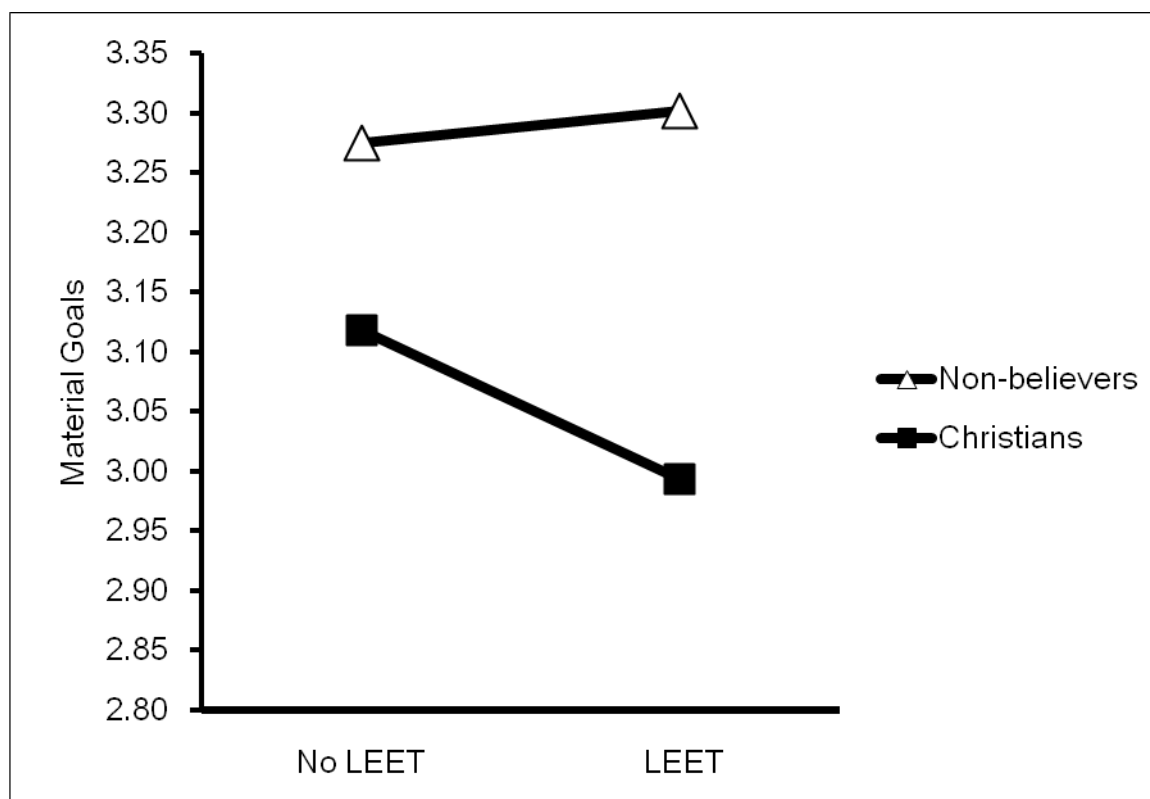


Figure 1. The moderating effect of religion on the relation between LEET and material goals.