

DEATH'S COLD GRIP OR HELPING HAND: THE EFFECTS OF MORTALITY
SALIENCE ON GOAL CHOICE

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ABSTRACT

Humans live with the knowledge that one day they will die. This understanding, at various levels of conscious awareness, induces a variety of reactive cognitive processes which may lead individuals to choose more meaningful and personally valued goals to pursue. The purpose of this thesis research was to discover whether a mortality salience (MS) induction leads participants to strive for goals that are more self-concordant across three experimental conditions (MS, MS with delay, or control group). In addition, the contents of those goals were analyzed so that both the “what” (goal contents) and the “why” (motivations) of personal goals could be compared across conditions.

It was found that the extent to which participants chose self-concordant goals differed by gender such that females chose self-concordant goals regardless of condition while males in the mortality salience with delay condition selected more self-concordant goals to pursue than the other two conditions. Controlling for these gender differences yielded a significant effect of condition such that those in the mortality salience with delay group scored higher on the self-concordance of their goals than both of the other groups. In terms of goal contents, marginally significant differences were found between conditions such that participants in the mortality salience with no delay group reported goals with higher relative intrinsic content, on average than the other two conditions. Further analyses and explorations of these constructs are discussed in the context of relevant theories.

CHAPTER 1

INTRODUCTION

Of all known animal species on Earth, humans alone live with the knowledge of their own inevitable death. This knowledge has the potential to cause anxiety and mental paralysis, but it is also possible that an awareness of death motivates individuals towards certain goals and behaviors they wish to accomplish while still alive. Movies, novels, and theatre productions are replete with examples of near-death experiences, cancer diagnoses, the loss of a loved one, or other events that cause a character to reflect on what is truly meaningful to them and what they should do with the time they have left. The work in this article aims at answering two fundamental questions: *What* do people choose to strive for when they become aware of their own mortality, and *why* do they make those choices? Several existing psychological theories have bearing on this content, two of the most prominent being terror management theory and self-determination theory. Here we give an overview of these theories and how combining these two approaches may help answer the questions posed by our study.

Terror Management Theory

Classic terror management theory (TMT) suggests that humans have a single central need: the need to buffer themselves from the anxiety, distress, and cognitive paralysis that accompanies the realization that one day we are going to die (Greenberg et al., 1986; Solomon et al., 1991). TMT relies on the neurobiological foundation of humans having evolved the cognitive ability of foreseeing the inevitability of our own death, and as a result, individuals need to contend with this future reality in some way as not to be so affixed with terror that we cannot function in any adaptive capacity

(Solomon et al., 1991). The way humans do this, the theory suggests, is through three main pathways for meaning making and anxiety buffering: striving for self-esteem, cementing one's faith in the validity of their worldview, and holding fast to social attachments (Arndt et al., 1997; Greenberg et al., 1992, 1994).

Individuals maintain and enhance self-esteem by living up to the standards of value put forth by one's worldview, that is, the beliefs and values that one has integrated into their sense of self from their surrounding culture, caregivers, and social groups (Castano et al., 2002; Pyszczynski et al., 2006; Rosenblatt et al., 1989). Performing appropriately according to one's value system and the cultural worldview that one identifies with then keeps thoughts of death at bay by helping to provide some means of either literal or symbolic immortality. Worldviews tend to include long-lasting institutions and social constructs such as organized religious groups or identifications with one's nationality, a representation of a country that likely started before an individual was born and will be around long after they are dead (though this is obviously not always the case). The long-lived nature of these particular aspects of one's worldview lend themselves to denying the transient nature of human life and provide a sense of some kind of immortality as one is associated not only with their physical body, but with an entity that will last much longer (Greenberg & Arndt, 2012).

Being the case that mortality salience leads individuals to strive towards actions that promote their self-esteem and defend their worldview, what specific behaviors does this process entail? One such outcome is that individuals display more positive attitudes towards those who share their beliefs, while discriminating against those who do not (Castano et al., 2002; McGregor et al., 1998; Pyszczynski et al.,

2006). For example, after being exposed to a mortality salience induction, study participants have been shown to evaluate those who criticize their worldview more negatively, and even support more violent solutions to ethnic, religious, and international conflicts against such opponents (Greenberg et al., 1990; Hirschberger & Ein-Dor, 2006).

However, several studies have also shown that when primed with prompts about empathy, forgiveness and other prosocial values, mortality salience has the potential to *increase* peaceful coexistence as participants tend to show positive attitudes towards not only their ingroup members, but also those with other views (Gobodo-Madikizela, 2002; Wilson et al., 2008). For example, when participants are exposed to reminders of egalitarian values and values of religious, racial, or political tolerance, mortality salience promotes decreased prejudicial attitudes and increase positive attitudes towards outgroups (Vail et al., 2012). An awareness of death can also induce positive, health-oriented behaviors and attitudes such as smoking cessation and increased intentions for physical exercise (Arndt et al., 2003). In addition, conscious death thoughts have been shown to encourage the setting and pursuit of personal goals with intrinsic content (Kosloff & Greenberg, 2009). Thus, whether this awareness of death prompts inclusivity and understanding or violence and reactivity depends largely on the salience of particular aspects of one's worldview which are influenced by situational and contextual factors.

Proximal versus Distal Defenses

In TMT there is a critically important distinction between conscious and non-conscious mortality salience due to the radically differing ways they influence subsequent

behavior. People who are asked to immediately contend with thoughts of their inevitable end have death in their focal awareness and therefore need to directly deal with the threat. In such circumstances, people tend to utilize what TMT researchers call proximal defenses, such as rationalizing death away by denying their vulnerability or inflating the hardiness of their health, or by suppressing death from focal awareness (Arndt et al., 1997; Greenberg et al., 2000). However, when death is not the center of conscious attention, but is highly accessible, as in the case where participants are engaged in “filler” tasks after the mortality salience induction which serve to distract them from death thoughts, then so-called distal defenses are acting to shield oneself from death cognitions. In this case, typical anxiety buffers are demonstrated such as self-esteem striving and strengthening commitment to one’s worldview (Arndt et al., 2002). Due to the large differences in outcomes associated with conscious versus non-conscious awareness of death, it seems likely that these disparate experiences of death would likewise have varied effects on personal goal pursuit. Therefore, any scientific exploration of the effects of mortality salience on goal choice must take both types of death awareness into consideration, as will be discussed further in the sections below.

TMT explains much of human behavior through self-esteem and worldview striving, and casts a wide net in the waters of motivational psychology; but this theory sits at a higher level of abstraction than is needed to answer our questions about the motivational aspects of death. To bring light to the fine-grained inner workings of human motivation, a more specific understanding of personal goal striving and qualities of self-regulation are required. This is accomplished through the powerful lens of self-determination theory.

Self-Determination Theory

A foundational aspect of self-determination theory (SDT) is the organismic view of human beings which takes the perspective that all individuals have natural, innate, and constructive tendencies to develop an increasingly complex and integrated sense of self and that humans tend towards growth and thriving (Ryan & Deci, 2000). Similar to TMT, SDT also proposes that integration of the values, norms, and behaviors of one's culture and interpersonal relationships has important implications for motivation. Unlike TMT however, SDT gives a specific taxonomy of motivational types (Deci & Ryan, 1985) or qualities of motivation that lie along simultaneous continua of internalization (from least internalized to most internalized), perceived locus of causality (from external to internal), and autonomy (from controlled behavior to autonomous behavior). This is called the relative autonomy continuum (RAC). SDT defines the separable types of internalization and motivational regulation lying along the RAC as external, introjected, identified, integrated, and the completely autonomous form of regulation, intrinsic motivation (Ryan & Deci, 2017).

External motivations are those that are generally seen as controlling and forced upon an individual to some degree. For some people, going to work everyday because they are paid to do so, but do not find the work interesting or personally important is an example of this type of regulation. Introjected motivation occurs when behaviors are performed out of feelings of guilt or shame or are motivated by conditional self-esteem. Identified motivation occurs when a person finds an activity meaningful and important even though it may not be fun. This is the level that values act on, and integrated regulation takes it a step further to harmonically join one value with the

entire system of values and beliefs held by the individual. Finally intrinsic motivation is the state of pursuing an activity simply because it is enjoyable to do so, and the only reward is the positive feeling that accompanies engaging in it.

The internalization of cultural and social values often follows a pattern within the individual where the value or belief is recognized but not fully integrated into the self, i.e., motivation to express that value may be external or introjected at first but over time may become more internalized and therefore would move along the continuum towards integration (Ryan et al., 1985). An example of this would be an adolescent who is taught religious values that are not well internalized at first (and are active at the external level of regulation), but eventually become more internalized and seen as an important part of their self-concept (and are now active at the identified or even integrated level of regulation). It should be noted here that although this pattern is commonly seen, cultural values can enter anywhere along the continuum and can even lead to behaviors that are motivated by multiple types of motivation concurrently (Ryan & Deci, 2017).

This internalization process occurs in service of, and in response to, one's basic psychological needs of autonomy, competence, and relatedness (Ryan & Deci, 2017). When social contexts help to satisfy these needs, values extolled by that culture or from social relationships will be more readily integrated into oneself (Deci et al., 1994; Grolnick & Ryan, 1989; Roth et al., 2009). Similarly, the quality of motivation to engage in behaviors as expressions of those values increases as they become more internalized into the self. A person is more likely to persist in behaviors that they identify with or find intrinsically motivating, and as a result are more likely to gain

competency and feel a sense of autonomy while doing so (Sheldon & Elliot, 1999). In addition, they are likely to be more readily accepted by their peers and social connections who share similar values (Roth et al., 2009). In this way, people are more likely to satisfy their needs when engaging in more internalized forms of motivation.

The Why of Goal Choice

Within SDT, there is a specific model of personal goal pursuit that directly refers to the extent to which an individual's personal goals are a reflection of their values, personality, interests, talents, needs, and other aspects of the self. This is called the self-concordance model (SCM; Sheldon & Elliot, 1999). According to the self-concordance model, the perceived locus of causality (PLOC) measure is used to gain information about a participants' position on the RAC. However, unlike most SDT research which utilizes the RAC to talk about general states of motivation, self-concordance research specifically focuses on self-reported personal goals of the participants. In these studies, participants are asked to state their personal goals and then for each goal they are given several possible reasons *why* they are pursuing those goals. They then rate to what extent they agree with the stated reason. Examples are "because I feel like I don't have a choice," "because I would be ashamed if I didn't," "because it's something I value and find important," and "because it is interesting and fun." These examples represent external, introjected, identified, and intrinsic reasons why the participant is pursuing that specific goal, respectively, and the present study utilizes this measure to help answer the question of *why* people choose the goals they do following a mortality salience induction.

The self-concordance model does not assume people always strive to accomplish goals that are a true reflection of their integrated values or underlying needs (Sheldon, 2014), but it does show the benefits associated with having personal goals that are aligned with one's values (e.g. higher goal attainment leads to satisfaction of basic needs which then increases well-being).

Combined Aspects of TMT and SDT

The self-concordance model and TMT both have parallel processes whereby individuals strive for goals that are informed to a variable extent by their internalized value system. In TMT, individuals strive for personal goals that allow them to meet the standards of their internalized personal worldview in order to gain self-esteem and protect against thoughts of death. In the SCM, individuals strive for personal goals that may or may not be guided by personal values. Although personal values are not the only aspect of the self that the SCM relates personal strivings to, such as talents, interests, and other personality aspects, values are nevertheless an important part of self-concordant goal striving. Therefore, if self-esteem is threatened by increasing one's awareness of their own inevitable death, which would result in increased need for goal striving consistent with one's values (in order to increase self-esteem and buffer against death cognitions), we might expect that individuals are more likely to pursue self-concordant goals in this scenario.

However, there is an additional wrinkle in that it could be the case that self-esteem striving promotes introjected motivation, and worldview-consistent striving promotes identified motivation. Deci and Ryan (2004) have commented on the possibility that the self-esteem striving prompted by a mortality salience induction is

actually a form of *contingent* self-esteem (Deci & Ryan, 1995) striving as opposed to true self-esteem striving that is exemplified by a “more fully functioning person, who engages life feeling autonomous, competent, and related” (Deci & Ryan, 2004, p. 474). If self-esteem striving is motivated by a defensive sense of guilt or by puffing oneself up to prove to others or themselves that they are worthy of praise, then there is little doubt that introjected processes are occurring rather than more internalized and autonomous forms of motivation. Even worldview-consistent striving may run into the same issue of being motivated by introjections such as the case of performing a behavior in order to appease one’s parents or others whose opinions are valued. However, to the extent that worldview-consistent strivings are internalized into identified or intrinsic forms of motivation, then personal goals that are an extension of those internalized values will be self-concordant. Thus, it remains to be shown via empirical evidence what the case might be for specific motivations that arise following a mortality salience induction.

What do Individuals Strive for Following Mortality Salience?

While the majority of SDT and other motivational theories focus on the “why” or “how” of goals, it was found that the “what” of goals, i.e., their content, also lends itself to predictions being made about individual outcomes while striving for, and accomplishing, different types of goals (Deci & Ryan, 2000). A mini-theory of SDT that speaks directly to this aspect of goal pursuit is Goal Contents Theory (GCT). In GCT, goals are dichotomized into two broad categories: intrinsic goals and extrinsic goals. Intrinsic goal content is defined as being “expressive of desires congruent with actualizing and growth tendencies natural to humans” (Kasser & Ryan, 1996, p. 280).

Examples include self-acceptance, affiliation, personal growth, generativity, and goals aimed at improving one's community. Conversely, extrinsic goals are defined as those whose strivings are aimed at obtaining contingent external approval or other external rewards. Examples of these are financial success, social recognition, and an appealing physical appearance (Kasser & Ryan, 1996).

GCT proposes that the two main kinds of goals have different efficacies for satisfying basic psychological needs when accomplished, and, as such, different effects on well-being. Work by Ryan and Kasser (1993, 1996) showed that intrinsic goals are positively correlated with well-being and often correlated with lower symptoms of depression and anxiety, whereas extrinsic goals are negatively associated with well-being and more positively associated with symptoms of depression and anxiety. These findings have been replicated in several countries, even in those with significantly different economic and cultural circumstances such as the United States, Russia, Germany, Hungary, and Scandinavian nations (Ryan & Deci, 2017).

It has been found that conscious death thought awareness can decrease the pursuit of goals with extrinsic content. Kosloff and Greenberg (2009) had participants rate the importance of intrinsic and extrinsic life goals immediately after being exposed to mortality salience or after a delay. They found those in the immediate response group, while mortality salience was in conscious awareness, tended to rate extrinsic goals (such as wealth and fame) as less important than participants who answered after a delay. Heflick et al. (2011) similarly reported two short longitudinal studies that showed an increase in the intention of participants to pursue more intrinsic goals after daily contemplation of their mortality. It has been suggested that deliberately thinking about

death might increase an individual's likelihood to introspect about their overall life goals, and that this might lead to reevaluation and a focus on the pursuit of those goals that might be more personally meaningful and growth-oriented, i.e., intrinsic (Vail et al., 2012).

Additionally, the TMT Health Model (Goldenberg & Arndt, 2008) purports that individuals who have death in their conscious awareness tend to move towards health-oriented behaviors when placed into a health context such as protecting oneself from skin cancer or performing self-examinations for cancer. On the other hand, those individuals for whom death is on the fringes of consciousness but is accessible engage distal defenses that are consistent with self-esteem and world-view striving; often leading to *unhealthy* behaviors. To exemplify this difference, a study was conducted in which participants were exposed to mortality salience induction and then asked about intentions to buy sunscreen. Those in the no delay group who had death in conscious awareness engaged in proximal defense by prioritizing sunscreen with a high SPF, whereas participants in the distal defense group preferred sunscreen with a lower SPF (Routledge et al., 2004). It was reasoned by the authors that those in the proximal defense group wanted to avoid death by protecting themselves from skin cancer whereas those in the distal defense group wanted to look more tan, an element of self-esteem striving consistent with certain cultural worldviews of beauty. Thus, there may be a link between conscious death thoughts and people striving for salubrious goals, and such goals may often fall into the category of intrinsic goal contents as they reflect efforts to maintain or improve personal growth, psychological well-being, and meaning making (Vail et al., 2012).

While conscious death salience may push people towards more intrinsic goals, very different effects on goal content have been seen in studies examining non-conscious mortality salience. Sheldon and Kasser (2008) showed that when mortality salience is accessible but not in focal, conscious awareness, participants tend to place more emphasis on extrinsic goals than a control group. This study was a follow-up to findings of Kasser and Sheldon (2000) which showed an increased focus on materialistic and consumptive behavior following a traditional mortality salience with delay manipulation. The authors proposed that the psychological threat of death pushed participants to strive for self-esteem-enhancing goals such as increase wealth, image, and status which might be seen as “quick fixes” to their threats to self-esteem. Psychological threats such as death cognitions activate worldview defense, and at least in many Western countries, especially in the United States, cultural worldviews and narratives often involve being financially successful and having high social status. Therefore a shift towards goals with such extrinsic content is readily understandable in this context, following non-conscious death primes.

The studies above illustrate disparate effects found in the scientific literature of conscious versus non-conscious mortality salience on the kinds of goals participants are interesting in attaining. Conscious awareness of one’s death seems to promote goals with intrinsic content. Nonconscious but accessible death awareness seem to promote striving towards goals with extrinsic content. However, it is rare to find studies that incorporate both conscious and non-conscious death primes as well as a control comparison. This suggests the need for further research that looks at proximal and distal defenses as well as intrinsic and extrinsic goal contents in a single, cohesive

study. Further, previous studies do not take an in-depth view of the specific goals that participants report other than their broad intrinsic or extrinsic content. Investigating more granular detail of specific types of goals may elucidate the conditions under which particular strivings are more likely to be undertaken. The present study aims to fill a portion of this knowledge gap.

CHAPTER 2

PRESENT STUDY

In order to further assess the effects of mortality salience on motivated strivings, the present study attempted to examine conscious and non-conscious (but highly accessible) thoughts of death on the motivated reasons for pursuing personal goals. Further, we investigated the effect of mortality salience on specific contents of those goals in these various conditions. Due to the relatively mixed evidence found in previous literature, and the novel nature of the present study, we generated several exploratory hypotheses.

Hypotheses

1. There will be a difference in the motivational subscale ratings of stated personal goals between the proximal defense, distal defense, and control groups. It is expected that the distal defense group will score higher on self-concordance than either of the other two groups.
2. There will be a difference in experimental conditions with respect to the intrinsic/extrinsic contents of personal goals. It is expected that the proximal defense group will write more intrinsic goal contents than either of the other two

groups, while the distal defense group will write down goals with more extrinsic content.

Power analysis

An a priori power analysis was conducted using the G Power software program. Previous relevant literature, including a large-scale meta-analysis on the effects of mortality salience inductions, demonstrate moderate to large effect sizes on a diverse range of outcomes (Burke et al., 2010). Using a medium Cohen's *F* effect size of 0.25 with 2 degrees of freedom and accounting for multiple comparisons it was found that 251 participants would be required to reach 80% power.

CHAPTER 3

METHODS AND MATERIALS

Participants and procedure

Participants for the study were 288 General Psychology undergraduate students at the University of Missouri ($N = 288$, 70.9% Female, 81.6% White, $M_{\text{age}} = 19.1$). All participants were at least 18 years of age and voluntarily participated in order to receive course credit. Participants were randomly assigned to one of three conditions: 1.) Proximal defense (mortality salience induction with no delay) 2.) Distal defense (mortality salience induction with delay) 3.) Control (dental pain prompt). The Proximal and Distal defense groups were given the following mortality salience induction prompt:

1. Please briefly describe the emotions that the thought of your own death arouses in you.

2. Jot down, as specifically as you can, what you think will happen to you as you physically die and once you are physically dead.

The Proximal defense group was then be asked to immediately write down three personal goals they have and to rate each goal on the extent to which the goal is self-concordant (operationalized as more autonomous motivation versus more controlled motivation). The Distal defense group received the mortality salience prompt and then completed a mock personality assessment and a word unscramble task before being asked to write down three personal goals and rate each on self-concordance. The Control group participants answered the following prompt before writing down three personal goals and rating each goal's self-concordance:

1. Please briefly describe the emotions that the thought of dental pain arouses in you.
2. Jot down, as specifically as you can, what you think happens to you as you physically experience dental pain.

These prompts have been widely used in TMT research as a control for the mortality salience induction as it is negatively valenced but does not relate to death (Wirth-Petrik & Guenther, 2012).

Measures

Need Satisfaction

A 12-item scale was used to assess basic psychological need satisfaction prior to experimental manipulation (Chen et al., 2015). This scale includes three subscales (four items per subscale) for autonomy satisfaction, competence satisfaction, and relatedness

satisfaction. Example items are “I feel a sense of choice and freedom in the things I undertake,” “I feel capable at what I do,” and “I feel connected with people who care for me, and for whom I care,” respectively. Participants rate how well true each item is of their current experience on a scale of 1 (Not true at all) to 5 (Completely true).

Self-concordance

Participants completed a perceived locus of control (PLOC) measure following each stated personal goal. This is a measure of *why* the participants are pursuing each goal and asks them to what extent they agree with each item on a five-point scale from “Not at all” to “Completely for this reason.” Examples of items are “because I feel like I don’t have a choice,” “because I would be ashamed if I didn’t,” “because it’s something I value and find important,” and “because it is interesting and fun.” Self-concordance scores for each goal are calculated as adding the intrinsic and identified ratings together and subtracting both the introjected and external ratings. Overall self-concordance scores are then calculated by averaging each of the three self-concordance scores for each participant. PLOC subscales (external, introjected, identified, and intrinsic motivation subscales) are also calculated and averaged for each participant.

Goal contents

The contents of the three goals for each participant were linked to established intrinsic and extrinsic goal contents. Participants read “Below are descriptions of six ‘possible futures’ which many people aspire to attain down the road. Please consider how success at the goals you wrote down might affect each possible future. Would success at that goal tend to take you closer to each future, or is it unrelated? For example, successfully completing the goal ‘Learn time management skills’ would probably help

Self-Acceptance/Personal Growth in the future, but would likely not change Physical Appearance in the future. None of these is better or worse than any other, so fill in whatever feels right to you.” They then rated each of the six possible futures (Physical Appearance, Self-Improvement, Intimacy/Friendship, Popularity, Societal Contribution, and Financial Success) on a scale of 1 “Not helpful” to 5 “Very helpful.” Three composite measures were created which combined intrinsic contents or extrinsic contents, respectively. First, intrinsic goal content was operationalized as the sum of average of participant ratings on how their goals related to personal growth, relationships, and societal contribution. Extrinsic goal content was similarly a composite made of the sum of participant ratings for physical appearance, popularity, and financial success. Finally, an overall score was created by subtracting the extrinsic composite from the intrinsic composite.

CHAPTER 4

RESULTS

Primary Analyses

Our primary analyses of interest were to test the effects of condition on both self-concordance and the relative intrinsic versus extrinsic goal contents of participants’ stated goals. Means, standard deviations, and zero-order correlations between all variables of interest can be found in Table 1.

Effect of Mortality Salience on Self-Concordance

A one-way ANOVA was performed to test whether the self-concordance of participant goals differed by condition. Initial analysis revealed no significant differences across conditions ($F [2, 287] = 1.19, p = .305$). A family of ANOVAs aimed at

separating self-concordance into each of its motivation subscales (external, introjected, identified, intrinsic) was also performed. These ANOVAs similarly showed no significant differences in self-concordance across conditions in terms of intrinsic motivation ($F [2, 287] = 0.04, p = .964$), identified motivation ($F [2, 287] = 0.28, p = .754$), or external motivation ($F [2, 287] = 0.74, p = .477$), though introjected motivation was marginally different across conditions ($F [2, 287] = 2.79, p = .063$). Post-hoc testing of introjected motivation using Tukey's HSD revealed there to be somewhat less introjected motivations for personal goals in the MS with delay condition as opposed to the MS with no delay condition ($p = .059, 95\% \text{ CI} = (-0.79, 0.01)$) but not the control group ($p = .261, 95\% \text{ CI} = (-0.67, 0.14)$).

Table 1*Means, Standard Deviations, Correlations, and Reliability of all Variables*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. Self-Concordance	3.25	2.74	.89										
2. External	2.05	1.01	-.78**	.85									
3. Introjected	3.01	1.17	-.72**	.57**	.88								
4. Identified	4.45	0.75	.58**	-.28**	-.02	.86							
5. Intrinsic	3.86	0.97	.70**	-.27**	-.22**	.55**	.84						
6. Relative Intrinsic/Extrinsic Goal Contents	2.16	2.7	.27**	-.26**	-.15*	.23**	.14*	.46					
7. Intrinsic Content	10.77	2.28	.21**	-.02	.03	.37**	.33**	.40**	.73				
8. Extrinsic Content	8.62	2.75	.09	.24**	.17**	.09	.13*	-.65**	.44**	.79			
9. Autonomy Satisfaction	3.58	0.72	.37**	-.29**	-.20**	.32**	.26**	.07	-.01	-.08	.65		
10. Competence Satisfaction	3.72	0.81	.39**	-.25**	-.34**	.21**	.28**	.09	.01	-.07	.61**	.81	
11. Relatedness Satisfaction	4.00	0.78	.32**	-.26**	-.17**	.30**	.21**	.10	.04	-.06	.49**	.58**	.80

Note. Reliability scores using Cronbach's Alpha are displayed along the diagonal. *M* = Mean; *SD* = Standard Deviation. ** $p < .01$; * $p < .05$

Effects of Mortality Salience on Goal Contents

A one-way ANOVA testing the effect of each condition on the relative intrinsic to extrinsic goal contents variable showed marginal differences among the conditions ($F [2, 287] = 2.58, p = .077, \text{partial } \eta^2 = .02$), though a clear pattern emerged graphically such that the proximal group (MS with no delay) had a higher average ($M = 2.67, SD = 2.64$) than either the distal defense group (MS with delay; $M = 1.92, SD = 2.58$) or control group ($M = 1.90, SD = 2.81$). This estimate of effect size corresponds with a small to medium effect of experimental condition on relative personal goal content. Analyses testing only the intrinsic goal content composite or extrinsic goal content composite showed no statistically significant differences across conditions ($F [2, 287] = 0.23, p = .795$; and $F [2, 287] = 1.49, p = .227$, respectively). These results are illustrated in Figure 1.

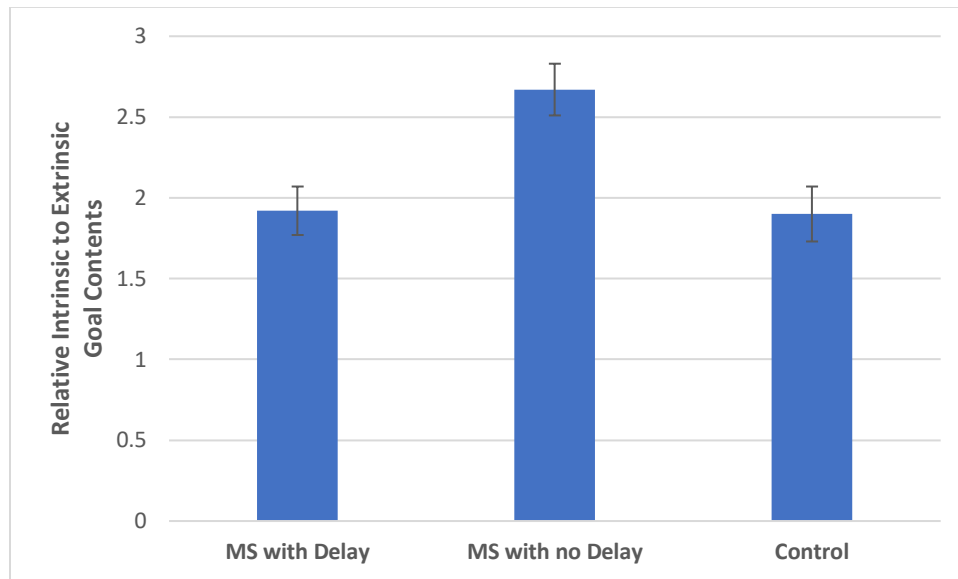


Figure 1. Shows difference scores demonstrating the average extent to which participants in each condition reported goals with intrinsic versus extrinsic content. Positive values indicate more intrinsic goal content relative to extrinsic content, on average. Note: error bars represent the standard error for each condition.

To further examine the effects of condition on goal content, we conducted a content analysis of the open-ended responses using an inductive methodology found in previous literature (Cozzolino et al., 2004). Across all three conditions, coders found 14 goal categories that seemed to encapsulate the essence of all stated goals. Those categories are academic, career, hobby, organized athletics, family, social relationships, romantic relationships, financial wealth, material goods, life satisfaction, prosocial goals, religious, personal growth, and life goals (e.g., bucket-list items or milestones). See figure 2 for frequencies of each goal category by condition. Using Fleiss' Kappa, interrater reliability was calculated to be .91 which demonstrates excellent agreement (Fleiss, 1971).

Testing differences in the frequencies of goals in each category (relationships, career, academics, etc.) across conditions revealed only a single finding of note. Of all 14 categories tested, only social relationship goals were found to have a significant difference across conditions ($F[2, 279] = 3.89, p = .022$). Post-hoc testing with Tukey's HSD demonstrated that the proximal defense group had a significantly higher average frequency of social relationship goals ($M = 0.14$) than the control group ($M = 0.02, p = .016, 95\% \text{ CI} = (0.18, 0.22)$) but not the distal defense group ($M = 0.09, p = .423, 95\% \text{ CI} = (-0.15, 0.05)$).

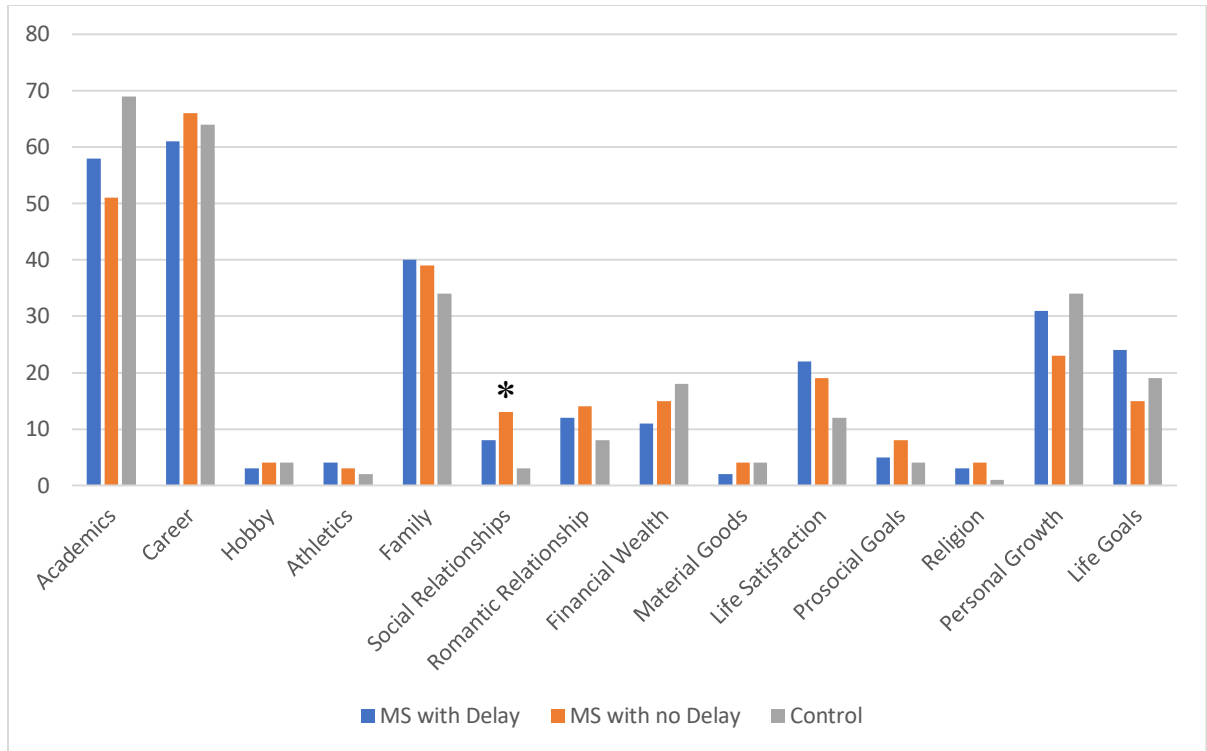


Figure 2. Illustrates frequencies of manually coded goal categories for each of the three conditions.

Note. * indicates significant mean differences at $p < .05$

To test our hypothesis about goal content, we combined several of these goal categories into two overarching classes of intrinsic or extrinsic goals using Kasser and Ryan’s (1993) classifications of intrinsic and extrinsic values. Academic, career, hobby, athletics, life satisfaction, religion, and life goals were seen as goals contributing to personal growth (along with the category already designated for personal growth) and were combined under intrinsic goal contents. Family, social relationships, and romantic relationships were grouped as relationships and combined under intrinsic goal contents. Prosocial goals were most similar to Kasser and Ryan’s value of community and thus was also added to the intrinsic goal content category. Somewhat surprisingly, there were no

goals that were rated as having content related to fame or projecting an appealing image, two categories of extrinsic goals, but financial wealth and material goods were combined to form the extrinsic goal content category. An overall relative intrinsic-to-extrinsic goal content variable was created by subtracting the extrinsic goal content category from the intrinsic goal content category and this variable was compared across conditions.

Contrary to our hypothesis, it was found that there was no significant difference across any of the three conditions in terms of this relative intrinsic-to-extrinsic goal content ($F[2, 279] = 1.20, p = .302$).

Exploratory Analyses

Moderating Effects of Gender on Self-Concordance

Testing the effects of condition on self-concordant goal selection revealed no significant differences across the three conditions. However, a 3 (condition) x 2 (gender) between-subjects ANOVA was conducted to test gender as a potential moderating variable, and a significant interaction was found, $F [2, 287] = 3.08, p = .047$, partial $\eta^2 = .021$. Decomposing this interaction finds that women are relatively high on ratings of self-concordant goal choice across all three conditions (MS with Delay: $M = 3.50$, 95% CI = (2.85, 4.14); MS with no Delay: $M = 3.54$, 95% CI = (2.89, 4.19); Control: $M = 3.45$, 95% CI = (2.81, 4.09)) which are not significantly different from each other ($F = 0.02, p = .980$), whereas men were significantly higher in the MS with delay group ($M = 3.50$) than both the MS with no Delay ($M = 2.02, p = .013$, 95% CI = (0.396, 3.17)) and control ($M = 1.90, p = .006$, 95% CI = (0.573, 3.22)) conditions. These results are summarized in Figure 3.

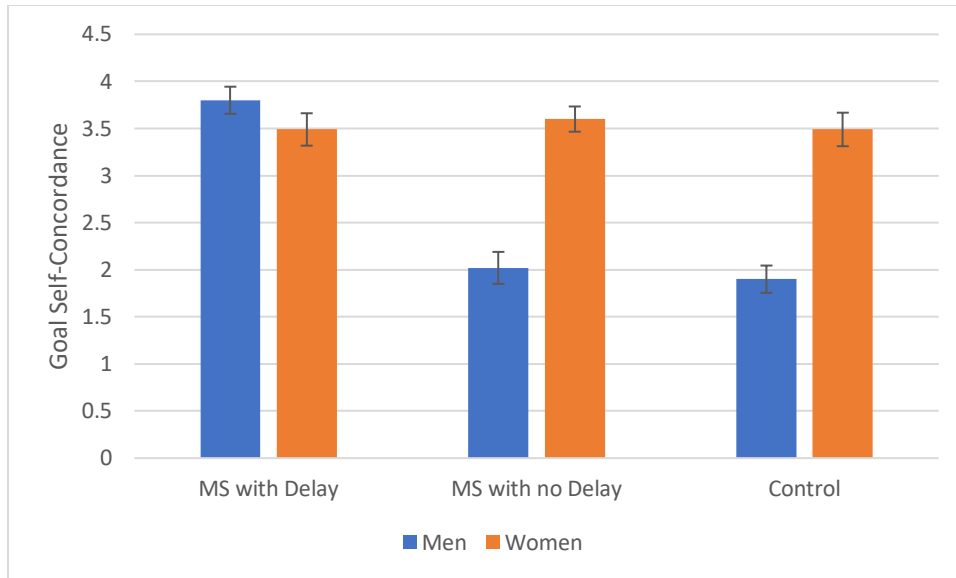


Figure 3. Shows average self-concordance ratings of men and women in each condition. Note: error bars represent standard error.

To examine these disparate findings in men and women, two further analyses investigating potential baseline differences in autonomy satisfaction and self-esteem were performed based on theoretical relevance (See Table 2 for need satisfaction scores and tests between gender). Gender differences in autonomy satisfaction, measured prior to randomization to condition, were found such that female participants were experiencing significantly higher levels of autonomy satisfaction than men in our sample ($M_{\text{Female}} = 3.65$, $M_{\text{Male}} = 3.43$; $t [278] = -2.29$, $p = .023$). Self-esteem was not measured in our sample, however, a measure of self-esteem was found in the Fall 2021 Mizzou General Psychology mass pre-test for 231 of our 288 participants, who had participated approximately four to eight weeks earlier. No significant gender differences in self-esteem ratings were found for those who participated in the mass pre-test ($t [229] = 0.86$, $p = .389$).

Table 2

Means and Standard Deviations of Basic Psychological Need Satisfaction and Comparison by Gender

Need satisfaction	Men <i>M(SD)</i>	Women <i>M(SD)</i>	<i>p-value</i>
Autonomy	3.43(0.68)	3.65(0.73)	0.023*
Competence	3.82(0.81)	3.68(0.79)	0.191
Relatedness	3.89(0.77)	4.04(0.78)	0.137

Note: *p*-values reflect independent *t*-tests with 278 degrees of freedom.

**p* < .05

Based on the gender differences in autonomy satisfaction, an ANCOVA was performed which tested the effects of condition and gender on goal self-concordance while controlling for autonomy satisfaction. The interaction of condition and gender was no longer significant ($F = 2.49, p = .085$) while the main effect of gender was significant ($F = 4.23, p = .041$) and the effect of condition became marginally significant ($F = 2.88, p = .058$). This illustrates that gender differences in autonomy satisfaction largely explain the differences in self-concordance ratings. An overarching interest in this study is how conscious thoughts and manipulations affect self-concordant goal choice in comparison to non-conscious knowledge. To test conscious versus non-conscious processes, a contrast comparison was performed to test mean differences in self-concordance in the MS with no delay ($M = 3.11$) and control groups ($M = 3.06$) versus the MS with delay condition ($M = 3.59$). This analysis resulted in a significant difference when controlling for gender ($p = .016, 95\% \text{ CI} = 0.17, 1.62$).

In summary, our results show that non-conscious mortality salience increases self-concordant goal choice (at least in men) whereas conscious mortality salience does not

have a significant impact on self-concordant goal choice. Further studies will be needed to confirm whether the differences in gender were particular to our sample (which is likely the case given the difference in autonomy satisfaction between men and women in our sample). In terms of goal content, we saw a small to medium effect of condition on goal contents with the MS with no delay group (conscious awareness of death) displaying more relative intrinsic goal content on average. These findings are discussed within the context of relevant theories below.

CHAPTER 5

DISCUSSION

It has been said that only two things are certain in life: death and taxes (Bullock, 1767). Taxes aside, knowledge of our inevitable death is undoubtedly a motivational force. The question, then, is whether that motivational force propels individuals to pursue goals that are felt to be aligned with their inner natures, values, and needs, or whether death pushes people towards goals that lie in service to the demands of others or society (or our introjected selves). Does mortality salience encourage a shouldering of healthy goals for ourselves and those around us, or a mad dash towards selfish desires and getting while the getting is good? These two questions refer to two important aspects of personal goal striving: the *why* of motivation (self-concordance) and the *what* of motivation (goal contents). Our study sought to answer these fundamental questions.

Mortality Salience and Self-Concordance in Goal Choice

Our initial findings suggested that none of the three conditions were different from each other in terms of their effect on the self-concordance of the goals that participants wrote down following manipulations given to each group. This ran counter

to our hypothesis and was unexpected given the myriad of TMT studies showing motivational shifts to defend worldviews more fervently following mortality salience inductions with a period of delay (Castano et al., 2002; Hirschberger & Ein-Dor, 2006; McGregor et al., 1998). Such manipulations place death in a highly accessible, but not focally conscious, cognitive space which gives rise to the need to buffer death anxiety in participants. This reduction in anxiety is often achieved through increased motivational commitment to close attachments and one's worldview. Theoretically, this shift in motivational quality would likely be reflected in a concurrent shift in rating of self-concordant goal motivation, though it could not be said without experimental evidence whether people would feel more intrinsically motivated (I *want* to pursue this goal), or perhaps experience more introjected motivation (I *should* pursue this goal). The reason for this is that how a person experiences their worldview may be as a more fully integrated set of beliefs and cultural values (more autonomous locus of causality and identified or intrinsic regulation) or perhaps they experience their worldview as less integrated and something which is forced on them by society or close others for example (more controlled locus of causality and external or introjected regulation). Due to our initial null findings, secondary analyses were undertaken to further investigate potential moderating factors of self-concordant goal selection across each condition.

Gender differences in goal choice

A key early exploratory finding was that men and women seemed to have very different experiences in this study. In all three conditions, women were shown to write down goals they felt were highly self-concordant. On the other hand, men scored lower on self-concordance of their personal goals in both the control and MS with no delay

conditions, but scored as high as women's ratings of self-concordance for personal goals written following the MS with delay induction. The finding that even in the control condition there was a significant gap in how closely aligned men and women's goals were to their individual needs and values was puzzling. Is it the case that there is a true and meaningful difference in the levels of self-concordance of personal goals that men and women strive for, or was this a peculiarity of our particular sample?

Previous literature makes no mention of gender differences in self-concordance in any one of a variety of sample populations including student samples similar to that of the current study (Sheldon et al., 2004; Sheldon & Elliot, 1999; Smith et al., 2011). Therefore it seems unlikely that true gender differences are commonplace or readily demonstrated at baseline in the general population. However, a potential explanation could be differences in need satisfaction between men and women in our sample. A core tenet of TMT is the anxiety-buffer hypothesis which states that if a psychological construct serves as a buffer from anxiety (in this case the anxiety that comes with the awareness of death), then the stronger that buffer becomes, the more anxiety it reduces (Pyszczynski et al., 2015). TMT describes self-esteem as an important buffer of anxiety, as well as secure attachment to others (Mikulincer & Florian, 2000). These buffers, when increased experimentally, have been shown to reduce or negate the effects of mortality salience on worldview defense (Harmon-Jones et al., 1997) because worldview defense itself is a way to gain self-esteem, which is no longer necessary for anxiety reduction when the participant already has a strong buffer in place. To see if potential buffers were already in place in our sample, we looked at ratings of self-esteem and autonomy satisfaction in both male and female participants. Men and women did not have

significantly different levels of self-esteem, however, they did differ in that women were experiencing significantly higher levels of autonomy satisfaction prior to the experimental manipulations across all conditions.

It has been shown that autonomy satisfaction serves an anxiety-buffering function that parallels self-esteem in its ability to reduce worldview defense following mortality salience manipulations (Vail et al., 2020). Autonomous orientations (i.e. a more internal locus of causality) tend to reflect a greater extent of internalization and expression of one's worldview, in essence affirming one's worldview without the need for additional worldview defense in the face of death and reducing effects of MS. Therefore it may be the case that individuals who experience greater autonomy satisfaction naturally feel more self-concordant in their worldview-relevant goals which buffer against death anxiety and provide a system of value and meaning that allows for some form of immortality. This might explain why female participants in this study scored high on self-concordance in all conditions and did not vary significantly across conditions, whereas men who did not have such a buffer in place demonstrated the typical worldview defense following the traditional mortality salience with delay condition.

SDT literature provides further evidence that psychological need satisfaction directly supports self-concordant goal selection. It has been found that higher levels of felt need satisfaction in competence, autonomy, and relatedness in particular life domains encourage the selection of personal goals that are related to those domain (Milyavskaya et al., 2014). It is possible that females in our sample, who felt more autonomy satisfaction in general, also experienced higher levels of autonomy satisfaction in those areas of life related to the goals they reported in the study. Unfortunately no domain-

specific measures of need satisfaction were included in the study so this remains an untested possibility.

From an analytic perspective, statistically controlling for autonomy satisfaction eliminates the interaction of gender and condition while the main effect of condition becomes marginally significant, pointing towards differences in autonomy satisfaction playing a significant role in the observed gender differences in self-concordance. Why women were experiencing higher levels of autonomy satisfaction than men in our sample is not known. One might speculate on spurious sample population differences or perhaps true gender differences in need satisfactions experienced by undergraduate students based on research that shows women may have more autonomous academic motivations in college and may therefore experience more autonomy in general (Ratelle et al., 2007; Vallerand & Bissonnette, 1992). This remains an area to be explored in future research in both student samples as well as other adult populations.

As mentioned above, after controlling for gender differences, the main effect of condition trends towards significance and a contrast comparison demonstrates that the participants in the mortality salience with delay group did write down goals that they felt to be significantly more self-concordant in pursuing than the other two conditions. Though not conclusive from this study alone, previous data (Sheldon, unpublished data) further support the possibility of enhanced self-concordant goal choice following MS with delay. Participants in the experimental condition were exposed to the same MS induction as used in our study and those participants showed increased self-concordant goal selection in comparison to either MS with no delay and control conditions, regardless of gender. Importantly, there was no difference in felt autonomy need

satisfaction between men and women in that study, providing indirect evidence that the gender differences in autonomy satisfaction found in our present study may explain the disparate patterns of self-concordant goal selection across conditions. Though we continue our discussion with the assumption that observed gender differences in self-concordance are explained by differences in autonomy satisfaction, it is nevertheless possible that our findings in male participants cannot be generalized to females. Further studies incorporating randomized samples that have no mean differences in autonomy satisfaction between gender or condition will be necessary for further clarifying the main effect of mortality salience on self-concordant goal selection.

Goal Choice as a Dual Process System

Ultimately, it seems that when death is on the edge of consciousness, people are more likely want to pursue goals that are felt to be more inherently meaningful and interesting to them and are therefore engaged in for more autonomous reasons (i.e., are more self-concordant). This has important implications because SDT demonstrates a host of positive benefits conferred on individuals with more autonomous forms of motivation such as greater psychological need satisfaction and overall better mental and even physical health (Deci & Ryan, 2000; Marcinko, 2015; Reis et al., 2000).

In this way, non-conscious mortality salience seems to push people towards things that matter, or are at least experienced as meaningful based on the beliefs and standards of value that people have integrated from their cultural landscapes. In turn, moving towards and achieving these more internalized goals provides the boost of self-esteem that keeps thoughts of death at bay, as TMT asserts (Pyszczynski et al., 2015). As an added bonus, it is also possible that the goals people find most meaningful (because they

are aligned with their worldview) are also a means by which they might find some sort of immortality, be it literal or symbolic, to further buffer from the anxiety that thoughts of death tend to bring. For instance, a Christian who is faithful to their religion might find a meaningful goal in enhancing their relationship with God through more frequent prayer or attending religious retreat with the ultimate hope of gaining eternal life after death. Or, a teacher might find meaning in educating future generations of people who could go on to make a positive impact on the world even after they themselves have left it. These are examples of goals that not only assuage the terror of death, but are pursued self-concordantly with vigor and volition.

The pursuit of self-concordant goals engenders a multitude of benefits to those striving to achieve them. First and foremost, those pursuing self-concordant goals demonstrate greater sustained effort and persistence that make it more likely one will accomplish their goal, and more importantly, it has been shown that pursuing a self-concordant goal leads to greater need satisfaction and well-being after having accomplished said goal (Sheldon & Elliot, 1999). It seems, then, that nonconscious death awareness may actually pave the way for goals that ultimately lead to more need satisfaction and well-being.

How exactly does this process occur? Self-concordant goal selection can be boiled down essentially to a challenging self-perceptual skill which can be conceptualized in the language of dual process theories (Sheldon, 2014; Kahneman & Fredrick, 2005). These theories describe cognitive processes as generally belonging either to System 1 (non-conscious, intuitive/instinctive, emotional, automatic, reactive) or System 2 (conscious, deliberate, rational, voluntary) which largely exist separately and

operate independently of each other (Hofmann & Wilson, 2010). In this view, a person's conscious self operates within System 2 and makes decisions such as selecting a goal from a variety of potential options, which can then be acted upon (all within System 2). However, therein lies the rub. Humans are profoundly good at consciously pursuing goals and activities that are ultimately bad for them (e.g., eating the fourth slice of cheesecake, getting back together with an abusive ex, etc.). One explanation for this is that the deeper wants and needs of an individual are largely found within non-conscious System 1 processes that are difficult to verbalize or bring into conscious focal attention to be inspected and understood. Therefore it is the all-too-frequent case that an individual's System 2 self chooses goals to pursue that are incongruent with that person's System 1 needs which remain hidden from direct awareness. In this view then, self-concordance is a measurement of the degree to which System 2 goals are in alignment with System 1 needs and values (Sheldon, 2014).

In the context of this study, we asked participants to write down goals they would like to pursue using their conscious System 2 cognitive process, and then measured how well their chosen goals fit with their unique System 1 needs (self-concordance). However, we first gave them a mortality salience (or control) prompt that was either immediately followed by the goal choice segment, or was separated by intermediate tasks. In the case of the control and mortality salience with no delay groups, those participants would still have had the prompts (writing about their death or about a painful dental procedure) in conscious awareness as they wrote their goals. These prompts would only be active in a conscious System 2 space which may or may not change *what* a person wrote down, but it wouldn't be expected to change *why* they wrote it. In other

words, the *what* (i.e., goal contents) might have changed because those are all conscious System 2 processes, but the self-concordance, the *why* of pursuing a goal strictly has to do with System 1 needs expressing themselves to, and influencing, System 2 decision-making. And we saw exactly that: only in the mortality salience with delay group, when death was just outside of focal consciousness, did we see a significant increase in the self-concordance ratings of the selected personal goals.

In this case it is held by TMT that a nonconscious awareness of one's death will force one to unconsciously focus on the superordinate goal of survival (Pyzczynski et al., 1997). However, this nonconscious knowledge of death would prompt distal defenses of the sort that encourage goals and behaviors associated with *symbolic* immortality (as opposed to behaviors directly related to increasing health) through living up to the standards and values that one has integrated over the life course (Pyzczynski et al., 1999). This would mean that a present but unrealized anxiety of death may cause a person's more deeply held core values, beliefs, and needs (which, again, are difficult to verbalize because they are system 1 processes) to become more accessible to conscious awareness, or at least influence choice even at a nonconscious level, so they can then be chosen as an end to be aimed at and achieved. While we can only speculate on this possibility, previous literature supports the assertion that non-conscious mortality salience enhances conscious access of worldview-relevant constructs (Arndt et al., 2002). It is here that we find individuals' personal goals to be more in alignment with their nonconscious needs and values and are therefore experienced as being more self-concordant.

Mortality Salience and Goal Contents

SDT purports that the types of goals people pursue in their lives, that is, the content or aim of those goals, has important implications for personal growth and well-being that result from pursuing those goals (Kasser & Ryan, 1996). In general, goals are broadly categorized as either being intrinsic in their nature such as affiliation with others, improving one's community, or striving to better oneself, or extrinsic in their nature such as striving for wealth, status, or projecting an attractive image. One's awareness of their own mortality and the time they have left may influence the types of goals people choose to pursue, and therefore may alter the intrinsic or extrinsic content of those goals.

While only reaching marginal statistical significance, a clear pattern emerged in our study demonstrating that the mortality salience with no delay group reported goals that were related to more intrinsic goal contents than either of the other two groups. This is congruent with other research that suggests individuals who have death in conscious awareness tend to trivialize the importance of extrinsic goals (Kosloff & Greenberg, 2009). Indeed, those who have gone through near-death experiences, when mortality salience might be said to be at its most realistic and focal in one's conscious awareness, generally eschew the social standards associated with status or materialistic goods, and instead shift their goals towards more gratifying and constructive aims (Kinnier et al., 2001).

Such findings can also be well explained in the context of socioemotional selectivity theory. This theory posits that as individuals age they begin to gain a sense of limited time perspective, that they do not have as much time left in the world as they once did (Carstensen, 1992). This cognitive standpoint is one at which people begin to ask themselves what they would like to do with the time they have left and ultimately

prompts behaviors and cognitive processes that tend to result in more positive mental health, positive affect, and enhanced meaning making (Carstensen, 2006). It is important to note, however, that this limited time perspective does not apply only to the elderly although they may be the group it is most associated with, as it can be experimentally induced even in young individuals (Frederickson & Carstensen, 1990; Fung et al., 2001). Individuals who engage with this limited time perspective have been shown to focus their efforts more on enhancing close personal relationships and investing in personally meaningful goals and activities.

Relevant to the current research, such goals tend to fall into the category of intrinsic goal contents as they are generally related to aspects of nurturing close relationships and cultivating personal growth through enhancing expertise in an area of life that is satisfying (Carstensen, 2006). Prompting individuals to describe what they think will happen to them when they die and then immediately asking them to write down goals they would like to pursue would, as in our mortality salience with no delay condition, likely caused participants to take the vantage point of a limited time perspective and therefore we would expect their goals to focus more on intrinsic contents such as relationships, family, and self-improvement. Such a trend was observed in our study when looking at overall relative intrinsic to extrinsic goal contents, though our manual coding of goals contents revealed only a significant increase in goals specifically related to social relationship in the conscious mortality salience group.

We failed to replicate previous research which shows that participants exposed to mortality salience with delay generally focus on pursuing goals with extrinsic goal contents such as amassing wealth (Sheldon & Kasser, 2008; Kosloff & Greenberg, 2009).

Often in Western culture, extrinsic values such as accumulating wealth or cultivating fame or attractive looks can be viewed as attempts by individuals to manage self-esteem or increase status within their cultural system (Kasser & Ryan, 1996; Kasser & Sheldon, 2000). In other words, if one has integrated such extrinsic values into their belief system and cultural worldview, then it should be expected that nonconscious mortality salience would enhance selection of goals with extrinsic content and motivate subsequent behaviors aimed at obtaining them. Contrary to our hypothesis, our findings suggest that participants in the mortality salience with delay group did not differ at all from the control group in terms of goal content, reporting goals that had slightly intrinsic content on average. However, in line with previous literature, both the distal defense and control conditions did score lower on intrinsic content than the mortality salience with no delay group (Kinnier et al., 2001). A manual coding of each participants' goals for intrinsic or extrinsic content showed that very few participants in the study wrote goals with explicitly extrinsic content, which may have affected these results.

Though the reasons for this in our sample can only be speculated on, one must wonder if the current state of affairs, at least in the United States where this study took place, may be shifting people's values towards more intrinsic content. Here we are referring to the ongoing COVID-19 pandemic which has caused large shifts in the patterns of behaviors and social interactions commonly experienced by the general public. For example, there is evidence that those who witnessed first-hand the large-scale destruction and death caused by natural disasters such as earthquakes or tsunamis often report a reprioritization of goals such that those individuals tend to focus more on goals with intrinsic content (Lykins et al., 2007). It would be little wonder if the constantly

increasing death tolls due to the current pandemic might shift strivings towards those things that are often personally important such as goals related to strengthening close relationships, providing aid to one's community, etc., rather than focusing on such extrinsic pursuits as looking more attractive. Of course, large-scale national polls in conjunction with multi-site studies looking at how value priorities and goal contents of the public may have shifted during the pandemic are needed to confirm such a possibility.

Non-conscious Death Effects on Goal Motivation and Goal Content: A Paradox?

It is likely apparent to the reader that non-conscious mortality salience affects goal self-concordance and goal content in what seems at first to be a diametrically opposed manner. How could distal defenses lead to participants choosing goals that are both less intrinsic in their content but are experienced as being more self-concordant and a true reflection of that person's integrated values? Could this mean that non-conscious death awareness could lead people to do things that do not promote personal growth or enhanced relationships, and yet feel more self-concordant about doing them? In a word: yes. Does it necessarily imply this? Certainly not. TMT explains that worldviews are a system of sociocultural beliefs that are held largely as a result of one's upbringing. These beliefs provide an individual with a basis for valuing him- or herself. As explained by Greenberg et al. (1986), "The individual can have a sense of worth to the extent that she or he satisfies the cultural criteria for being good (valuable)" (p. 197). These cultural beliefs, to the extent that they are integrated into an individual's value system, become a part of that person's interpretation of reality and influence emotions, cognitions, and behaviors. Therefore, what is considered "good" and "bad" are generally determined by the prevailing cultural/social norms, which in turn shapes the content of the goals that

people choose to pursue. If displays of material wealth are a particularly potent way of living up to the standards of one's worldview, then goals revolving around buying expensive cars, jewelry, houses, boats, etc. would be more salient and appealing to individuals with such a worldview, as accomplishing those goals allows for increases in self-esteem and feelings of self-worth. If a person with such a view was exposed to non-conscious mortality salience, then, TMT would predict that this individual would be motivated to defend this materialistic worldview and aim to bolster their self-esteem (and thus reduce mortality salience) through pursuits that are in alignment with it, e.g., by buying a new expensive watch.

Importantly, TMT states that all cultural worldviews are subjectively experienced as valid by those who have integrated them, and these worldviews are subject to the same effects of mortality salience *regardless* of their content (of course, this does not mean that TMT theorists would endorse all cultural worldviews). In other words, whether a person believes that achieving wealth and fame are important sources of personal meaning, or whether they believe that community service and environmentally-conscious acts are most important, both worldviews will be bolstered in those respective individuals following a non-conscious mortality salience induction if those beliefs were salient at the time (Greenberg et al., 1995; Vess & Arndt, 2008). Therefore, we would expect that non-conscious mortality salience enhances the felt self-concordance of any goal that serves to bolster one's worldview, regardless of content. A bold claim, and perhaps a tough pill to swallow.

In an extreme example of this, Pyszczynski et al. (2003) discuss the tragic events of September 11th, 2001 in terms of worldviews, saying:

...although most Americans saw these events as horrific, evil acts of cruelty committed by cowardly madmen, the terrorists and their supporters saw them as heroic acts in the service of a great cause that would insure them certain death transcendence. From the perspective of TMT, self-esteem is inextricably tied to the cultural context within which the individual is acting.

(p. 318)

What this does *not* imply is that all people who have enacted distal defenses in response to non-conscious death awareness will necessarily pursue goal that are more extrinsic (or, at least less intrinsic) in nature. It is simply those values and standards that are most salient that are identified with and become enhanced. For instance, it has been shown that when religious fundamentalists experience non-conscious mortality salience, they are more likely to support use of extreme military force to defend their homeland. However, when compassionate aspects of the same religion are made salient, those experiencing non-conscious death awareness decreased their support of military force against outgroups (Rothschild et al., 2009). This suggests that first priming participants with values that lend themselves to intrinsic goals (e.g., prosocial values, volunteerism, inclusiveness, benevolence, etc.), or at least less extrinsic goals prior to traditional mortality salience inductions may shift their personal goal choice towards related intrinsic content. Although we did not prime participants with any values in this study, future work may benefit from doing so to evaluate the reliability of such a method to influence participants to choose goals that are both more self-concordant *and* have higher intrinsic goal content, on average.

As mentioned previously, some literature in a similar sample to our study (albeit more than 20 years ago) has reported that non-conscious mortality salience led to more extrinsic goal pursuit, suggesting that more extrinsic values were salient to those participants (Kasser & Sheldon, 2000). The current study found that participants in the distal defense condition reported goals that were slightly intrinsic in content, on average, similar to the control group. Perhaps the cultural worldview in U.S. college students has shifted gradually to focus less on extrinsic goals such as financial wealth and material goods, or perhaps the current global pandemic has acutely shifted priorities in this sample. There is some support for these ideas: a survey conducted by the Collage group found that each subsequent generation since the Baby Boomers has placed more and more value on education, finding a career they love, and having new experiences, while having a decreased focus on material wealth (Collage Group, 2021). Further, a survey conducted by researchers at UCLA found that the COVID-19 pandemic has led to Americans being more focused on family and close relationships, and less interested in pursuing financial wealth (Greenfield et al., 2021). More studies will need to be done over time to assess the changes in values and priorities of participants similar to those in our study.

Limitations

Our study would have benefited from the addition of two relevant measurements: self-esteem and death thought accessibility. While we were able to look at self-reported self-esteem ratings of the majority of our participants from a previous survey, those ratings were given several weeks earlier and may have changed during that time though it has been reported that global self-esteem ratings remain fairly stable over time with some

exceptions (Block & Robins, 1993). A measure of death thought accessibility would have also improved our ability to make causal inferences as a type of manipulation check to show, for example, that participants in the mortality salience with no delay condition did indeed have higher conscious access to thoughts of death when writing down personal goals as compared to the other two conditions.

Also, as noted previously, this study took place in the Fall of 2021 during the ongoing COVID-19 pandemic. This is particularly relevant due to the potential for participants to receive indicators of death (either symbolic or literal) on a near-daily basis. Facial masking mandates, news reports of the latest outbreaks, seeing loved ones and acquaintances ill and possibly hospitalized, and a constantly mounting world-wide death toll are all poignant reminders that there are very real and local threats to personal survival. This constant adjacency to death and awareness of one's mortality may have affected participants' responses to our study in ways that are not fully known.

It is possible that persistent death reminders may desensitize individuals to mortality salience as a compensatory defense mechanism, which would result in blunted effects of mortality salience manipulations such as those given to participants in this study. However, a potentially more likely scenario is that many participants may have had conscious or non-conscious awareness of mortality as they were participating in the study regardless of condition. For example, those in the control condition, even though not presented with a manipulation designed to elicit mortality salience, may have been experiencing nonconscious mortality salience due to the surrounding climate and therefore would not be a true control group. Indeed, this might explain the goal contents findings in which the control group and mortality salience with delay group scored nearly

identically on ratings of their personal goals being geared towards intrinsic or extrinsic ends, though parallel effects on self-concordance of control group goal selection were not seen.

An additional possibility is that those buffers to mortality salience that are commonly in place such as strong social connections and a sense of self-esteem could be eroded or overwhelmed by the constant reminders of death to the point that they no longer function properly. The danger with such possibility is that individuals in such circumstances may engage in maladaptive efforts to manage their anxiety about death or may even suffer mental distress in the form of a clinically diagnosable mental illness (Pyszczynski et al., 2020). For example, it has been shown that the pandemic is associated with increased instances of anxiety, depression, and stress (Torales et al., 2020; Wang et al., 2020) and that this may be explained, at least in part, by the known association between mortality salience and exacerbation of psychological disorders (Mikulincer et al., 2020; Yetzer & Pyszczynski, 2018).

In the case of our study, it is possible that some participants experienced increased feelings of anxiety beyond their normal ability to cope (though we certainly hope this is not the case), and as such, the typical proximal and distal defenses may not have been engaged in as intended in those experimental conditions. Consistent with this possibility, in the case of proximal defenses, those experiencing emotional overwhelm in the MS with no delay group would not be expected to engage in potentially healthier way as according to the TMT health model (Goldenberg & Arndt, 2008) and therefore the amount of intrinsic to extrinsic goal content may not have been as high as was expected. In the case of distal defenses, those experiencing emotional overwhelm in the MS with

delay group would not engage in the typical worldview defense and would not be more likely to pursue self-concordant goals which would reduce the effectiveness of the manipulation. Though only speculation at this point, the possibility of these effects of the COVID-19 pandemic highlight the need for further research to fully parse out and understand the effects of the pandemic on studies involving mortality salience primes.

Future Directions

Future TMT studies may benefit from utilizing the PLOC scale measuring self-concordance to provide a more detailed view of the motivational quality of particular cognitions or behaviors expressed by participants. For instance, the well-known finding that people tend to favor their own ingroup (religious, political, etc.) and increase prejudice towards outgroups following an MS with delay manipulation (Castano et al., 2002; McGregor et al., 1998) would be enhanced via understanding why participants engage in this behavior (i.e., how self-concordant these motivations are and where they fall on the relative autonomy continuum). Based on our work, it would seem that individuals who are prompted in this way by non-conscious death, and subsequently strive to defend their worldviews, are doing so because they are aligning their behaviors and goal choices with their underlying beliefs and what they find meaningful or important in the world as a result of having internalized those beliefs as being autonomously engaged in. Thus, non-conscious death awareness seems to enhance one's zeal for their deeply-held beliefs. In light of this, it seems that we can only hope for those beliefs to be of an enlightened nature.

Concluding Remarks

The main focus of our study was demonstrating what effects, if any, does an awareness of one's own mortality have on the goals and related motivations that individuals would like to strive for in their personal lives. As illustrated in this work, the content of a goal (the "what") and the reason(s) a person is pursuing that goal (the "why") are affected in vastly different ways following the introduction of death contemplation at either a conscious or non-conscious level. Non-conscious death awareness seems to help individuals link their conscious motivations to their underlying and often hidden needs or values and therefore increase the self-concordance of their goals. Meanwhile, conscious death cognitions may encourage people to pursue goals with more intrinsic content such as nurturing social and romantic relationships and aiding one's community.

Though our work is intended to be descriptive rather than prescriptive, our findings beg the question of whether encouraging people to explicitly contemplate their death, or at least expose oneself to contexts that are symbolic of death, may ultimately be beneficial in terms of goal choice, persistence, need satisfaction, and well-being. It seems that the key ingredient is one's worldview and whether they have integrated beliefs surrounding extrinsic goals such as gaining material wealth and status, or whether their belief system prizes healthy relationships, giving back to one's community, and striving to better oneself.

We humans have been graced with the greatest intelligence of any species in the currently known universe. Though this evolutionary gift has led to immense technological advances that provide increased means of survival, comfort, and thriving, it also comes with the caveat of knowing that one day in the not-too-distant future we will die. Though this realization has the power to impart fear and mental anguish, the silver

lining is that it may also serve to point us in the right direction and better align our choices with our needs under the right circumstances. That being the case, we might make an attempt to embrace this understanding of our death to the extent that we can. As Martin Heidegger wrote: “If I take death into my life, acknowledge it, and face it squarely, I will free myself from the anxiety of death and the pettiness of life - and only then will I be free to become myself.”

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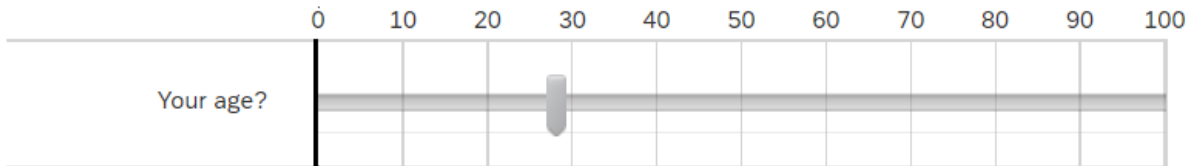
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APPENDIX A

Demographic Measures

1.) What is your age? Drag the slider until the correct age number appears, to the right of the slider.



2.) What is your gender?

- _____ 1. Male
- _____ 2. Female
- _____ 3. Transgender / Other

3.) What is your ethnicity?

- _____ 1. African-American
- _____ 2. Asian-American
- _____ 3. Hispanic or Latino(a)
- _____ 4. Caucasian
- _____ 5. Other

4.) Into what political party would you categorize yourself?

Democrat Republican Green Libertarian Tea Party Independent None
Other _____

5.) How important is your identification with your political part?

1 2 3 4 5

Not
important

Very
important

6.) Please indicate your religious affiliation, if any (please circle one):

- | | |
|-----------------------|---------------------------------|
| 1. Protestant | 9. Buddhist |
| 2. Catholic | 10. Hindu |
| 3. Jewish | 11. Muslim |
| 4. Atheist | 12. Other Eastern Religion |
| 5. Agnostic | 13. Native American Religion |
| 6. Non-Denominational | 14. Other |
| 7. Orthodox-Christian | 15. Spiritual but not religious |
| 8. Christian | 16. Would rather not say |

APPENDIX B

Basic Need Satisfaction Scale

Below, we ask you about the kind of experiences you actually have in your life. Please read each of the following items carefully. You can choose from 1 (Not true at all) to 5 (Completely true) to indicate the degree to which the statement is true for you at this point in your life.

1. I feel a sense of choice and freedom in the things I undertake.
2. Most of the things I do feel like “I have to”.
3. I feel that the people I care about also care about me.
4. I feel excluded from the group I want to belong to.
5. I feel confident that I can do things well.
6. I have serious doubts about whether I can do things well.
7. I feel that my decisions reflect what I really want.
8. I feel forced to do many things I wouldn't choose to do.
9. I feel close and connected with other people who are important to me.
10. I have the impression that people I spend time with dislike me.
11. I feel competent to achieve my goals.
12. I feel insecure about my abilities.

APPENDIX C
EXPERIMENTAL
MANIPULATION

Mortality Salience Condition

This assessment is a recently developed, innovative personality assessment. Recent research suggests that feelings and attitudes about significant aspects of life tell us a considerable amount about the individual's personality. Your responses to this survey will be content-analyzed in order to assess certain dimensions of your personality. Your honest responses to the following questions will be appreciated.

1. Please briefly describe the emotions that the thought of your own death arouses in you.

2. Jot down, as specifically as you can, what you think happens to you as you physically die and once you are physically dead.

Dental Pain Control Condition

This assessment is a recently developed, innovative personality assessment. Recent research suggests that feelings and attitudes about significant aspects of life tell us a considerable amount about the individual's personality. Your responses to this survey will be content-analyzed in order to assess certain dimensions of your personality. Your honest responses to the following questions will be appreciated.

3. Please briefly describe the emotions that the thought of dental pain arouses in you.

4. Jot down, as specifically as you can, what you think happens to you as you physically experience dental pain.

APPENDIX D
DELAY EXERCISES

Morningness and Eveningness Survey

Instructions:

Please read each question carefully before answering

Answer questions in numerical order.

Please answer each question as honestly as possible.

1. Considering only your own "feeling best" rhythm, at what time would you get up if you were entirely free to plan your day? Please place an "X" at the appropriate point along the scale below.

A.M. 5-----6-----7-----8-----9-----10-----11-----12

2. Considering only your own "feeling best" rhythm, at what time would you go to bed if you were entirely free to plan your evening? Please place an "X" at the appropriate point along the scale below.

P.M. 8-----9-----10-----11-----12-----1-----2-----3

3. If there is a specific time at which you have to get up in the morning, to what extent are you dependent on being woken up by an alarm clock?

_____ not at all dependent
_____ slightly dependent
_____ fairly dependent
_____ very dependent

4. Assuming adequate environmental conditions, how easy do you find getting up in the morning?

_____ not at all easy
_____ not very easy
_____ fairly easy
_____ very easy

5. How alert do you feel during the first half hour after having woken in the mornings?

_____ not at all alert
_____ not very alert
_____ fairly alert
_____ very alert

6. How is your appetite during the first half hour after having woken in the mornings?

_____ very poor

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- fairly poor
- fairly good
- very good

7. During the first half hour after having woken up in the morning, how tired do you feel?

- very tired
- fairly tired
- fairly refreshed
- very refreshed

8. When you have no commitments the next day, at what time do you go to bed compared to your usual bedtime?

- seldom or never late
- less than one hour later
- one to two hours later
- more than two hours later

9. You have decided to engage in some physical exercise. A friend suggests that you do this one hour twice a week and the best time for him is between 7 and 8 A.M. Bearing in mind nothing else but your own "feeling best" rhythm, how do you think you would perform?

- Would be on good form
- Would be on reasonable form
- Would find it difficult
- Would find it very difficult

10. At what time in the evening do you feel tired and, as a result, in need of sleep?

P.M. 8- - - - -9- - - - -10 - - - - -11- - - - -12- - - - -1- - - - -2- - - - -3

11. You wish to be at peak performance for a test which you know is going to be mentally exhausting and lasting for two hours. You are entirely free to plan your day and considering only your own "feeling best" rhythm, which one of the four testing times would you choose?

- 8 to 10 A.M.
- 11 A.M. to 1 P.M.
- 3 to 5 P.M.
- 7 to 9 P.M.

12. If you went to bed at 11 P.M., at what level of tiredness would you be?

- Not at all tired
- A little tired
- Fairly tired
- Very tired

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13. For some reason you have gone to bed several hours later than usual, but there is no need to get up at any particular time the next morning. Which ONE of the following events are you most likely to experience?

- Will wake up at usual time and will NOT fall asleep
- Will wake up at usual time and will doze thereafter
- Will wake up at usual time but will fall asleep again
- Will NOT wake up until later than usual

14. One night you have to remain awake between 4 and 6 A.M. in order to carry out a night watch. You have no commitments the next day. Which ONE of the following alternatives will suit you best?

- Would NOT go to bed until watch was over
- Would take a nap before and sleep after
- Would take a good sleep before and nap after
- Would take ALL sleep before watch

Word Unscramble

In this section you will be presented with several words that have been "jumbled up" so that their letters are not in the correct order. Below each of these, please type in the correct word you believe it to be.

BADRO

OCROL

ESNEV

ATPEL

ESSNE

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BTELA

APPENDIX E

Personal Goals

In this section you will write down three goals you would like to accomplish sometime in the future (this might be later today or many years from now) and answer a few questions about each goal.

Goal1 Please write a goal you would like to accomplish

Goal 2 Please write a second goal you would like to accomplish

Goal 3 Please write a third goal you would like to accomplish

APPENDIX F

Perceived Locus of Causality

Reasons for goals: Past research suggests that people may be motivated to do something for many different reasons. In this task, we would like you to rate each of your 3 Goals in terms of each of the following eight reasons, using the scale below. Why are you striving for each goal?

REASON 1. You are striving for this goal because you feel like you have no choice. That is, you feel compelled to accomplish this goal by external forces that are not in your control, and you feel like you must accomplish the goal even if you don't want to.

	Not at all for this reason (1)	(2)	Somewhat for this reason (3)	(4)	Very much for this reason (5)
Goal 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

REASON 2. You are striving for this goal because somebody else wants you to, or thinks you should do this. That is, one reason you are seeking this goal is because of the urgings or desires of others (such as family, friends, or mentors).

	Not at all for this reason (1)	(2)	Somewhat for this reason (3)	(4)	Very much for this reason (5)
Goal 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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REASON 3. You are striving for this goal because you would feel ashamed, guilty, or anxious if you didn't. You feel that you "should" or "ought to" strive towards that goal.

	Not at all for this reason (1)	(2)	Somewhat for this reason (3)	(4)	Very much for this reason (5)
Goal 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

REASON 4. You are striving for this goal because you would feel bad about yourself if you didn't accomplish it. You'd like to avoid negative feelings about yourself.

	Not at all for this reason (1)	(2)	Somewhat for this reason (3)	(4)	Very much for this reason (5)
Goal 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

DEATH'S COLD GRIP OR HELPING HAND

REASON 5. You are striving for this goal because it is personally meaningful to you. You endorse your decision to strive towards this goal.

	Not at all for this reason (1)	(2)	Somewhat for this reason (3)	(4)	Very much for this reason (5)
Goal 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

REASON 6. You are striving for this goal because it is something you value and think is important. You want to pursue this goal because it matters to you.

	Not at all for this reason (1)	(2)	Somewhat for this reason (3)	(4)	Very much for this reason (5)
Goal 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

DEATH'S COLD GRIP OR HELPING HAND

REASON 7. You are striving for this goal because it would be interesting or fun to pursue. You are looking forward to pursuing this goal.

	Not at all for this reason (1)	(2)	Somewhat for this reason (3)	(4)	Very much for this reason (5)
Goal 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

REASON 8. You are striving for this goal because you know you will enjoy working towards it. This goal will be a pleasure to strive for.

	Not at all for this reason (1)	(2)	Somewhat for this reason (3)	(4)	Very much for this reason (5)
Goal 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

APPENDIX G

Intrinsic and Extrinsic Goal Content

Below are descriptions of six "possible futures" which many people aspire to attain down the road. Please consider how success at the goals you wrote down might affect each "possible future." Would success at that goal tend to take you closer to each future, or is it unrelated? For example, successfully completing the goal "Learn time management skills" would probably help Self-Acceptance/Personal Growth in the future, but would probably not change Physical Appearance in the future. None of these is better or worse than any other, so fill in whatever feels right to you.

Possible Future 1. Physical Appearance: Looking good and being attractive to others.

	Not helpful (1)	A little helpful (2)	Moderately helpful (3)	Quite helpful (4)	Very helpful (5)
Goal 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Possible Future 2. Self Acceptance/Personal Growth: Being happy and having a very meaningful life. Also includes learning and mastering new skills.

	Not helpful (1)	A little helpful (2)	Moderately helpful (3)	Quite helpful (4)	Very helpful (5)
Goal 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Possible Future 3. Intimacy/friendship: Having close and caring relationships with others.

	Not helpful (1)	A little helpful (2)	Moderately helpful (3)	Quite helpful (4)	Very helpful (5)
Goal 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Possible Future 4. Popularity/Recognition: Being known and/or admired by many people.

	Not helpful (1)	A little helpful (2)	Moderately helpful (3)	Quite helpful (4)	Very helpful (5)
Goal 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Possible Future 5. Societal Contribution: Working to help make your community and/or the world a better place.

	Not helpful (1)	A little helpful (2)	Moderately helpful (3)	Quite helpful (4)	Very helpful (5)
Goal 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

DEATH'S COLD GRIP OR HELPING HAND

Possible Future 6. Financial Success: Having a job that pays very well and having a lot of nice possessions.

	Not helpful (1)	A little helpful (2)	Moderately helpful (3)	Quite helpful (4)	Very helpful (5)
Goal 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>