

DEATH CONSTRUAL IN SUICIDE

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Abstract

Suicide attempts are a leading cause of global mortality and a significant public health problem. However, most identified risk factors for suicide predict suicidal ideation, but not attempts. How suicidal individuals construe death (i.e., “death construal”) may alter the nature of suicidal ideation and reduce the barriers to making a suicide attempt.

The current project was the first to examine death construal in relations to suicidal ideation and attempts. Specifically, utilizing two samples (undergraduate sample [n = 549], and community sample [n = 288]), the current research (1) investigated whether fear of death distinguishes among those with a history of suicide attempts, those with a history of suicidal ideation, and non-suicidal participants; and (2) explored whether cognitions and other emotions about death and dying distinguish among those with a history of suicidal ideation, those with a history of suicide attempts, and non-suicidal participants. Additionally, participants in the undergraduate sample were followed up over a period of 1-2 months to (3) examine temporal stability of various death construal constructs, as well as their longitudinal relationships to wish to live.

Results indicated that fear of death did not meaningfully distinguish those with a history of suicide attempts from those with a history of suicidal ideation. However, several death construal variables did consistently distinguish those with a history of suicidal ideation from non-suicidal individuals across samples. Specifically, conceptualizing death as annihilation distinguished those with a history of suicidal ideation from non-suicidal individuals, and predicted future decreases in wish to live at follow-up. Moreover, a specific emotion – feeling relieved about death and dying – also distinguished those with a history of suicidal ideation from non-suicidal

individuals. Most death construal variables exhibited strong stability over a 1-2 months period. These results have important implications for understanding what contributes to the development of suicidal ideation and the escalation from ideation to attempts; death construal may be more important to understanding the former rather than the later. Furthermore, the aspects of death construal that most clearly distinguish individuals with and without suicidal ideation – relief from and annihilation of pain – may represent potential treatment targets in reducing suicidal ideation.

Lay Summary

Suicide is a leading cause of global mortality. However, most identified risk factors for suicide predict suicidal ideation, but not attempts. Understanding how suicidal individuals construe death (i.e., “death construal”) may help elucidate why some individuals act on their suicidal ideation whereas others do not. The current project examined different aspects of death construal in relations to suicidal ideation and attempts.

Results showed that death construal did not distinguish suicidal individuals who attempted suicide from those who did not. However, certain aspects of death construal did differentiate individuals experiencing suicidal ideation from non-suicidal individuals. In particular, compared to non-suicidal participants, individuals experiencing suicidal ideation tended to conceptualize death as annihilation, and reported greater feelings of relief about death and dying. These results enhance understanding of suicidal ideation and attempts and have useful implications for treating suicidality.

Preface

The author was the primary contributor to the work presented in this dissertation, and was generally responsible for study design, data collection for Study 1 and Study 2, data analysis, and manuscript writing. Drs. E. David Klonsky, Paul Hewitt, and Steven Heine assisted with study design and data analysis. Further, Dr. Klonsky provided feedback and other intellectual contributions, and edited the manuscript.

The research described in this dissertation was approved by the UBC Behavioral Research Ethics Board, under the ethics certificate numbers: H19-00253 and H19-03431.

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Chapter 1: Introduction

Suicide is a major public health problem with devastating impacts on individuals, families, and communities. Suicide is the fifteenth leading cause of death worldwide, responsible for 1.4% of all deaths, with a total of more than 800,000 deaths by suicide each year (World Health Organization [WHO], 2019). In Canada, more deaths were caused by suicide than by accidents, homicide, influenza, HIV, and war combined, with approximately 11 deaths by suicide each day (Statistics Canada, 2019). In the US, suicide rate has increased by approximately 33% to 14.5 per 100,000 in the general population (Stone et al., 2018), and has tripled in young adults, causing for more premature deaths per year than any medical illness or disease (Centers for Disease Control and Prevention [CDC], 2014); recent estimates indicated that 1.4 million American adults attempted suicide per year (Substance Abuse and Mental Health Services Administration [SAMHSA], 2019). These suicide deaths are in addition to an estimated 25 million annual suicide attempts (Crosby, Gfroerer, Han, Ortega, & Parks, 2011) and 140 million annual suicide ideators worldwide (Borges, Angst, Nock, Ruscio, & Kessler, 2008).

Decades of research and prevention efforts have failed to meaningfully enhance the prediction or reduction of suicide (Klonsky, May, & Saffer, 2016). Suicide rates have not declined appreciably in decades (Nock et al., 2008; Statistics Canada, 2019; SAMHSA, 2018; Stone et al., 2018) and large national surveys indicate a similar pattern for suicide ideation, plans, and attempts (Kessler, Berglund, Borges, Nock, & Wang, 2005; Wilcox et al., 2010). As such, it is imperative that we learn to better understand and prevent suicide.

A key reason for limited understanding and prevention is inadequate knowledge about the transition from suicide ideation to attempts (Klonsky, Saffer, & Bryan, 2018). So far, key risk factors for suicide identified by research – including depression, hopelessness, the presence of

mental disorders, and even impulsivity – predict suicidal ideation, but minimally or negligibly distinguish attempters from ideators (Dhingra et al., 2019; Klonsky & May, 2014; May & Klonsky, 2016). A similar pattern is found for various other risk factors for suicide: anhedonia, low belongingness, bullying (both perpetration and victimization), burdensomeness, defeat, emotion dysregulation, entrapment, and social disconnection each was shown to predict suicidal ideation but fail to predict attempts among ideators (Klonsky, Qiu, & Saffer, 2017). Given that most individuals with suicidal ideation do not attempt suicide (Klonsky & May, 2014), it is crucial to better understand the transition from suicide ideation to suicide attempts.

1.1 Definition of Death Construal

How suicidal individuals construe death (referred to as “death construal” hereafter) may be an important variable in clarifying the transition from suicide ideation to suicide attempts. Death construal has been previously defined as a network of cognitions, emotions, meanings, and other associations that together create an experiential quality or a unique state of mind regarding death (Orbach & Glaubman, 1978; Hussey et al., 2016). Prior research has highlighted and differentiated construal of different stages of death and dying, including the process of dying (e.g., Crane et al., 2012), the state of being dead (e.g., Orbach et al., 1993), and what would happen to oneself and/or others after death (e.g., Pfeffer, 1989).

Consistent with these conceptualizations, death construal is operationalized in this dissertation as including a wide range of cognitions and emotions about one’s own death and dying. Given the role of fear of death in aforementioned recent theories about suicide, a particular emotion about death, fear of death, is given special attention in the dissertation.

1.2 Measurement of Death Construal

Death construal has been assessed using primarily self-report instruments, such as the Multi-Attitude Suicide Tendency Scale (MAST; e.g. Orbach et al., 1991; Wong et al., 2004; Stein et al., 2013), the Death Anxiety Scale (DAS; Templer, 1970), and the Fear of Personal Death Scale (FPDS; Florian & Kravetz 1983). Recent studies have also explored behavioural measures in assessing death construal in relation to suicidality (e.g. Nock et al., 2010; Dickstein et al., 2015; Ellis et al., 2016; Harrison et al., 2014; Hussey et al., 2016; Randall et al., 2013). However, these studies predominantly investigated one's self identification with death (e.g. the Implicit Association Test (IAT); Nock et al., 2010), rather than how individuals construe death. Interviews have also been used in investigating death construal in suicide. Specifically, interviews were more frequently used in early studies, especially in studies that studied death construal and suicidality in children (e.g., Pfeffer et al., 1979; Pfeffer et al., 1989; Gothelf et al., 1998). Finally, some recent studies have investigated mental imagery in suicidality related to death construal via structured interview (The Suicidal Cognitions Interview; Holmes et al., 2007; Crane et al., 2012).

1.3 Death Construal in Suicide

1.3.1 Theoretical Frameworks

A number of psychological perspectives have been offered on death, with a focus on fear or anxiety about death. One of the earliest theorists on this topic is Freud, who stated that “at bottom no one believes in his own death” (p. 761), such that “our unconscious ... behaves as if immortal” (p. 765). Modern perspectives have argued that awareness of death and mortality generate anxiety and terror, and that humans manage such terror/anxiety by focusing on

personally and culturally valued goals and contributing to a meaningful universe, which confers literal and/or symbolic immortality (e.g., Terror Management Theory [TMT]; Pyszczynski, Greenberg, & Solomon, 1999). Similarly, existential psychotherapy postulates that death represents a “primordial source of anxiety” (p. 29) that “plays a major role in our internal experience... a dark, unsettling presence at the rim of consciousness... that we erect defenses against” (p. 27; Yalom, 2008). Furthermore, it is argued that ineffective strategies to deny death (e.g., belief in one’s own omnipotence or specialness) contributes to psychopathology, whereas confronting and accepting death instigates positive personal growth, because only then are we able to focus on living an authentic life devoid of regret (Yalom, 2008). While these contemporary perspectives have generated much research and clinical interest and received empirical support (Solomon, Greenberg, & Pyszczynski, 2004), it should be noted that they tend to focus on general or clinical populations without reference to histories of suicidal thoughts or suicide attempts; thus, this literature does not clarify how death construal might relate to suicide risk. As such, we turn to suicide theories below and examine the relevance of death construal from the frameworks of suicide theories.

There are a few reasons why death construal may be important to understanding suicide, consistent with several contemporary suicide frameworks and theories. Specifically, Klonsky and May (2014) argued that an “ideation-to-action” framework should guide suicide theory, research, and prevention. From this perspective, (a) the development of suicide ideation and (b) the progression from ideation to suicide attempts are distinct processes with distinct explanations (Klonsky & May, 2014).

For example, the first ideation-to-action theory of suicide is Joiner’s (2005) Interpersonal Theory of Suicide (IPT). Joiner (2005) argues that the simultaneous presence of thwarted

belongingness and perceived burdensomeness produces the desire for suicide. However, while the desire for suicide is necessary, it alone will not result in death by suicide. Rather, the IPT posits that one must also have acquired capability (that is, the acquired ability to overcome one's natural fear of death), which contributes to the progression from thinking about suicide to making a suicide attempt (Joiner, 2005).

More recently, the Three-Step Theory (3ST) offers separate explanations for the development versus escalation of suicidal desire (Klonsky & May, 2015; Klonsky et al., 2018). Specifically, it posits that suicidal desire develops in response to pain and hopelessness, and intensifies when pain exceeds or overwhelms connectedness (Klonsky & May, 2015; Klonsky, 2018). Importantly, it also expands on the capability component of the IPT theory, arguing that the progression from suicidal desire to potentially lethal suicide attempts is facilitated by various practical, dispositional, and acquired contributors to the capability for suicide (Klonsky & May, 2015; Klonsky, 2018).

Together, these theoretical perspectives converge to emphasize the importance of conceptualizing suicide within a framework of multiple processes, and in particular, the importance of capability factors in the escalation of suicide risk among those with suicidal thoughts. As argued by these researchers, people are biologically and evolutionarily wired to avoid pain, injury, and death (Joiner et al., 2009). It is therefore very difficult for people to attempt suicide, even in the presence of strong suicidal ideation (Klonsky & May, 2015). Consistent with this, there is a literature on acquired capability for suicide, demonstrating that factors such as an individual's habituation to pain, fear, and death through exposure to life experiences such as physical abuse, suicide of a family member or friend, combat training etc. are associated with suicidal attempters but not with ideators (Van Orden et al., 2008). However,

as pointed out by Klonsky and May (2015), capability factors are not just limited to acquired capability (i.e., individuals' habituation to pain, fear, and death through exposure to life experiences), but can include other categories of variables, such as dispositional factors (e.g., pain sensitivity; Young, Lariviere, & Belfer, 2012; blood phobia; Czajkowski, Kendler, Tambs, Røysamb, & Reichborn-Kjennerud, 2011) and practical factors (e.g., knowledge of and access to lethal means; Klonsky & May, 2015).

Death construal may serve as an important contributor to suicide capability for several reasons. First, suicidal individuals may construe death in specific ways that alter the nature of suicidal ideation and reduce the fear of death. For example, suicidal individuals may construe death in a romanticized way (Schnier, 1950), or in a way that is more desirable than life (Kagan, 2012). Viewing death as an appealing option, such death construal may elicit reduced fear or other negative emotional reactions to death, thus reducing barriers to making a suicide attempt. Additionally, repeated exposure to death imagery or death cognition may also serve as a route through which suicidal individuals mentally habituate to pain and death, in a similar way to imaginal exposure in the treatment of anxiety disorders (Crane et al., 2012). As such, death construal may constitute a unique pathway through which suicidal individuals progress from suicidal ideation to suicidal attempts.

1.3.2 Current Knowledge on Death Construal in Suicide

1.3.2.1 Studies on the emotional dimension of death construal in suicide

Despite its potential importance, not many studies have been conducted on this topic. The bulk of early studies investigated the emotional dimension of death construal (i.e., attraction to death and repulsion by death) in children and adolescents, using the Multi-Attitude Suicide

Tendencies Scale (MAST). A few studies have converged to show that suicidal adolescents tended to exhibit higher attraction to death (AD) and lower repulsion by death (RD; as well as lower attraction to life [AL] and higher repulsion to life [RL]), compared to healthy and clinical controls (Orbach et al., 1991; Orbach et al., 1998; Orbach et al., 2001; Stein et al., 2003).

In adults, only two studies investigated the emotional dimension of death construal in suicide. However, the limited results seem consistent with those of the child and adolescent studies. Using the Multi-Attitude Suicide Tendency Scale (MAST), Payne and Range (1996) found that in young adults, suicidality was higher for young adults who reported less repulsion by death (RD) and less attraction to life (AL). Similarly, using the same measure (i.e., MAST), Gutierrez et al. (2000) found that in college women, those who experienced significant abuse reported less repulsion by death (RD) and more repulsion by life (RL), and that these same women endorsed higher levels of current suicidal ideation. However, direct relationships between death construal and suicidality was not investigated.

Importantly, inconsistent evidence also exists. Some studies found that only attraction to death (AD), but not repulsion to death (RD), differentiated suicidal adolescents from controls (Cotton & Range, 1996; Gutierrez et al., 1996), while others showed that only repulsion to death (RD) did (Wong et al., 2003). In addition, Payne & Range (1996) reported that after depression was taken into consideration, neither attraction to death (AD) nor repulsion by death (RD) accounted for unique variance in suicidal ideation in children age 8-13. Furthermore, these authors found that high suicidality was not significantly correlated with attitudes towards life and death (Payne & Range, 1996).

Similarly, the literature on fear of death yielded an inconsistent picture. Tarter et al. (1974) examined death anxiety in suicidal adolescents using the Death Anxiety Scale (Templer,

1969). Using a unitary construct of death anxiety, they reported that no relationship was observed between death anxiety and risk or lethality of suicide attempt (Tarter et al., 1974). However, Orbach et al. (1993) adopted a more nuanced measurement approach and identified a more complex pattern. Examining five distinct types of fear of death using the Fear of Personal Death Scale (FPDS; Florian & Kravetz 1983), Orbach et al. (1993) reported that while suicidal adolescents were similar to psychiatric and healthy controls in the interpersonal dimensions of fear of death (i.e. loss of social identity, consequences for family), they showed less fear in the intrapersonal dimensions of fear of death (i.e., loss of self-fulfillment, self-annihilation). These results suggested that the relationships between emotional reactions to death and suicidality may be nuanced and complex, such that some of the inconsistency in results may be attributable to measurement issues discussed earlier.

It should also be noted that the pattern reported in many studies reviewed in this section (i.e., higher AD, lower RD) is not unique to suicidal individuals. For example, similar patterns were reported in adolescents with anorexia (Stein et al. 2003) and binge/purge eating disorders (Stein et al., 2013). For another example, Gutierrez et al. (1996) found that adolescents who experienced the suicide of a friend or immediate family member reported a stronger attraction to death (AD) and a weaker attraction to life (AL). These results raised the question of whether the pattern of emotions about death noted above (greater positive and reduced negative emotions about death) is implicated in general vulnerability to psychopathology (e.g., the psychopathology factor; Caspi et al., 2014), or in suicide, or in both.

1.3.2.2 Studies on the cognitive dimension of death construal in suicide

In addition to emotions about death, several studies examined cognitions about death in suicidal children and adolescent. A key concept studied here is the finality of death. In a case study paper, Orbach and Glaubman (1977) reported that two suicidal girls (age 12 and 7) portrayed death as another form of life. Dovetailing these results, Orbach and Glaubman's (1979) interview study reported that suicidal children (age 10 – 12) showed more tendency of attributing life to the state of death, even though they showed no inferiority in their general ability for abstract thinking. Clarifying these results, Orbach and Glaubman (1978) distinguished construal of personal from impersonal death. Comparing suicidal, aggressive and normal children (age 10 – 12), these authors found that the three groups differed mainly with regard to construal of personal death: suicidal children referred to life after death and to resurrection more often than other groups, whereas both normal and aggressive children emphasized the finality and irreversibility of their own death.

However, in contrast to the above studies, other studies find death construal to be unrelated to suicide outcomes. Pfeffer's (1989) interview study found no difference between the suicidal and the non-suicidal children (age 6 – 12) in their concepts of reversibility or finality of death (Pfeffer, 1989). Similarly, using two suicidal adolescent samples (age 12 – 19), another interview study reported that suicidal inpatients, ER suicidal adolescents, non-suicidal inpatients, and healthy controls were indistinguishable from each other when it comes to viewing death as final (Gothelf et al., 1998).

It is hard to interpret these results, as the age range of samples was wide (6 – 19). Given that death construal can vary developmentally, some of the inconsistent results may be driven by age differences in samples. Although it is premature to draw concrete conclusions regarding

cognitive construal of death from these early studies, they nevertheless raised interesting concepts that should be systematically explored clarified by future studies.

To the author's best knowledge, no study has examined the explicit cognitive construal of death in suicidal adults. The majority adult studies on death construal in suicide focused on implicit death construal in the context of assessing suicidal risks. Given that implicit studies predominantly assessed the extent to which an individual implicitly self-identified with death, for the purposes of assessing and predicting suicidal risks, rather than how they construed death in order to understand different aspects of suicide, these studies are considered different from the explicit cognition surrounding death, and will be discussed in a separate section below.

1.3.2.3 Implicit studies on death construal in suicide

As mentioned, the majority of the recent, adult studies on death construal in suicide focused on implicit death construal in the context of assessing suicidal risks. Specifically, implicit attitudes refer to object-evaluation associations that are automatically activated and often outside one's awareness, as opposed to the conscious, controlled explicit attitudes (Greenwald & Banaji, 1995). Implicit attitudes are most commonly measured by the Implicit Association Test (IAT), details for which can be found in the measurement section above.

However, few studies examined explicit death construal (only two: Payne and Range, 1996; Gutierrez et al., 2000). As a result, how adults consciously construe death is not currently very well understood. This pattern leaves it hard to interpret results coming from implicit studies, but also to understand death construal in suicidal adults in general.

The bulk of these implicit studies focused on examining the implicit associations between self and death, and their relationships with suicidality (Nock et al., 2010, Dickstein et al., 2015;

Harrison et al., 2014, Ellis et al., 2015, Randall et al., 2013). As mentioned, these studies tended to examine implicit self-identification with death as a tool for assessing and predicting suicidal risks. Specifically, studies have shown that self-identification with death indicated by the IAT prospectively predicted future suicide attempts (Nock et al. 2010) and self-harm (Randall et al., 2013). Importantly, such self-identification biases were shown to outperform self-forecasts, clinical judgment, traditional self-reports (e.g. suicidal ideation, hopelessness) and known risk factors in predicting suicidality (e.g. history of previous attempts, diagnosis of depression; Nock et al., 2010; Randall et al., 2013), and showed sensitivity to therapeutic change over the course of hospital treatment (Cohen's $d = .27$; Ellis et al., 2015).

Although there is promising evidence that IATs have good predictive utility in assessing suicide risk, it remains unclear what IATs actually measure, especially in the absence of parallel explicit studies on how suicidal adults explicitly construe death. For example, Harrison et al. (2014) found that the effect of the IATs on each of the suicide risk indicators was mediated by individuals' survival and coping beliefs. Moreover, these authors found that the distribution of IAT scores primarily reflected variability in self-associations with life. Collectively, these results have led several authors to argue that implicit suicide-related cognition appears to reflect a gradual diminishing of the desire to live, rather than a desire to die (Harrison et al., 2014; Randall et al., 2013).

While most implicit studies examined implicit associations between self and death and suicidality, one study examined implicit evaluations of abstract and personal death in university students and psychiatric patients reporting suicidality, using a different implicit procedure, the Implicit Relational Assessment Procedure (IRAP; Hussey et al., 2016). These authors found that negative evaluations of personal death, but not those of abstract death, reliably distinguished

between individuals with suicidality from non-suicidal individuals. Specifically, compared to the non-suicidal participants, the suicidal group exhibited specific biases indicating an implicit rejection of the negativity of death (Hussey et al., 2016). However, positive implicit evaluations of death, and both positive and negative implicit evaluations of life, showed no concurrent predicative validity. These results appear to be consistent with the literature on children, which also demonstrated construal of personal death, but not impersonal death, distinguished suicidal children from aggressive and normal children (Orbach & Glaubman, 1978).

1.3.2.4 Studies on death imagery in suicide

Death and suicide-related imagery constitutes an interesting and emerging area of research. Although imageries related to death have not been specifically investigated, two recent studies examined death and suicide-related imageries in relation to suicide in adults.

Interviewing 15 depressed and formerly suicidal patients in remission, Holmes et al. (2007) found that all patients reported experiencing detailed mental imagery in addition to verbal thoughts when at their most despairing. Specifically, echoing flashbacks in posttraumatic stress disorder, these images appeared like “flash-forwards” to death and suicide (e.g., images of making a future suicide attempt). In addition, Holmes et al. (2007) found that a clinical measure of the severity of suicidal ideation was associated with both preoccupation with suicidal imagery and perceived imagery realness. Partially replicating these results in a community sample, Crane et al. (2012) found that the vast majority of suicidal participants, and all participants with suicide attempts, reported experiencing death and suicide-related imageries. Specifically, in many cases multiple imageries exist; these imageries often took the form of flash forwards to imagined future suicidal attempts, consistent with Holmes et al.’s (2007) results.

It is important to note that the imageries studied by Holmes et al. (2007) and Crane et al. (2012) included suicidal imageries, in addition to death-related imageries. Specifically, the content of these imageries included: images of a time the individual tried to harm yourself in the past, images of planning or preparing to harm oneself or make a suicide attempt, images of what might happen to the individual if they died, and images of what might happen to others if they died (Crane et al., 2012). As such, these imageries included imageries related to the process of self-harm and suicide, and thus were not limited to death-related imageries alone. As a result, it is still relatively unclear what kind of imageries come up when suicidal individuals think about death.

In addition, it is also unclear whether death-related imageries in suicidal individuals differ from those in non-suicidal individuals. In Crane et al.'s (2012) study, five of the ten participants who did not report suicidality also described death and suicide-related imagery. Additionally, several participants, most of whom did not endorse suicidality, described suicidal imagery that had an associated meaning, which led the images to act as a helpful deterrent to suicidal behaviours (Crane et al., 2012). These findings suggested that the same imageries surrounding death/suicide may be associated with distinct emotions, cognitions and meanings for different individuals, highlighting the complex and nuanced nature of suicidal imagery and death construal in general.

1.3.2.5 Suicide attempters versus Ideators

Despite the importance of distinguishing suicide attempters from ideators (Klonsky & May, 2015), very few studies made this distinction while examining different aspects of death construal in suicide. Only two studies (Orbach et al., 1991; Wong et al., 2004) distinguished

between suicidal ideators and attempters, both in child and adolescent samples. Using the Multi-Attitude Suicide Tendencies Scale (MAST), Orbach et al. (1991) reported that attempters and ideators differed significantly on the Attraction to Life (AL) and Repulsion by Life (RL) subscales, but did not on the Attraction to Death (AD) and Repulsion by Death (RD) subscales. Similarly, administering a translated version of MAST in a Chinese sample, Wong et al. (2004) reported that suicide ideators and suicide attempters exhibited similar profiles on the Repulsion by Death (RD) subscale. However, Wong et al. (2004) reported that their data disconfirmed the original four-factor structure underlying the theory, and exhibited a different factor structure: Release from Suffering (RS), Repulsion by Death (RD), Attraction to Life (AL), and Hopelessness and Withdrawal (HW). Specifically, Wong et al. (2004) found that suicide ideators and suicide attempters exhibited similar profiles: average on RS, RD, and AL, and relatively high on HW; by contrast, the non-suicidal group indicated a distinctively different profile from the two suicidal groups: very low on RS and relatively high on RD and AL. Given potential variations in factor structure of the measure as well as cultural differences in the samples, it is unclear whether results from these two studies are comparable.

To the author's knowledge, to date no study has distinguished between suicide ideation versus suicide attempt while examining death in suicidal construal adults.

1.3.3 Summary of Findings

In summary, there is some evidence that suicidal individuals may have different emotions and cognitions about death compared to their non-suicidal counterparts. The bulk of these studies are early studies examining death-related emotions in suicidal children and adolescents. They tended to adopt a broad approach, linking suicidality (without specifying ideation versus attempt)

with broad positive/negative emotion about death. Only a few studies examined cognitive aspects of death construal in suicidal children and adolescents (Orbach & Glaubman, 1977, 1978, & 1979). Although inconclusive, study results introduced several interesting death construal concepts and distinctions into suicide research, such as finality and reversibility of death, attribution of life qualities to death (Orbach & Glaubman, 1977 & 1979), and personal vs. impersonal death (Orbach & Glaubman, 1978). However, studies have not yet systematically examined the cognitive dimension of death construal using consistent methods.

The bulk of recent studies on death construal in suicide focused on implicit death construal as a behavioural test for suicidality in adults. However, few studies examined explicit death construal. Only one study directly investigated attraction to death (AD) and repulsion by death (RD), and found a similar pattern to that noted in the children/adolescent literature, namely reduced repulsion by death (RD). Beyond emotions about death, only two studies investigated suicide and imagery, showing that most suicidal individuals experienced images that “flash forward” to future death and/or suicide. As a result of limited data, how suicidal adults consciously and explicitly construe death is not currently very well understood. This pattern leaves it hard to interpret results coming from implicit studies. Consequently, while there is consistent evidence that implicit tests have good predictive utility in assessing suicide risks, it is unclear what these tests actually measure, and what theoretical implications these results may entail.

1.3.4 Limitations and Future Directions

A first key limitation of current literature is that most studies conflated various presentations of suicidality into one suicidal group. Very few studies made the distinction

between suicidal ideation versus attempts, with most studies including diverse presentations of suicidality (from passive ideation to hospitalization due to serious attempts) in one heterogeneous suicidal group. However, theoretical frameworks and empirical evidence converge to underscore that there are important distinctions between suicidal ideation and attempts (Klonsky & May, 2014). As such, future studies should systematically describe death construal in suicidal ideators and in attempters, and compare and contrast how death is construed in suicidal ideators, attempters, and non-suicidal controls.

Secondly, various emotional and cognitive dimensions of death construal have been not fully examined in relation to suicide. With respect to emotions about death, although a variety of measures have been operationalized, an important common issue is that they tended to examine emotions about death in broad strokes. For example, the majority of studies that examined emotional dimensions of death construal in suicide simply dichotomized it into positive versus negative emotion (e.g., attraction vs. repulsion) about death. As such, they provide us with little information about whether or how various nuanced, specific emotions about death may be involved in suicidal thoughts and behaviors, such as sadness, fear, and relief. In addition, research has shown that there are important distinctions between construal of personal versus impersonal death (Orbach et al., 1978; Hussey et al., 2016), the construal of process of dying, the state of being death, and what would happen to oneself and others after death (Crane et al., 2012). Such distinctions, however, were not consistently noted across studies. With respect to cognitions about death, there is a striking lack of studies that examine how suicidal individuals explicitly and consciously conceptualize death, with the majority studies in this area focused on implicit death construal in the context of assessing suicidal risks. In summary, prior research has typically relied on measures that to investigate only one aspect of death construal (i.e., emotions

about death) in broad strokes. Such an approach may not be sensitive enough to capture nuanced variations in multiple aspects of death construal (e.g., emotions, cognitions), while such variations may help distinguishing between suicidal ideators and attempters.

Therefore, future studies are encouraged to systematically describe different dimensions of death construal (cognitions, emotions, imagery, death versus dying, personal versus impersonal) in suicidal ideators, attempters and non-suicidal participants, using more comprehensive and nuanced methods. As noted by Nock et al. (2009), researchers historically have favored a hypothesis-driven approach: generating theories as to why people hurt themselves were generated and tested empirically, skipping the preliminary descriptive stage. As a result, some of the most fundamental aspects of suicidal thoughts and behaviours remain poorly understood and described. Given the current lack of understanding of how suicidal individuals construe death, it is critical to first observe and describe different aspects death construal in suicidal populations, and compare their experiences to those of non-suicidal individuals.

Specifically, with respect to the emotional dimension of death construal, future studies may consider going beyond a generic lens of positive versus negative emotions, and investigate more nuanced, specific emotions (e.g., disgust, sadness, calmness, fear) about death in relation to suicidal ideation and attempts. Regarding the cognitive aspect of death construal, it would be helpful for future studies to unpack cognitions surrounding different stages of death and dying (e.g., thoughts about the process of dying, beliefs about what happens after death), distinguishing between personal versus impersonal death (i.e., beliefs about one's own death versus other people's death).

1.4 Summary of Research Project

The present research aims to contribute to the existing literature by investigating how different dimensions of death construal may be implicated in the progression from suicidal ideation to attempt. Specifically, various aspects of cognitions and emotions about death and dying were examined in individuals who attempted suicide compared to those who considered suicide but not attempted. These cognitions and emotions and death and dying included: beliefs and cognitions about death and what happens after death (e.g., death as a passage versus death as annihilation), fear of death and its nuanced dimensions (e.g., fear of loss of self-fulfillment, fear of parting from loved ones), and a range of specific emotions about death and dying beyond fear of death. In summary, the current research attempted to evaluate different dimensions of death construal in their relations to suicide more comprehensively and in greater details than previous work.

The primary goal of the study was to describe whether and how various aspects of death construal might uniquely characterize ideators, attempters and non-suicidal participants in undergraduate and community samples. A subset of the undergraduate participants was followed up one month after completing the initial study. This longitudinal component permitted examination of issues of construct stability as well as potential causality.

As the first research project to examine several unique aspects of death construal in relation to suicide, many components of this study were necessarily exploratory. Nevertheless, there is evidence to suggest that certain aspects of death construal may help distinguish attempters from ideators in meaningful ways, and these hypotheses are offered whenever possible.

Specifically, the current research examined three components of death construal: (1) fear of death; (2) other emotions about death and dying; and (3) cognitions about death. With respect

to fear of death, there is both theoretical and empirical reasons to suggest that reduced fear of death may lower the barrier to attempting suicide, and thus facilitate the progression from thinking about suicide to acting on suicidal thoughts. Therefore, it is hypothesized that fear of death would be diminished in suicide attempters compared to ideators. Given that several theoretical perspectives posited that fearlessness about death might increase the capability for and likelihood of suicide attempts, it is hypothesized that differences in fear of death would uniquely distinguish attempters from ideators over and above common predictors. Moreover, it is possible that the relationship of fear of death to suicide is not straightforward but moderated by other factors, such as personality traits. For example, fear of death is often rooted in the fear of facing the unknown (Furer & Walker, 2008). Therefore, fear of death may serve as a barrier to attempting suicide particularly for individuals with low tolerance of uncertainty or low openness to different experiences, more so than those with high tolerance of uncertainty or openness. As such, personality traits including Intolerance of Uncertainty (IU) and Openness were also examined as potential moderators of the relationship between fear of death and suicide.

In sum, the current research project examined the following key hypotheses and exploratory research questions are summarized below:

Hypotheses:

- 1) Fear of death – measured by the Fear of Personal Death Scale (FPDS; Florian & Kravetz, 1983) the Collett-Lester Fear of Death Scale (CLFDS; Lester, 1990), and the Fearlessness About Death Scale (ACSS-FAD; Ribeiro et al., 2014) – was hypothesized to be diminished in attempters compared to ideators.
- 2) These differences in fear of death were hypothesized to uniquely distinguish attempters from ideators over and above common predictors (including: hopelessness,

psychological pain, perceived burdensomeness and belongingness, depression, and anxiety).

Exploratory Questions:

- 1) Is the ability of fear of death in distinguishing ideators from attempters moderated by personality traits (i.e., openness to experience and/or intolerance of uncertainty)?
- 2) Do suicidal ideators, attempters, and non-suicidal individuals cognitively conceptualize death differently?
- 3) Do suicidal ideators, attempters, and non-suicidal individuals exhibit differences in emotions about death and dying?
- 4) Do reports of death construal remain stable over time?

Chapter 2: Methods

We collected data from two samples – an undergraduate sample comprised primarily of university undergraduate students, and a community sample comprised of adults from the larger community. Below, we first discuss the procedures and participants for each sample, respectively. The same study battery was administered to the undergraduate and community samples.

2.1 Procedures

2.1.1 Undergraduate Sample

Participants for the undergraduate sample were recruited from the University of British Columbia (UBC) Human Subject Pool (HSP). All participants using HSP had the option of completing a screening questionnaire, which included two questions on past history of suicidality (“Have you ever seriously thought about killing yourself?” “How many times have you actually tried to kill yourself?”). Their responses to this questionnaire allowed us to recruit specifically life-time suicidal attempters, ideators, in addition to non-suicidal participants.

Upon providing consent, participants were invited to complete a set of questionnaires that assessed demographics, lifetime and recent suicidality, death construal, psychological characteristics and functioning. Specifically, participants completed the following measures: (1) Youth Risk Behaviour Survey – Suicide Screening Questionnaire (YRBS; Grunbaum et al., 2002; Kolbe, Kann, & Collins, 1993); (2) Testoni Death Representation Scale (TDRS; Testoni, Ancona & Ronconi, 2015); (3) Religious and Moral Pluralism Questionnaire (RAMP; Siegers, 2013); (4) Fear of Personal Death Scale (FPDS; Florian & Kravetz, 1983); (5) Collett-Lester Fear of Death Scale (CLFDS; Lester, 1990); (6) Reasons for Death Fear Scale (RDFS; Abdel-

Khalek, 2002); (7) Fearlessness About Death Scale (ACSS-FAD; Ribeiro et al., 2014); (8) Emotions about Death And Dying; (9) Depression, Anxiety, and Stress Scale (DASS-42; Lovibond & Lovibond, 1995); (10) Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974); (11) Wish to Live (item from Beck Scale for Suicidal Ideation; Beck, Kovacs & Weissman, 1979); (12) Psychache Scale (Holden, Mehta, Cunningham, & McLeod, 2001); (13) Interpersonal Needs Questionnaire (INQ; Van Orden, Cukrowicz, Witte, & Joiner, 2012); and (14) Demographics Form. Additionally, in September 2019, the study battery was revised to include the following measures, upon recommendation of dissertation committee members: (15) Suicide Intent (three self-report items based on items from Beck Suicide Intent Scale (SIS); Beck, Schuyler & Herman, 2008); (16) Suicide Method (taken from Columbia Suicide History Form; Oquendo, Halberstam & Mann, 2008) (17) Openness to Experience (taken from the Big Five Inventory; John & Srivastava, 1999); and (18) Intolerance of Uncertainty Scale (IUS; Carleton, Norton, & Asmundson, 2007). This study aimed to recruit a minimum of 100 non-suicidal participants, 100 ideators, and 100 attempters at baseline.

Those who participated in the study from September 2019 to the end of study in March 2020 were invited to complete a follow-up survey one month after completion of the initial study. In order to capture both suicidal and non-suicidal participants in the follow-up data, participants were classified into one of three groups based on participants' responses to the baseline YRBS suicide items: participants who endorsed no lifetime history of suicidal ideation or suicide attempts were classified as non-suicidal controls, participants with a lifetime history of suicidal ideation but no history of suicide attempts were classified as ideators, and participants with a history of suicidal ideation and suicide attempts were categorized as attempters. Recruitment for one-month follow-up was limited to 50 non-suicidal participants, 50 ideators,

and 50 attempters. Due to interruptions associated with the onset of the COVID-19 pandemic, data collection was discontinued as of March, 2020.

At follow-up, upon providing consent, participants completed the same measures of death construal, alongside measures of suicide ideation and attempts in the past month. Specifically, participants completed the following measures: (1) Youth Risk Behaviour Survey – Suicide Screening Questionnaire, modified to measure suicidality in the past month (YRBS; Grunbaum et al., 2002; Kolbe, Kann, & Collins, 1993); (2) Testoni Death Representation Scale (TDRS; Testoni, Ancona & Ronconi, 2015); (3) Religious and Moral Pluralism Questionnaire (RAMP; Siegers, 2013); (4) Fear of Personal Death Scale (FPDS; Florian & Kravetz, 1983); (5) Collett-Lester Fear of Death Scale (CLFDS; Lester, 1990); (6) Reasons for Death Fear Scale (RDFS; Abdel-Khalek, 2002); (7) Fearlessness About Death Scale (ACSS-FAD; Ribeiro et al., 2014); (8) Emotions about Death and Dying; and (9) Wish to Live (item from Beck Scale for Suicidal Ideation; Beck, Kovacs & Weissman, 1979).

Attention checking questions requesting that participants select a particular answer (“Please select Sometimes”) were used to ensure that participants were paying attention to the questions being asked. Upon study completion or exit, all participants were provided with a coping plan and a resource list of local mental health providers, including a 24-hour crisis hotline. Participants were free to withdraw participation from the study at any time at no penalty.

Ethical approval for this study was obtained from the Behavioural Research Ethics Board of the University of British Columbia (UBC BREB Number: H19-00253).

2.1.2 Community Sample

Participants for the community sample were recruited from Amazon's Mechanical Turk (MTurk). Participation in the screening questionnaire was limited to individuals who had at least 90% approval in completing 500 to 5000 Human Intelligence Tasks (HITs). Participants were told the screening questionnaire would take between 1 to 3 minutes to complete and that they would receive \$0.2 for their participation. Eligible participants were provided with a link to a screening questionnaire hosted by Qualtrics.

Upon providing informed consent, participants completed a brief online survey which included the Youth Risk Behaviour Survey – Suicide Screening Questionnaire (YRBS; Grunbaum et al., 2002; Kolbe, Kann, & Collins, 1993), which assessed lifetime and past 12-month history of suicidal ideation and suicide attempts, followed by Depression, Anxiety, and Stress Scale (DASS-42; Lovibond & Lovibond, 1995). Participants' responses to the YRBS suicide items determined their membership into one of three groups: participants who reported no lifetime history of suicidal ideation or suicide attempts were classified as non-suicidal controls; participants who endorsed a lifetime history of suicidal ideation but no history of suicide attempts were classified as ideators; and participants with a history of suicidal ideation and suicide attempts were categorized as attempters. Participants who reported no history of suicidal ideation but endorsed a history of suicide attempts were excluded from further participation in the study since suicidal ideation necessarily precedes suicide attempt.

Upon successfully completion of the screening questionnaire, participants were invited to participate in a longer 30-minute survey for an additional payment of \$2.50. Recruitment was limited to 100 non-suicidal controls, 100 ideators, and 100 attempters. Once the quota for a particular group was met, further recruitment of similar participants was blocked. Participants

were given the option to decline further participation in the longer survey, and were given a unique code to enter into MTurk indicating that they had completed the short screening.

Participants who agreed to participate in the longer survey were required to provide informed consent to prior to participating in the longer study. Upon providing consent, participants were invited to complete a set of questionnaires that assessed demographics, lifetime and recent suicidality, death construal, psychological characteristics and functioning.

Specifically, participants completed the following measures: (1) Youth Risk Behaviour Survey – Suicide Screening Questionnaire (YRBS; Grunbaum et al., 2002; Kolbe, Kann, & Collins, 1993); (2) Suicide Intent (three items from the Beck Suicide Intent Scale (SIS); Beck, Schuyler & Herman, 1974); (3) Suicide Method (taken from Columbia Suicide History Form; Oquendo, Halberstam & Mann, 2003); (4) Testoni Death Representation Scale (TDRS; Testoni, Ancona & Ronconi, 2015); (5) Religious and Moral Pluralism Questionnaire (RAMP; Siegers, 2013); (6) Fear of Personal Death Scale (FPDS; Florian & Kravetz, 1983); (7) Collett-Lester Fear of Death Scale (CLFDS; Lester, 1990); (8) Reasons for Death Fear Scale (RDFS; Abdel-Khalek, 2002); (9) Fearlessness About Death Scale (ACSS-FAD; Ribeiro et al., 2014); (10) Emotions about Death and Dying; (11) Depression, Anxiety, and Stress Scale (DASS-42; Lovibond & Lovibond, 1995); (12) Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974); (13) Psychache Scale (Holden, Mehta, Cunningham, & McLeod, 2001); (14) Wish To Live (item from the Beck Scale for Suicidal Ideation; BSI; Beck, Kovacs & Weissman, 1979); (15) Interpersonal Needs Questionnaire (INQ; Van Orden, Cukrowicz, Witte, & Joiner, 2012); (16) Openness to Experience (taken from the Big Five Inventory; John & Srivastava, 1999); (17) Intolerance of Uncertainty Scale (IUS; Carleton, Norton, & Asmundson, 2007); and (18) Demographics Form.

Precautionary measures were implemented to ensure the quality of the data collected. Participation in both surveys was limited to one response per I.P. address and one response per MTurk participant, in order to limit the same participant from completing either survey more than once (Peer et al., 2012). Furthermore, prior to beginning the surveys, participants had to complete a “captcha” to verify that participants were human and not automated programs. Finally, attention checking questions that instructed the participants to select a particular answer (e.g., “Please select Sometimes”) were interspersed to ensure that participants were paying attention when they were answering the questions.

Upon study completion or exit, all participants were provided with a coping plan and a resource list of mental health providers, including a 24-hour crisis hotline. Participants were free to withdraw participation from the study at any time at no penalty. Due to interruptions associated with the onset of the COVID-19 pandemic, data collection was discontinued as of March, 2020.

Ethical approval for this study was obtained from the Behavioural Research Ethics Board of the University of British Columbia (UBC BREB Number: H19-03431).

2.2 Participants

2.2.1 Undergraduate Sample

679 undergraduate participants were recruited from the University of British Columbia (UBC) Human Subject Pool (HSP) prior to any disruptions related to the Covid-19 Pandemic, from May 2019 to February 2020. Of these, 73 participants did not complete the survey and 51 failed one or more attention-checking questions, leaving a total of 555 participants that completed the baseline survey. Of these, six gave contradictory information about their history of

suicide ideation and attempts – specifically, two denied lifetime suicidal ideation but endorsed suicide attempts, and four endorsed suicidal ideation in the past 12 months but denied lifetime ideation. Given the contradictory nature of their responses, these six participants were excluded from the analyses, leaving a total of 549 participants. These participants were classified into three groups based on their reported lifetime history of suicide ideation and attempts: a) 251 participants endorsed no lifetime history of suicidal ideation or suicide attempts (i.e., lifetime non-suicidal participants), b) 200 participants reported a lifetime history of suicidal ideation but no history of suicide attempts (i.e., lifetime ideators), and c) 98 participants endorsed experiencing a history of suicidal ideation and suicide attempts (i.e., lifetime attempters). Among the 98 attempters, common methods for their most recent attempts included overdose (38.6%), cutting (19.3%), and hanging (8.4%).

For a subset of analyses examining the role of more recent ideation or attempts, participants with lifetime attempts or ideation were further divided into four groups: a) 115 participants reported a lifetime history of suicidal ideation but no past-12-month history of either suicidal ideation or suicide attempts (i.e., non-recent ideators); b) 57 participants reported a lifetime history of suicide attempts but no past-12-month history of either suicidal ideation or suicide attempts (i.e., non-recent attempters); c) 85 participants reported a past-12-month history of suicidal ideation (i.e., recent ideators) but no history of attempts; and d) 21 participants endorsed a past-12-month history of suicide attempts (i.e., recent attempters).

In addition, 20 participants reported a lifetime history of suicide attempts and a 12-month history of suicidal ideation. These participants differed from lifetime attempters without past 12-month ideation, and from past 12-month ideators who did not have a lifetime history of suicide

attempt. As such, these 20 participants were not included in analyses that involved comparing recent groups.

2.2.2 Community Sample

707 participants in the community completed the screening questionnaires on the Amazon's Mechanical Turk (MTurk) prior to any disruptions related to the Covid-19 Pandemic, during the month of December 2019. Once we filled a group (e.g., complete data on 200 non-suicidal controls), additional participants fitting that group were not invited to participate in the larger study. Because participants were recruited in batches, the numbers of participants screened in slightly exceeded the target of 100 per condition, 300 in total.

Of the 707 participants who completed the screening questionnaires, 400 participants were offered to further participate in the longer 30-minute study. Of these, 47 declined to participate in the longer survey, 37 failed one or more attention-checking questions, and 22 did not complete the survey, leaving a total of 293 participants that completed the survey. Of these, five gave contradictory information about their history of suicide ideation and attempts – specifically, two participants denied suicidal ideation but endorsed suicidal attempt, two endorsed suicidal ideation in the past 12 months but denied lifetime ideation, and one endorsed suicide attempts in the past 12 months but denied lifetime attempts. Given the contradictory nature of their responses, these five participants were also excluded from the analyses, leaving a total of 288 participants. These participants were classified into three groups based on their reported life-time suicide ideation and attempts: a) 99 participants endorsed no lifetime history of suicidal ideation or suicide attempts (i.e., lifetime non-suicidal controls), b) 111 participants reported a lifetime history of suicidal ideation but no history of suicide attempts (i.e., lifetime ideators), and c) 78 participants endorsed experiencing a history of suicidal ideation and suicide

attempts (i.e., lifetime attempters). Among the 78 attempters, common methods for their most recent attempts included overdose (51.3%), cutting (19.2%), and hanging (6.4%).

For a subset of analyses examining the role of more recent ideation or attempts, participants with lifetime attempts or ideation were further divided into four groups: a) 69 participants reported a lifetime history of suicidal ideation but no past-12-month history of either suicidal ideation or suicide attempts (i.e., non-recent ideators); b) 53 participants reported a lifetime history of suicide attempts but no past-12-month history of either suicidal ideation or suicide attempts (i.e., non-recent attempters); c) 42 participants reported a past-12-month history of suicidal ideation but no history of attempts (i.e., recent ideators); and d) 7 participants endorsed a past-12-month history of suicide attempts (i.e., recent attempters).

In addition, 18 participants reported a lifetime history of suicide attempts and a 12-month history of suicidal ideation. These participants differed from lifetime attempters without past 12-month ideation, and from past 12-month ideators who did not have a lifetime history of suicide attempt. As such, these 18 participants were not included in either the non-recent attempter or recent ideator groups, and were not included in analyses that involved comparing recent groups.

2.3 Measures

The same study battery was administered to the undergraduate and community samples.

2.3.1 Demographics

Information about participant characteristics were collected using a lab-based questionnaire (PEBL Demographics Questionnaire). The questionnaire includes 12 questions asking participants to report their gender, race/ethnicity, sexual orientation, and current marital

status. The questionnaire also assesses highest level of education, yearly household income, occupation, weekly working hours, and number of people residing in the household.

2.3.2 Measures of Suicide Ideation and Attempts

2.3.2.1 Youth Risk Behavior Survey Suicide Screening

Recent and lifetime suicidal ideation, attempt, and attempt lethality were measured by the Youth Risk Behavior Survey Suicide Screening (YRBS; Grunbaum et al., 2002; Kolbe, Kann, & Collins, 1993). The YRBS is a large-scale survey administered in the United States by the Centre for Disease Control. The survey is administered semi-annually to a nationally representative sample and assess health risk behaviors including lifetime and 12-month suicidal ideation (“Have you ever seriously thought about killing yourself? (Y/N)”), suicide attempt (“Have you ever tried to kill yourself? (Y/N)”), and lethality of attempt (“If you have tried to kill yourself, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse? (Y/N)”). The YRBS suicide questions have demonstrated good reliability (Brener et al., 2002; May & Klonsky, 2011).

2.3.2.2 Suicidal Intent

For participants with a history of suicide attempts, suicidal intent (i.e., the degree to which the individual wished to die at the time of their suicide attempt) of their most recent attempt was measured using self-report versions of three items taken from the Beck Suicide Intent Scale (SIS; Beck, Schuyler & Herman, 2008). Specifically, participants provided responses based on a 3-point Likert scale, for the following three questions: “1. At the time of your most recent suicide attempt, which of the following statements best represents your

expectations about death? (0: I thought that death was unlikely; 2: I thought that death was possible but not probable; 3: I thought that death was probable or certain)”, “2. At the time of your most recent suicide attempt, which of the following statements best represents your attitude towards the suicide attempt? (0: I did not seriously attempt to end my life; 1: I was uncertain about my seriousness to end my life; 3: I seriously attempted to end my life)”, and “3. At the time of your most recent suicide attempt, which of the following statements best represents your attitude towards living and dying? (0: I did not want to die; 1: A part of me did not want to die and a part of me wanted to die; 3: I wanted to die). Reliability of the suicidal intent items was moderate in our samples (combined sample: $\alpha = .72$; undergraduate sample: $\alpha = .63$; community sample: $\alpha = .69$). A median split was used to separate high vs. low intent (Suicide Intent > 40% of the sample; $n = 89$).

2.3.2.3 Suicide Attempt Method

Suicide attempt method was measured using an item taken from the Columbia Suicide History Form (Oquendo, Halberstam & Mann, 2008). Participants were asked to indicate the method they used for the most recent time they attempted suicide from a list of the follow items: “Overdose (alcohol/drugs/pills), Poison, Fire, Cutting, Stabbing, Gun, Hanging, Carbon Monoxide, Jumping, Drowning, Automobile Crash, Stepped into traffic/onto railway tracks, Stopped a life-sustaining medication, and Other”.

2.3.2.4 Wish to Live

We intended to use four items from the Beck Scale for Suicidal Ideation (BSI; Beck, Kovacs & Weissman, 1979) as a brief index of suicidal ideation. However, due to an

administration error, only the first item of the BSI was administered. This item utilizes a three-point scale to measure an individual's wish to live (0: "I have a moderate to strong wish to live"; 1: "I have a weak wish to live"; 2: "I have no wish to live"). In our longitudinal undergraduate sample this item exhibited strong test-retest stability ($r = .66, p < .001$).

2.3.3 Measures of Death Construal

2.3.3.1 Testoni Death Representation Scale

How people cognitively conceptualize death was measured using the Testoni Death Representation Scale (TDRS; Testoni, Ancona & Ronconi, 2015). The TDRS is a 6-item self-report measure that assesses the attitudes of individuals toward the ontological representation of death. Specifically, the TDRS rests on a spectrum, with "Death as Annihilation", or becoming absolute nothing, at one end, and "Death as a Passage," meaning death as transformation into another form of existence in which the memory of the present life will be kept, on the other end. The TDRS was shown to have good internal consistency (Testoni, Ancona & Ronconi, 2015). Reliability of the TDRS items was high in our samples (combined sample: $\alpha = .87$; undergraduate sample: $\alpha = .85$; community sample: $\alpha = .88$).

2.3.3.2 Religious and Moral Pluralism Questionnaire

Beliefs about what happens after death was further assessed using the Religious and Moral Pluralism Questionnaire (RAMP; Siegers, 2013), a set of questions taken from the European Values Study (EVS; 1999, 2008). Specifically, the RAMP includes the following question on beliefs about the afterlife: "What do you think happens to us after death?" with the following statements: (1) an atheistic position: "Nothing – death is the end", (2) a doubtful

position: “There is something, but I don’t know what, (3) a traditional Christian belief: “We go either to heaven or to hell”, (4) a modern Christian belief: “We all go to heaven”, (5) belief in reincarnation: “We are reincarnated – that is, after our physical death we are born in this world again and again”, (6) a New Age belief: “We merge into some kind of eternal bliss after this life”, (7) other beliefs, and (8) an agnostic position: “I don’t know whether there is anything or not”. Instead of the force-choice (Yes/No) format used in the EVS, participants in this study were asked to rate each of the eight statements on a 5-point Likert Scale, which allowed us to assess the degree or certainty of each belief.

2.3.3.3 Fear of Personal Death Scale

The Fear of Personal Death Scale (FPDS; Florian & Kravetz, 1983) was used to measure six types of fear of death under three dimensions: an intrapersonal dimension: (1) fear of loss of self-fulfillment (intrapersonal fear; e.g., “I am afraid of death because it will bring an end to all my plans”), (2) fear of self-annihilation (intrapersonal fear; e.g., “I am afraid of death because it will bring an end to my ability to think and experience”); an intrapersonal dimension: (3) fear of loss of social identity (interpersonal fear; e.g., “I am afraid of death because the survivors will forget me”), (4) fear of consequences to the family (interpersonal fear; e.g., “I am afraid of death because of the pain that my family will experience”); and a transpersonal dimension: (5) mystical fear of the unknown (transpersonal fear; e.g., “I am afraid of death because of its mystery”), and (6) fear of punishment in the hereafter (transpersonal fear; e.g., “I am afraid of death because of punishment in the hereafter). The FPDS has a test-retest reliability of .91 (Florian & Kravetz, 1983) and good internal consistency (ranging .76 to .93 for each factor; Orbach et al., 1993). Studies have also reported that principal component factor analyses confirmed six FPDS factors,

and indicated that FPDS had good validity (Unger et al., 1989, 1990). Reliability of the FPDS items was high in our samples (combined sample: $\alpha = .95$; undergraduate sample: $\alpha = .94$; community sample: $\alpha = .96$).

2.3.3.4 Collett-Lester Fear of Death Scale

The Collett-Lester Fear of Death Scale (CLFDS; Lester, 1990) was used to measure two aspects of death and dying: (1) Death of Self (e.g., the total isolation of death, the shortness of life, never thinking or experiencing again) and (2) Dying of Self (e.g., the pain involved in dying, intellectual degeneration, lack of control over process, the grief of others). The CLFDS was shown to have good reliability and validity (Lester, 1990). Reliability of the CLFDS Fear of Death of Self items (combined sample: $\alpha = .88$; undergraduate sample: $\alpha = .86$; community sample: $\alpha = .91$) and the CLFDS Fear of Dying of Self items (combined sample: $\alpha = .85$; undergraduate sample: $\alpha = .84$; community sample: $\alpha = .88$) was high in our samples.

2.3.3.5 Reasons for Death Fear Scale

The Reasons for Death Fear Scale (RDFS; Abdel-Khalek, 2002) is a 18-item self-report measure that required participants to rate reasons for their fear of death on a 5-point Likert Scale (1: Strongly disagree, 5: Strongly agree). The RDFS was used to assess four factors of reasons for death fear: (1) Fear of Pain and Punishment, (2) Fear of Losing Worldly Involvements, (3) Religious Transgressions and Failures, and (4) Parting from Loved Ones. The RDFS has been shown to demonstrate good validity and reliability (Dadfar, Abdel-Khalek & Lester, 2017). Reliability of the RDFS items was high in our samples (combined sample: $\alpha = .90$; undergraduate sample: $\alpha = .89$; community sample: $\alpha = .92$).

2.3.3.6 Fearlessness About Death Scale

The Fearlessness About Death Scale (ACSS-FAD; Ribeiro et al., 2014) is a sub-scale of the Acquired Capability for Suicide Scale designed to assess fearlessness about death. The ACSS is a 20-item 5-point Likert Scale (0: Not at all like me, 5: Very much like me) that measures the extent to which individuals perceive themselves as capable of performing or being exposed to potentially dangerous or fatal situations, including suicide. One of its three underlying factors is fearlessness of death (FAD: “The fact that I am going to die does not affect me.”, “The pain involved in dying frightens me.”, “I am very much afraid to die.”, “The prospect of my own death arouses anxiety in me.”, “I am not disturbed by death being the end of life as I know it.”, “I am not at all afraid to die.”; Van Orden et al., 2008), and this subscale (ACSS-FAD) has been shown to have good psychometric properties (Ribeiro et al., 2013). Reliability of the FAD items was high in our samples (combined sample: $\alpha = .77$; undergraduate sample: $\alpha = .75$; community sample: $\alpha = .81$).

2.3.3.7 Emotions about Death and Dying

More specific emotional reactions to death were assessed by a measure developed by the author, using a similar structure as a prior study on non-suicidal self-injury conducted at the Klonsky’s Lab (Victor & Klonsky, 2013). Specifically, this self-reported questionnaire required participants to complete a measure of 20 specific emotions that they may have about their own death and dying (i.e., “What emotions come up for you as you think about the following aspects of your own death and dying?”), with emotional content modified to better capture experiences of death and dying. These included 10 positive emotions (peaceful, relieved, excited, happy,

whole/complete, inspired, hopeful, powerful, enthusiastic, enlightened) and 10 negative emotions (scared, sad, lonely, angry, nervous, disgusted, empty/nothing, powerless, hopeless, numb). For each emotion, participants were asked to make a rating on a 5-point Likert scale, with lower scores indicating lower intensity (from 1 Not at all to 5 Very much). Additionally, this measure also distinguished between death and dying, utilizing similar instructions as the Collett-Lester Fear of Death Scale (CLFDS; Lester, 1990).

2.3.4 Measures of Other Variables

2.3.4.1 Depression Anxiety Stress Scale

Depression and anxiety were measured using the Depression and Anxiety Stress Scale (DASS; Lovibond & Lovibond, 1995). The DASS is a 21-item self-report instrument designed to measure the three related negative emotional states of depression, anxiety and tension/stress, showing good reliability and validity compared with SCID diagnoses of anxiety and mood disorders (Dahm, Wong, & Ponsford, 2013). These variables were included as covariates to investigate whether the differences in death construal observed in suicidal vs. non-suicidal individuals may be attributable to general distress, or general psychopathological disturbances. Reliability of the DASS: Depression items (combined sample: $\alpha = .92$; undergraduate sample: $\alpha = .87$; community sample: $\alpha = .94$), and DASS: Anxiety items (combined sample: $\alpha = .84$; undergraduate sample: $\alpha = .77$; community sample: $\alpha = .87$) was high in our samples. The DASS was included to investigate whether potential differences in fear of death would uniquely distinguish attempters from ideators over and above depression and anxiety, alongside other common predictors outlined in this section.

2.3.4.2 Beck Hopelessness Scale

Hopelessness was assessed using the Beck Hopelessness Scale - Short Form (BHS-SF; Beck, Weissman, Lester, & Trexler, 1974). This 4-item measure is a shortened version of the 20-item Beck Hopelessness Scale (BHS; Beck et al., 1974) designed to measure feelings of hopelessness. This short form has demonstrated good psychometric properties in previous research (Aish & Wasserman, 2001; Yip & Cheung, 2006; Pachkowski et al., 2019). Reliability of the BHS items was high in our samples (combined sample: $\alpha = .81$; undergraduate sample: $\alpha = .75$; community sample: $\alpha = .86$). The BHS was included to investigate whether potential differences in fear of death would uniquely distinguish attempters from ideators over and above hopelessness, alongside other common predictors outlined in this section.

2.3.4.3 Unbearable Psychache Scale

Psychological pain was measured using the Unbearable Psychache Scale (UP3; Pachkowski et al., 2019). This 3-item measure has demonstrated excellent internal reliability, and strong convergent and predictive validity (Pachkowski et al., 2019). Reliability of the UP3 items was high in our samples (combined sample: $\alpha = .92$; undergraduate sample: $\alpha = .90$; community sample: $\alpha = .93$). The UP3 was included to investigate whether potential differences in fear of death would uniquely distinguish attempters from ideators over and above psychological pain, alongside other common predictors outlined in this section.

2.3.4.4 Interpersonal Needs Questionnaire

Belonging was measured using the Interpersonal Needs Questionnaire (INQ; Van Orden, Cukrowicz, Witte, & Joiner, 2012). This 15-item measure is designed to assess levels of

thwarted belongingness and perceived burdensomeness. The INQ has been shown to have good internal consistency reliability and convergent validity (Gutierrez et al., 2016). Reliability of the INQ: Perceived Burdensomeness items (undergraduate sample: $\alpha = .94$; community sample: $\alpha = .97$) and the INQ: Thwarted Belongingness items (undergraduate sample: $\alpha = .92$; community sample: $\alpha = .93$) was high in our samples. The INQ was included to investigate whether potential differences in fear of death would uniquely distinguish attempters from ideators over and above thwarted belongingness and perceived burdensomeness, alongside other common predictors outlined in this section.

2.3.4.5 Openness to Experience

Openness to Experience was measured using ten items from the Big Five Inventory (BFI) that measure the openness dimension of personality (John & Srivastava, 1999). The BFI showed adequate reliability and validity, indicated by substantial convergent and divergent relations with other Big Five instruments and of peer ratings (John & Srivastava, 1999). Reliability of the openness items was moderate in our samples (undergraduate sample: $\alpha = .75$; community sample: $\alpha = .86$). Openness to Experience was included as a potential moderator of the relationship between fear of death and the progression from suicidal ideation to attempt.

2.3.4.6 Intolerance of Uncertainty

Intolerance of Uncertainty was measured using the Intolerance of Uncertainty Scale (IUS; Carleton, Norton, & Asmundson, 2007). The IUS was shown to have excellent internal consistency, good test–retest reliability over a five-week period (Dugas et al., 1997), and convergent and divergent validity when assessed with symptom measures of worry, depression,

and anxiety (Buhr & Dugas, 2002). Reliability of the IU items was high in our samples (combined sample: $\alpha = .90$; undergraduate sample: $\alpha = .90$; community sample: $\alpha = .91$). IU was included as a potential moderator of the relationship between fear of death and the progression from suicidal ideation to attempt.

2.4 Data Analysis

Results were primarily examined and presented based on a combined sample comprising of both undergraduate and community participants, in order to increase sample sizes for ideators and attempter groups and maximize statistical power. Additionally, results were also explored separately in undergraduate and community samples, and sample differences were presented for descriptive purposes.

2.4.1 Combined Sample Analyses

Results were first examined across lifetime non-suicidal, ideators, and attempter groups in the combined sample. These groups were created according to reported a) no history of either ideation or attempts (non-suicidal; $n = 350$), b) history of suicidal ideation but no history of attempts (ideators; $n = 311$) and c) lifetime history of suicide attempt (attempters; $n = 176$).

In terms of power analysis, study hypotheses primarily involve comparing groups on death construal variables. For each of these analyses, our smallest group sample size is $n = 176$ (i.e., lifetime attempters). A very conservative estimation of power, assuming a sample size of just $n = 176$ for all three groups, yields .98 power to detect a moderate effect size ($d = .5$) at an alpha of .01, power exceeding .99 at an alpha of .05, and power exceeding .99 to detect a small effect size ($d = .3$) at an alpha of .01.

In order to test the first hypothesis of this study (that fear of death is lower in attempters compared to ideators), mean differences in three measures of fear of death, we first compared ideator vs. attempter groups on the FAD, FPDS, RDFS and CLFDS, using Cohen's *d*s and *p* values. This allowed us to examine these hypotheses based on fear of death as a unitary construct (using the FAD), and as a multi-dimensional construct (using two multi-dimensional measures – FPDS and RDFS). The FPDS yielded six types of fear of death: (1) Fear of Loss of Self-Fulfilment, (2) Fear of Self-Annihilation, (3) Fear of Loss of Social Identity, (4) Fear of Consequences to Family and Friends, (5) Mystical Fear of the Unknown, and (6) Fear of Punishment in the Hereafter. The RDFS yielded four types of fear of death: (1) Fear of Pain and Punishment, (2) Fear of Losing Worldly Involvements, (3) Fear of Religious Transgressions and Failures, and (4) Fear of Parting from Loved Ones. Finally, a distinction between fear of the state of death and fear of the process of dying was also made. These two distinct dimensions was measured by the CLFDS, which yielded (1) Fear of Death of Self, and (2) Fear of Dying of Self. Additionally, to examine whether collectively fear of death variables differentiate ideators vs. attempters, we entered all the fear of death variables (including FAD, all FPDS subscales, all RDFS subscales, and all CLFDS subscales) into a logistic regression. Furthermore, we compared suicidal ideators vs. attempters with high suicide intent (Suicide Intent > 40% of the sample; *n* = 89) on fear of death. As a basis for comparison, we also present findings from ideator vs. non-suicidal comparisons.

Although we intended to test the second hypothesis (that differences in fear of death uniquely distinguish attempters from ideators over and above common predictors) using logistic regressions, results from examining the first hypothesis indicated that the second hypothesis was not supported. As such, no further analyses were necessary to test the second hypothesis.

To address the first exploratory question (is the relationship between fear of death and suicide attempter status moderated by personality traits [i.e., openness to experience and/or intolerance of uncertainty]?), logistic regressions were used to explore whether Intolerance of Uncertainty (IU) and the Big Five Personality Trait Openness moderated the relationship between ACSS-FAD and ideator vs. attempter status.

To address the second exploratory question (do suicidal ideators, attempters, and non-suicidal individuals exhibit differences in emotional reactions to death?), differences in fear of death between ideator vs. non-suicidal groups were also examined using Cohen's *d* and *p*-values. Moreover, descriptive analyses were performed on each of the 20 emotions in the Death-Related Emotional Experience in ideators, attempters and non-suicidal groups respectively. Specifically, the respective means and standard deviations for each of the 20 emotions are reported in suicidal ideators, attempters and non-suicidal groups, in order to characterize various emotional reactions to death and dying in these groups. Additionally, factor analyses were also performed on the 10 positive and 10 negative emotions to examine the factorial structure of this measure. The factors extracted were compared among suicidal ideators, attempters, and non-suicidal groups using Cohen's *d* and *p*-values.

To address the third exploratory question (do suicidal ideators, attempters, and non-suicidal individuals cognitively conceptualize death differently?), descriptive analyses were conducted on the Testoni Death Representation Scale (TDRS; Testoni, Ancona & Ronconi, 2015) the Religious and Moral Pluralism Questionnaire (RAMP; Siegers, 2013). Specifically, the means and standard deviations of the TDRS (total score) and each of the 8 items of the RAMP were reported for suicidal ideators, attempters and non-suicidal groups, respectively, in order to characterize various cognitive beliefs surrounding death in these groups. Additionally, Cohen's *d*

and p-values were also used to further compare these cognitive variables in suicidal ideators, attempters, and non-suicidal groups.

For descriptive and exploratory purposes, we explored these hypotheses and exploratory questions in those with recent experiences of suicide ideation or attempts (i.e., within the past-12 months), as well as attempters with high intent to die (i.e., intent > 50% of the sample). We also explored the unique contributions of death construal variables (i.e., fear of death, cognitions about death, and emotions about death and dying) over and above common predictors of suicidal ideation and attempts.

2.4.2 Follow-Up Sample Analyses

To address the fourth exploratory question (do reports of death construal remain stable over time?), mean differences and Pearson's correlations were performed on all death construal variables at two time points one month apart, in order to examine one-month stability. These variables included the FPDS, CLFDS, ACSS-FAD, TDRS, RMPQ, as well as specific emotions about death and dying. As the community sample did not have a follow-up component, we conducted the longitudinal comparisons in the undergraduate sample only. Results were reported for the entire undergraduate sample, and separately for each of the ideators, attempters, and non-suicidal groups.

2.4.3 Sample Differences Analyses

We also explored the hypotheses and exploratory questions separately in undergraduate and community samples, and described sample differences. Analytic strategies for the hypotheses and exploratory research questions in undergraduate and community samples were

the same as those for the combined sample, as described in the section above (section 2.4.1). Specifically, we examined differences in fear of death, cognitions about death, and emotions about death and dying between ideators vs. non-suicidal groups and between ideators vs. attempter groups, using Cohen's *d*s and *p*-values. We described any differences in results regarding hypotheses or exploratory questions across the two samples.

Chapter 3: Results – Demographics & Common Correlates

Descriptive statistics and intercorrelations for the key study variables in the combined sample are presented in Table 1. Examination of skewness and kurtosis statistics indicated that all key study variables in the combined sample were normally distributed.

Below we first present demographic information for the combined sample, describing demographic differences between suicidal ideator vs. non-suicidal groups, and between attempter vs. ideator groups. Next, we report differences between suicidal ideator vs. non-suicidal groups, and between attempter vs. ideator groups on several commonly cited risk factors for suicidality.

3.1 Demographics

Demographic information for the combined sample is presented in Table 1. The majority of participants in the combined sample are female (74.6%), heterosexual (82.4%), single (75.4%), with college/university education (84.7%). The largest ethnic group is Caucasian (42.2%) followed by East Asian (33.9%). Demographic information for the undergraduate sample and community sample can be found in Tables 2 and 3, respectively.

We next compared whether demographic characteristics differed among those (1) without a history of either ideation (non-suicidal), (2) history of ideation but no attempts (ideators), and (3) history of attempts (attempters). Specifically, we examined whether sex (male vs. female), sexual orientation (heterosexual vs. non-heterosexual), race/ethnicity (European/Caucasian vs. East Asian vs. other), marital status (single vs. married/common law), level of education (below college/university, college/university, above college/university) and level of income differed in their suicide ideation and attempt histories.

3.1.1 Demographics in Ideators vs. Non-Suicidal

Chi-square tests indicated differences in sex, $\chi^2(1) = 5.49$, $p = .02$ and sexual orientation, $\chi^2(1) = 23.06$, $p < .001$. Specifically, the ideator group had a greater proportion of female participants (77.6%) than non-suicidal controls (69.2%), but a lesser proportion of heterosexual participants (75.7%) than non-suicidal controls (89.9%). No differences in race/ethnicity, $\chi^2(2) = 4.43$, $p = .11$, marital status $\chi^2(1) = .44$, $p = .57$, level of education, $\chi^2(2) = 2.43$, $p = .30$ or level of income $\chi^2(1) = 1.51$, $p = .22$ were observed between ideator vs. non-suicidal groups.

3.1.2 Demographics in Ideators vs. Attempters

Chi-square tests indicated differences in marital status $\chi^2(1) = 4.30$, $p = .04$ between ideator vs. attempter groups. Specifically, the attempter group had a lesser proportion of single participants (77.0%) than ideators (85.1%). No differences in sex, $\chi^2(1) = 1.5$, $p = .19$, sexual orientation, $\chi^2(2) = 3.03$, $p = .08$, or race/ethnicity, $\chi^2(2) = .93$, $p = .63$, level of education, $\chi^2(2) = 1.40$, $p = .50$, or level of income $\chi^2(1) = 1.92$, $p = .17$ were observed between ideator vs. attempter groups.

3.2 Common Correlates

Several commonly cited risk factors for suicidal ideation and attempts were included in the analyses, as they may potentially influence the relationships between death construal and suicide. These factors included: depression, anxiety, hopelessness, belongingness, burdensomeness, and psychological pain. These variables were examined here as correlates, and in later analyses as covariates.

Results were first examined to compare ideator vs. non-suicidal groups, and then ideator vs. attempter groups in the combined sample, using Cohen's *d*s and *p*-values.

3.2.1 Common Correlates in Ideator vs. Non-Suicidal

As presented in Table 5, ideator vs. non-suicidal groups showed moderate to large differences on all the common predictors. These included burdensomeness ($d = .86$), thwarted belongingness ($d = .86$), hopelessness ($d = .84$), depression ($d = .81$), psychological pain ($d = .66$), and anxiety ($d = .50$; $ps < .001$).

3.2.2 Common Correlates in Ideators vs. Attempters

As presented in Table 5, when ideator vs. attempter groups were compared, the differences in traditional predictors were negligible overall (*d*s ranged from .06 to .25). The largest difference between ideator vs. attempter groups was found for anxiety ($d = .25$, $p = .01$), which was higher in attempters compared to ideators.

Chapter 4: Results – Fear of Death

This study hypothesized that (1) fear of death would be diminished in attempters compared to ideators, and that (2) differences in fear of death would uniquely distinguish attempters from ideators over and above common predictors (including: hopelessness, psychological pain, perceived burdensomeness and belongingness, depression, and anxiety). We also explored whether the ability of fear of death in distinguishing ideators from attempters moderated by personality traits (i.e., openness to experience and/or intolerance of uncertainty). Additionally, we explored differences on fear of death between nonsuicidal and ideator groups.

Below, we first present findings related to factors underlying fear of death. We then present (1) ideator vs. non-suicidal, and (2) ideator vs. attempter comparisons on fear of death. We next present fear of death comparisons in those with recent experiences of suicide ideation or attempts (i.e., past 12-month time-frame). This is followed by results on unique contribution of fear of death over and above common correlates. Finally, we present differences between undergraduate and community samples.

4.1 Factors Underlying Fear of Death

In total, our measures of fear of death include 13 subscales. Therefore, before examining differences on these scales among the groups (i.e., nonsuicidal, ideator, attempter groups), we first conducted an item-level exploratory factor analysis to determine if fear of death could be captured by a smaller number of dimensions. In order to determine the latent structure of fear death, all items of fear of death measures (including: ACSS-FAD, FPDS, RDFS, and CLFDS) were first entered into an Exploratory Factor Analysis (EFA). Oblique promax rotation was used to allow for the possibility that resulting factors would correlate. Inspection of the scree plot and

eigenvalues indicated solutions ranging from 7 factors to 11 factors, accounting for 59.7 % to 67.15 of the total variance, depending on the criteria used for factor solution. Given that we did not succeed in reducing subscales, and that the identified domains appeared largely redundant with the existing scales, we opted to examine relevant hypotheses and exploratory questions using existing, validated fear of death scales.

4.2 Fear of Death in Ideators vs. Non-suicidal

We compared the ideator vs. nonsuicidal groups on the different fear of death subscales, using Cohen's *d*s and *p* values. As presented in Table 6, ideators reported less fear about death (i.e., more fearlessness) compared to non-suicidal controls on the Fearlessness About Death (FAD), although the effect size was negligible ($d = .22$, $p = .01$).

In terms of different types of fear of death, differences between suicidal ideators vs. non-suicidal groups were negligible (*d*s ranged from .00 to .23). The largest differences were found for FPDS: Fear of Self-Annihilation ($d = .23$, $p = .003$), FPDS: Fear of Loss of Self-Fulfilment ($d = .21$, $p = .01$), and FPDS: Fear of Consequences to Friends and Family ($d = .20$, $p = .01$), with ideators reporting slightly less fear compared to non-suicidal participants.

In terms of fear of death vs. dying, differences between suicidal ideators vs. non-suicidal groups were negligible (for CLFDS Fear of Dying of Self: $d = .01$, $p = .90$; for CLFDS Fear of Death of Self: $d = .16$, $p = .04$).

4.3 Fear of Death in Ideators vs. Attempters

Next, we compared ideator vs. attempter groups on the different fear of death subscales, using Cohen's *d*s and *p* values. As presented in Table 6, ideators and attempters showed minimal difference on the Fearlessness About Death (FAD; $d = .08$, $p = .40$).

In terms of different types of fear of death, the largest difference was found for Fear of Loss of Self-Fulfilment, with attempters exhibiting reduced Fear of Loss of Self-Fulfilment compared to ideators, although the effect size was negligible ($d = .22$, $p = .03$).

In terms of fear of death vs. dying, ideators and attempters showed minimal differences (for CLFDS Fear of Dying of Self: $d = .07$, $p = .45$; for CLFDS Fear of Death of Self: $d = .07$, $p = .49$).

Furthermore, we entered all the fear of death variables (including FAD, all FPDS subscales, all RDFS subscales, and all CLFDS subscales) into a logistic regression, to examine whether fear of death variables collectively differentiate ideators vs. attempters. Results indicated that the difference between ideator and attempter groups was minimal and not statistically reliable (Cox & Snell $\Delta R^2 = 3\%$, Nagelkerke $\Delta R^2 = 4\%$, $p = .33$).

Additionally, we also compared suicidal ideators vs. attempters with high suicide intent (Suicide Intent > 40% of the sample; $n = 89$) on fear of death. We found that small differences between ideators vs. attempters with higher suicidal intent, with high intent attempters showing reduced Fear of Loss of Self-Fulfilment ($d = .31$, $p = .02$) and higher Fearlessness About Death ($d = .25$, $p = .06$), although the effect sizes were small to negligible.

We examined two potential moderators of the relationship between fear of death (indicated by the FAD) and suicide attempt status, specifically Intolerance of Uncertainty (IU) and the Big Five Personality Trait Openness. Logistic regressions were used to explore whether Intolerance of Uncertainty (IU) and the Big Five Personality Trait Openness moderated the

relationship between ACSS-FAD and ideator vs. attempter status. We found no evidence for a statistically significant interaction for either ($p_s > .13$).

4.4 Past-12-Month Time-Frame

We also explored how fear of death and dying were reported by those with recent experiences of suicide ideation or attempts. We divided participants into three groups: (1) non-suicidal ($n = 350$) – those with no histories of suicide ideation or attempts, (2) recent ideators ($n = 123$) – those who reported suicidal ideation in the past-12-month, but no history of suicide attempt; and (3) recent attempters ($n = 27$) – those who reported a suicide attempt in the past-12-month. We note that the small sample size for recent attempters limits statistical power, and thus present comparisons between recent attempters and recent ideators for descriptive purposes.

4.4.1 Fear of Death in Recent Ideators vs. Non-suicidal

We first compared recent suicidal ideator vs. non-suicidal groups on the different fear of death subscales, using Cohen's d s and p values. As presented in Table 6, recent suicidal ideator vs. non-suicidal groups showed differences that were similar to those observed in lifetime comparisons, but with larger effect sizes. Specifically, recent suicidal ideator vs. non-suicidal groups showed a small difference on the Fearless About Death (FAD), with recent ideators demonstrating less fear about death (i.e., more fearlessness) compared to non-suicidal controls ($d = .33, p = .002$).

In terms of different types of fear of death, consistent with lifetime comparisons, the largest differences between recent ideator vs. non-suicidal groups were found for FPDS: Fear of Loss of Self-Fulfilment ($d = .39, p < .001$), FPDS: Fear of Self-Annihilation ($d = .34, p = .001$),

and RDFS: Fear of Parting from Loved Ones ($d = .26, p = .01$), with recent ideators reporting less fear compared to non-suicidal controls.

In terms of fear of death vs. dying, consistent with lifetime comparisons, differences between recent ideator vs. non-suicidal groups were small (for CLFDS Fear of Dying of Self: $d = .10, p = .35$; for CLFDS Fear of Death of Self: $d = .34, p = .002$), with recent ideators reporting less fear of death compared to non-suicidal controls.

4.4.2 Fear of Death in Recent Ideators vs. Recent Attempters

Next, we compared recent suicidal ideator vs. recent attempter groups on the different fear of death subscales, using Cohen's d s and p values. As presented in Table 6, there was a moderate ($d = .46, p = .03$) difference on the Fearlessness About Death (FAD) between recent ideator vs. recent attempter groups, with recent attempters reporting less fear about death (i.e., more fearlessness).

In terms of distinct types of fear of death, consistent with lifetime comparisons, the largest difference between recent attempters vs. recent ideators was found for Fear of Loss of Self-Fulfilment ($d = .30, p = .13$), with attempters exhibiting less fear compared to ideators. Differences between ideators and attempters were negligible on the remaining FPDS and RDFS subscales (d s ranged from .03 for RDFS: Fear of Religious Transgressions and Failures to .27 for FPDS: Mystical Fear of the Unknown, $ps > .20$).

In terms of fear of death vs. dying, consistent with lifetime comparisons, differences between recent ideator vs. recent attempter groups were minimal (for CLFDS Fear of Dying of Self: $d = .14, p = .52$; for CLFDS Fear of Death of Self: $d = .04, p = .86$).

4.5 Unique Contributions of Fear of Death Variables Over and Above Common Correlates

The current research explored contributions of fear of death variables to suicide ideation and attempts over and above common predictors of suicide risk. We did this separately for the two group comparisons: (1) ideator vs. non-suicidal groups, and (2) ideators vs. attempter groups.

To compare ideator vs. non-suicidal groups, we first identified fear of death variables that distinguished these groups from Table 6 based on two criteria: effect size of $d > .30$, and reliability of $p < .01$. However, none of the fear of death variables reached this threshold. Thus, there are no covariate analyses to report.

We next considered the comparison of ideator vs. attempter groups. However, none of the fear of death variables reached the previously mentioned threshold ($d > .30$ and $p < .01$). Thus, there are no covariate analyses to report.

4.6 Comparing Fear of Death Findings Between Undergraduate and Community Samples

For descriptive purposes, we explored the hypotheses and exploratory questions related to fear of death separately in undergraduate and community samples. Analytic strategies for the hypotheses and exploratory research questions in undergraduate and community samples were the same as those for the combined sample. Below we describe differences across sample for (1) ideator vs. non-suicidal, and (2) ideator vs. attempter comparisons on fear of death.

4.6.1 Sample Differences in Fear of Death in Non-Suicidal vs. Ideators

As presented in Table 7 and Table 8, there were several differences between undergraduate and community samples when comparing ideator vs. non-suicidal groups on fear

of death. Specifically, differences in fear of death appeared to be observed in the undergraduate sample, but not in the community sample. As presented in Table 7, in the undergraduate sample, suicidal ideator vs. non-suicidal groups showed small differences in fear of death, with suicidal ideators in the undergraduate sample demonstrating less fear of death, including reduced overall fear about death (Fearlessness About Death (FAD): $d = .36$, $p < .001$), as well as reduced specific types of fear of death, with the largest differences being reduced Fear of Loss of Self-Fulfillment ($d = .33$, $p = .001$), and Fear of Self-Annihilation ($d = .35$, $p < .001$). Furthermore, in the undergraduate sample, these variables – Fear of Self Annihilation (Cox & Snell $\Delta R^2 = 2.2\%$, Nagelkerke $\Delta R^2 = 2.9\%$, $p < .001$), Fearlessness About Death (Cox & Snell $\Delta R^2 = 1.6\%$, Nagelkerke $\Delta R^2 = 2.1\%$, $p = .003$), and FPDS: Fear of Loss of Self Fulfillment (Cox & Snell $\Delta R^2 = 1.1\%$, Nagelkerke $\Delta R^2 = 1.3\%$, $p = .02$) – accounted for statistically significant variance above and beyond common predictors (depression, anxiety, hopelessness, thwarted belongingness, perceived burdensomeness, and psychological pain), although the additional variance explained was small. By contrast, suicidal ideator vs. non-suicidal groups in the community sample showed minimal differences in fear of death. As presented in Table 8, these included minimal differences in overall fear of death (Fearlessness About Death (FAD): $d = .02$, $p = .88$), different types of fear of death (d s ranged from .00 for RDFS: Fear of Loss of Worldly Involvement to .15 for FPDS: Fear of Loss of Social Identity, p s $> .30$), and fear of death vs. dying (for CLFDS: Fear of Dying of Self: $d = .12$, $p = .41$; for CLFDS: Fear of Death of Self: $d = .04$, $p = .76$).

4.6.2 Sample Differences in Fear of Death in Ideators vs. Attempters

As presented in Table 7 and Table 8, undergraduate and community samples showed similar patterns when comparing ideator vs. attempter groups on fear of death, with attempter vs. ideator groups showing negligible differences in fear of death in both samples.

Chapter 5: Results – Cognitions about Death

In order to address the exploratory research question: “Do suicidal ideators, attempters, and non-suicidal individuals cognitively conceptualize death differently?”, we compared (1) non-suicidal vs. ideator groups, and then (2) ideator vs. attempter groups in the combined sample to examine their differences in cognition about death. Cognitions about death were measured by (a) an item adapted from the Religious and Moral Pluralism (RAMP) questionnaire (“What do you think happens to us after death?”; Siegers, 2013), which assessed the extent to which participants believed in each of seven beliefs about death, and (b) the Testoni Death Representation Scale (TDRS; Testoni, Ancona & Ronconi, 2015), which measured one’s representation of death on a scale from viewing death as passage to viewing death as total annihilation.

Below, we first present findings describing beliefs about death. We next present (1) ideator vs. non-suicidal, and (2) ideator vs. attempter comparisons on cognitions about death. We then present cognitions about death comparisons in those with recent experiences of suicide ideation or attempts (i.e., past 12-month time-frame). This is followed by results on unique contribution of cognitions about death over and above common correlates. Finally, we present differences between undergraduate and community samples.

5.1 Beliefs about Death

We first conducted descriptive analyses to describe each of the seven RAMP beliefs about death in non-suicidal, ideator, and attempter groups, respectively. Participants rated each of the seven beliefs about death on a five-point scale: 1 – No, Definitely Not, 2 – No, Probably Not, 3 – Unsure, 4 – Yes, Probably, and 5 – Yes, Definitely. As shown in Table 9, the most commonly endorsed beliefs (endorsed by >50% of the sample) were the same across the non-

suicidal, ideator, attempter groups, namely the doubtful position (i.e., “There is something, but I don’t know what”; 59.3% for non-suicidal; 55.0% for ideators; 51.4% for attempters) and the agnostic position (i.e., “I don’t know whether there is anything or not”; 51.9% for non-suicidal; 57.7% for ideators; 61.7% for attempters), although the agnostic position was more commonly endorsed for ideator and attempter groups, whereas the doubtful position was more commonly endorsed by the non-suicidal group. The least endorsed belief (endorsed by <15% of the sample) was also the same across the non-suicidal, ideator, attempter groups, namely “We all go to heaven” (6.3% for non-suicidal; 4.2% for ideators; 5.7% for attempters).

5.2 Cognitions about Death in Ideators vs. Non-suicidal

We compared the ideator vs. nonsuicidal groups on their endorsed beliefs about death as well as on the TDRS, a scale that measures tendency to represent death as annihilation vs. passage, using Cohen’s *d*s and *p* values. As presented in Table 10, ideator vs. non-suicidal groups showed minimal to small differences in beliefs about death (*d*s ranged from .02 to .30). Specifically, ideators endorsed stronger belief in the atheistic position (i.e., “Nothing – death is the end.”; $d = .30, p < .001$) and in the agnostic position (i.e., “I don’t know whether there is anything or not.”; $d = .18, p = .03$), whereas the non-suicidal participants endorsed stronger belief in the traditional Christian position (i.e., “We go either to heaven or to hell.”; $d = .27, p = .001$) and in the modern Christian position (i.e., “We all go to heaven.”; $d = .21, p = .01$).

Consistent with this, as presented in Table 6, suicidal ideators vs. non-suicidal groups also differed on the TDRS, with ideators exhibiting stronger tendency to represent death as total annihilation compared to non-suicidal participants ($d = .37, p < .001$)

5.3 Cognitions about Death in Ideators vs. Attempters

Next, we compared the ideator vs. attempter groups on their endorsed beliefs about death as well as on the TDRS, using Cohen's d s and p values. As presented in Table 10, ideator vs. attempter groups showed minimal differences in beliefs about death (d s ranged from .01 for the Atheistic position: "Nothing—death is the end." to .08 for the New Age position: "We merge into some kind of eternal bliss after this life.", $ps > .41$).

Consistent with this, as presented in Table 6, suicidal ideator vs. attempter groups showed minimal differences on the TDRS ($d = .05$, $p = .59$).

Additionally, we also compared suicidal ideators and attempters with high suicide intent (Suicide Intent $> 40\%$ of the sample) on the TDRS. We found a similar pattern to the attempters vs. ideators comparison reported above, with suicidal ideators and high intent attempters showing minimal differences on the TDRS ($d = .04$, $p = .71$).

5.4 Past-12-Month Time-Frame

We explored how cognitions about death were reported by those with recent experiences of suicide ideation or attempts. Specifically, we compared recent ideator vs. non-suicidal, and then recent ideator vs. recent attempter groups to examine their differences on the TDRS scale, as well as each RAMP belief at an item-level, using Cohen's d s and p values.

We note that the small sample size for recent attempters ($n = 27$) limits statistical power, and thus present comparisons between recent ideator vs. recent attempter groups for descriptive purposes.

5.4.1 Cognitions about Death in Recent Ideators vs. Non-suicidal

We first compared recent suicidal ideator vs. non-suicidal groups on cognitions about death, using Cohen's d s and p values. As presented in Table 10, similar to the patterns observed in lifetime comparisons, recent suicidal ideator vs. non-suicidal groups showed similar differences in beliefs about death, but with larger effect sizes. Specifically, recent ideators endorsed stronger belief in the atheistic position (i.e., "Nothing – death is the end."; $d = .39$, $p < .001$) and in the agnostic position (i.e., "I don't know whether there is anything or not."; $d = .32$, $p = .003$), whereas the non-suicidal participants endorsed stronger belief in the traditional Christian position (i.e., "We go either to heaven or to hell."; $d = .42$, $p < .001$) and in the modern Christian position (i.e., "We all go to heaven."; $d = .25$, $p = .02$).

Similarly, as presented in Table 6, recent suicidal ideator vs. non-suicidal groups also differed on the TDRS, with recent ideators exhibiting stronger tendency to represent death as total annihilation compared to non-suicidal participants ($d = .43$, $p < .001$), a pattern consistent with the lifetime comparisons.

5.4.2 Cognitions about Death in Recent Ideators vs. Recent Attempters

We next compared recent suicidal ideator vs. recent attempter groups on cognitions about death, using Cohen's d s and p values. As presented in Table 10, similar to the patterns observed in lifetime comparisons, differences between recent suicidal ideator vs. recent attempter groups in beliefs about death were negligible (d s ranged from .02 for the Reincarnation position: "We are reincarnated" to .20 for the New Age position: "We merge into some kind of eternal bliss after this life.", p s $> .29$).

Consistent with this, as presented in Table 6, recent suicidal ideators and attempters showed negligible differences on the TDRS ($d = .12$, $p = .83$), a pattern consistent with the lifetime comparisons.

5.5 Unique Contributions of Cognitions About Death Over and Above Common Correlates

The current research explored contributions of cognitions about death to suicide ideation and attempts over and above common predictors of suicide risk. We did this separately for the two group comparisons: (1) ideator vs. non-suicidal groups, and (2) ideators vs. attempter groups.

To compare ideator vs. non-suicidal groups, we first determined that the cognition about death variable – the Testoni Death Representation Scale (TDRS) – reached the previously mentioned threshold (i.e., effect size of $d > .30$, and reliability of $p < .01$). The TDRS was entered into a logistic regression which included the common predictors shown to distinguish ideator vs. non-suicidal groups at p-values at or below $.01$, with an effect size d larger than $.30$. These included depression, anxiety, hopelessness, belongingness, burdensomeness, and psychological pain. These common predictors were simultaneously entered as covariates into the logistic regression. Results indicated that the Testoni Death Representation Scale accounted for variance above and beyond common predictors that was approaching statistical significance, although the additional variance explained was small (Cox & Snell $\Delta R^2 = .5\%$, Nagelkerke $\Delta R^2 = .7\%$, $p = .04$).

We next considered the comparison of ideator vs. attempter groups. However, the TDRS did not reach the previously mentioned threshold ($d > .30$ and $p < .01$). Thus, there are no covariate analyses to report.

5.6 Comparing Cognitions About Death Findings between Undergraduate and Community Samples

For descriptive purposes, we explored exploratory questions related to cognitions about death separately in undergraduate and community samples. Analytic strategies for the exploratory research questions in undergraduate and community samples were the same as those for the combined sample. Below we describe differences across samples for (1) ideator vs. non-suicidal, and (2) ideator vs. attempter comparisons on cognitions about death.

5.6.1 Sample Differences in Cognitions about Death in Ideator vs. Non-Suicidal groups

As presented in Table 11 and Table 12, there were few differences between undergraduate and community samples when comparing ideator vs. non-suicidal groups on cognitions about death, with ideators in both samples endorsing stronger belief in the atheistic position, whereas non-suicidal participants in both samples endorsed stronger belief in the traditional Christian position. However, as presented in Table 12, in the community sample, small differences were observed in the modern Christian position (i.e., “We all go to heaven.”; $d = .37, p = .01$) and in the New Age position (i.e., “We merge into some kind of eternal bliss after this life”; $d = .33, p = .02$), a pattern not observed in the undergraduate sample.

Consistent with this, undergraduate and community samples showed similar patterns when comparing ideator vs. non-suicidal groups on the TDRS. Specifically, in both samples, ideators reported stronger tendency to represent death as total annihilation compared to non-suicidal participants, although the effect size was larger in the community sample ($d = .62, p < .001$), compared to that in the undergraduate sample ($d = .28, p = .003$). Furthermore, in the community sample, the TDRS was shown to account for variance above and beyond common predictors (including: depression, anxiety, hopelessness, belongingness, burdensomeness, and

psychological pain), although the additional variance explained was small (Cox & Snell $\Delta R^2 = 1.4\%$, Nagelkerke $\Delta R^2 = 1.9\%$, $p = .05$).

5.6.2 Sample Differences in Cognitions about Death in Ideator vs. Attempter Groups

As presented in Tables 11 and 12, ideator vs. attempter groups in both undergraduate and community samples largely showed negligible differences in beliefs about death.

Consistent with this, undergraduate and community samples showed similar patterns when comparing ideator vs. attempter groups on the TDRS, with suicidal ideators and attempters showing minimal differences in both samples (for the undergraduate sample: $d = .02$, $p = .87$; for the community sample: $d = .09$, $p = .87$).

Chapter 6: Results – Emotions about Death and Dying

To address the exploratory research question: “Do suicidal ideators, attempters, and non-suicidal individuals exhibit additional differences in emotions about death and dying, beyond fear of death?”, we compared (1) ideator vs. non-suicidal, and (2) ideator vs. attempter groups on emotions related to death and dying, both at the level of factors derived from Exploratory Factor Analyses, and at the level of specific emotions.

Results regarding emotions about death were presented first, followed by results regarding emotions about dying.

6.1 Emotions about Death

6.1.1 Factors Underlying Emotions about Death

Emotions about death were measured using an exploratory self-report measure that required participants to rate 10 positive and 10 negative specific emotions that they might have about their own death. In order to determine the latent structure of emotions about death, 20 specific emotions about death (10 positive: peaceful, relieved, excited, happy, whole/complete, inspired, hopeful, powerful, enthusiastic, enlightened; 10 negative: scared, sad, lonely, angry, nervous, disgusted, empty/nothing, powerless, hopeless, numb) were first entered into an Exploratory Factor Analysis (EFA). Oblique promax rotation was used to allow for the possibility that resulting factors would correlate.

Initial inspection of the scree plot and eigenvalues indicated a three-factor solution accounting for 57.89 % of the total variance. Factor 1 had an eigenvalue of 6.2 and included all positive emotions, Factor 2 had an eigenvalue of 3.8 and included most negative emotions, and Factor 3 had an eigenvalue of 1.6 and included two emotions – numb and empty. Due to concern

around the reliability of Factor 3 as a scale, which was comprised of only two items, a two-factor solution was chosen. The two-factor solution accounted for 49.8% of the total variance. All 10 positive emotions about death loaded on Factor 1, and all 10 negative emotions about death loaded on Factor 2. These two factors were used in subsequent analyses.

6.1.2 Emotions about Death in Ideators vs. Non-suicidal

We compared ideator vs. non-suicidal groups on emotions about death both at the level of factors and at the level of specific emotions, using Cohen's *d*s and *p* values. At the factor level, as presented in Table 13, differences between ideators vs. non-suicidal groups in emotions about their own death were minimal (for positive emotion about death: $d = .08$, $p = .33$; for negative emotion about death: $d = .00$, $p = .96$).

At the level of each specific emotion, the largest difference between ideators vs. non-suicidal groups was found for relief about death ($d = .37$, $p < .001$), with ideators reporting higher relief about their death than non-suicidal participants. For the remaining specific positive emotions about death, ideators vs. non-suicidal groups showed negligible differences (*d*s ranged from .03 to .22), with the largest differences found for feeling powerful ($d = .22$, $p = .01$), inspired ($d = .21$, $p = .01$), and hopeful ($d = .21$, $p = .01$), with non-suicidal participants endorsing feeling more powerful, more inspired, and more hopeful about their death than ideators. In terms of specific negative emotions, ideators vs. non-suicidal groups showed negligible differences (*d*s ranged from .01 to .21). The largest difference was found for feeling empty ($d = .21$, $p = .01$), with ideators reporting feeling more empty about their death than non-suicidal participants.

6.1.3 Emotions about Death in Ideators vs. Attempters

Next, we compared ideator vs. attempter groups on emotions about death both at the level of factors and at the level of specific emotions, using Cohen's d s and p values. As presented in Table 13, at the factor level, differences between ideator vs. attempter groups in emotions about their own death were negligible (for positive emotion about death: $d = .27$, $p = .01$; for negative emotion about death: $d = .00$, $p = .99$).

At the level of each specific emotion, ideator vs. attempter groups showed negligible differences in positive emotions about death (d s ranged from .14 to .24). The largest differences were found for feeling happy ($d = .24$, $p = .01$) and powerful ($d = .23$, $p = .02$), with attempters reporting feeling more happy and powerful about their death compared to ideators. In terms of negative emotions, ideator vs. attempter groups showed negligible differences (d s ranged from .01 for feeling powerless, hopeless, and numb to .14 for feeling disgusted, $ps > .15$)

Additionally, we also compared suicidal ideators vs. attempters with high suicide intent (Suicide Intent > 40% of the sample) on emotions about death at a factor level. We found a similar pattern when suicide intent was higher: differences between ideator vs. high intent attempter groups were small to minimal in emotions about their own death (for positive emotion about death: $d = .32$, $p = .02$; for negative emotion about death: $d = .07$, $p = .59$).

6.1.4 Past-12-Month Time-Frame

We explored how emotions about death were reported by those with recent experiences of suicide ideation or attempts. Specifically, we compared recent suicidal ideator vs. non-suicidal groups, and then recent ideator vs. recent attempter groups to examine their differences in

emotions about death, first at the factor level, and then at the level of specific emotions, using Cohen's d s and p values.

We note that the small sample size for recent attempters ($n = 27$) limits statistical power, and thus present comparisons between recent attempter vs. recent ideator groups for descriptive purposes.

6.1.4.1 Emotions about Death in Recent Ideators vs. Non-suicidal

We first compared recent suicidal ideator vs. non-suicidal groups on emotions about death, using Cohen's d s and p values. Similar to results from lifetime comparisons, at the factor level, as presented in Table 13, differences between recent ideator vs. non-suicidal groups in emotions about their own death were negligible (for positive emotion about death: $d = .06$, $p = .51$; for negative emotion about death: $d = .13$, $p = .22$).

At the level of each specific emotion, similar to results from lifetime comparisons, the largest difference between recent ideators vs. non-suicidal groups was relief about their own death, with recent ideators reporting higher relief about their death than non-suicidal participants ($d = .66$, $p < .001$). For the remaining positive emotions about death, ideators vs. non-suicidal groups showed minimal to small differences in positive emotions about death (d s ranged from $.00$ to $.32$). Consistent with lifetime comparisons, the largest differences between recent ideator vs. non-suicidal groups were found for feeling inspired ($d = .32$, $p = .01$), hopeful ($d = .27$, $p = .01$), and powerful ($d = .23$, $p = .02$), with non-suicidal participants endorsing feeling more inspired, more whole/complete, and more hopeful about their own death than recent ideators. In terms of negative specific emotions, consistent with lifetime comparisons, the largest differences found for feeling empty ($d = .46$, $p < .001$), lonely ($d = .31$, $p = .003$), and numb ($d = .29$, p

= .01), with recent ideators reporting feeling more empty, more lonely, and more numb about their death than non-suicidal participants.

6.1.4.2 Emotions about Death in Recent Ideators vs. Recent Attempters

We next compared recent suicidal ideator vs. recent attempter groups on emotions about death, using Cohen's d s and p values. At the factor level, as presented in Table 13, endorsement of positive emotions about death was moderately higher for recent attempters than recent ideators ($d = .72$, $p = .01$), but not negative emotions about dying ($d = .03$, $p = .89$).

At the level of each specific emotion, recent suicidal ideator vs. recent attempter groups showed small to moderate differences in positive emotions about their own death (d s ranged from $-.40$ to $-.66$), with recent attempters reporting greater positive emotions than recent ideators. The largest differences were found for feeling whole/complete ($d = .66$, $p = .001$) and feeling enthusiastic ($d = .59$, $p = .03$), powerful ($d = .58$, $p = .02$), and happy ($d = .55$, $p = .03$), with recent attempters endorsing feeling more whole/complete, more enthusiastic, more powerful, and more happy about their death than recent ideators. In terms of negative emotions, differences between recent suicidal ideator vs. recent attempter groups were minimal to small (d s ranged from $.01$ to $-.36$). The largest difference was found for feeling empty ($d = .36$, $p = .09$), with recent attempters endorsing feeling more empty about their death than recent ideators.

6.2 Emotions about Dying

6.2.1 Factors Underlying Emotions about Dying

Emotions about dying were measured using an exploratory self-report measure that required participants to rate 10 positive and 10 negative specific emotions that they might have

about their own dying. In order to determine the latent structure of emotions about dying, 20 specific emotions about dying (10 positive: peaceful, relieved, excited, happy, whole/complete, inspired, hopeful, powerful, enthusiastic, enlightened; 10 negative: scared, sad, lonely, angry, nervous, disgusted, empty/nothing, powerless, hopeless, numb) were first entered into an Exploratory Factor Analysis (EFA). Oblique promax rotation was used to allow for the possibility that resulting factors would correlate.

Initial inspection of the scree plot and eigenvalues indicated a four-factor solution accounting for 61.4 % of the total variance. However, as the fourth factor lacked unique loading, a three-factor solution was examined. A three-factor solution accounted for 55.6% of the total variance, yielding the following three factors. Factor 1 had an eigenvalue of 6.2 and included all positive emotions about dying, Factor 2 had an eigenvalue of 3.3 and included five negative emotions about dying (Scared, Sad, Nervous, Powerless, Lonely), and Factor 3 had an eigenvalue of 1.6 and included four emotion about dying (Lonely, Empty, Hopeless and Numb). Feeling disgusted and angry did not load on any of the three factors. Due to concern around double loading (i.e., Lonely) and lack of loading (i.e., Disgusted, Angry), a two-factor solution was chosen. The two-factor solution accounted for of 46.3% the total variance. All 10 positive emotions about dying loaded on Factor 1, and all 10 negative emotions about dying loaded on Factor 2. These two factors were used in subsequent analyses.

6.2.2 Emotions about Dying in Ideators vs. Non-suicidal

Next, we compared ideator vs. non-suicidal groups on emotions about dying both at the level of factors and at the level of specific emotions, using Cohen's ds and p values. As presented in Table 14, at the factor level, differences between ideator vs. non-suicidal groups

were negligible in their endorsement of emotions about their dying (for positive emotion about dying: $d = .00$, $p = .99$; for negative emotion about dying: $d = .12$, $p = .14$).

At the level of each specific emotion, as presented in Table 14, the largest difference between ideators vs. non-suicidal groups was found for relief about their dying ($d = .51$, $p < .001$), with ideators reporting higher relief about dying than non-suicidal participants. For the remaining specific positive emotions about dying, ideators vs. non-suicidal groups showed negligible differences (d s ranged from $.00$ for feeling excited to $.19$ for feeling inspired, p s $> .01$). In terms of specific negative emotions, ideators vs. non-suicidal groups showed negligible to small differences (d s ranged from $.00$ to $-.33$). The largest difference was found for feeling lonely ($d = .33$, $p < .001$), empty ($d = .27$, $p = .001$), and hopeless ($d = .20$, $p = .01$), with ideators reporting feeling more lonely, more empty, and more hopeless about their dying than non-suicidal participants.

6.2.3 Emotions about Dying in Ideators vs. Attempters

Next, we compared ideator vs. attempter groups on emotions about dying both at the level of factors and at the level of specific emotions, using Cohen's d s and p values. As presented in Table 14, at the factor level, differences between ideator vs. attempter groups were negligible in their endorsement of emotions about their dying (for positive emotion about dying: $d = .19$, $p = .05$; for negative emotion about dying: $d = .02$, $p = .81$).

At the level of each specific emotion, as presented in Table 14, differences between ideator vs. attempter groups in positive emotions about dying were negligible (d s ranged from $.00$ to $.25$). The largest differences were found for feeling relieved ($d = .25$, $p = .01$) and enthusiastic ($d = .23$, $p = .03$), with attempters endorsing feeling more relieved and more

enthusiastic about their dying. In terms of negative emotions, ideator vs. attempter groups showed negligible differences (ds ranged from .01 for feeling hopeless to .20 for feeling scared, p s > .03).

Additionally, we also compared suicidal ideator vs. attempters with high suicide intent (Suicide Intent > 40% of the sample) on emotions about dying at a factor level. We found a similar pattern when suicide intent was higher: differences between ideator vs. high intent attempter groups were negligible in emotions about dying (for positive emotion about dying: $d = .21$, $p = .11$; for negative emotion about dying: $d = .11$, $p = .40$).

6.2.4 Past-12-Month Time-Frame

We explored how emotions about dying were reported by those with recent experiences of suicide ideation or attempts. Specifically, we compared recent ideator vs. non-suicidal groups, and then recent ideator vs. recent attempter groups to examine their differences in emotions about dying, first at the factor level then at the level of specific emotions, using Cohen's d s and p values.

We note that the small sample size for recent attempters ($n = 27$) limits statistical power, and thus present comparisons between recent ideator vs. recent attempter groups for descriptive purposes.

6.2.4.1 Emotions about Dying in Recent Ideators vs. Non-suicidal

We first compared recent suicidal ideator vs. non-suicidal groups on emotions about dying, using Cohen's d s and p values. Similar to results from lifetime comparisons, at the factor level, as presented in Table 14, differences between recent ideator vs. non-suicidal groups were

negligible in their endorsed emotions about dying (for positive emotion about dying: $d = .03$, $p = .77$; for negative emotion about dying: $d = .24$, $p = .02$).

At the level of each specific emotion, similar to results from lifetime comparisons, the largest difference between recent ideators vs. non-suicidal groups was found for relief about dying ($d = .90$, $p < .001$), with recent ideators reporting higher relief about their dying than non-suicidal participants. For the remaining specific positive emotions about dying, differences between recent ideators vs. non-suicidal groups ranged from minimal to small (d s ranged from $.00$ to $.37$), with the largest differences found for feeling inspired about dying ($d = .37$, $p < .001$), which was higher in non-suicidal participants than recent ideators. In terms of negative emotions, consistent with lifetime comparisons, the largest differences were found for feeling lonely ($d = .48$, $p < .001$), empty ($d = .51$, $p < .001$), and hopeless ($d = .38$, $p < .001$) about dying, with recent ideators reporting feeling more lonely, more empty, and more hopeless about their dying than non-suicidal participants. Furthermore, recent ideators also reported greater numbness about dying than non-suicidal participants ($d = .33$, $p = .001$).

6.2.4.2 Emotions about Dying in Recent Ideators vs. Recent Attempters

We first compared recent suicidal ideator vs. recent attempter groups on emotions about dying, using Cohen's d s and p values. As presented in Table 14, at the factor level, recent suicidal ideator vs. attempter groups showed differences on positive emotions about dying similar to those observed in lifetime comparisons, but with larger effect sizes. Specifically, recent attempters endorsed greater positive emotions about dying than recent ideators ($d = .78$, $p = .003$). Consistent with lifetime comparisons, difference between recent ideator vs. attempter groups on negative emotions about dying was negligible ($d = .19$, $p = .38$).

At the level of each specific emotion, recent suicidal ideator vs. recent attempter groups showed small to large differences in positive emotions about dying (ds ranged from -.41 to -.88). The largest differences were found for feeling inspired ($d = .88$, $p = .002$), enthusiastic ($d = .63$, $p = .02$), powerful ($d = .61$, $p = .02$), excited ($d = .58$, $p = .03$), and whole/complete ($d = .55$, $p = .02$), with recent attempters endorsing greater positive emotions about dying. In terms of negative emotions about dying, differences between recent suicidal ideator vs. recent attempter groups were minimal to small (ds ranged from .04 to .39). The largest differences were found for feeling nervous ($d = .39$, $p = .06$) and scared ($d = .32$, $p = .11$) about dying, with recent ideators reporting feeling more nervous and more scared about dying compared to recent attempters.

6.3 Comparing Emotions about Death vs. Emotions about Dying

We also explored the extent to which participants distinguished between their emotions about death vs. emotions about dying. As presented in Table 19, Pearson's correlations indicated that participants' ratings for their emotions about death vs. dying were not meaningfully different, with similar patterns observed across non-suicidal, ideator, and attempter groups. Specifically, at the factor level, positive emotion about death strongly correlated with positive emotion about dying in all three groups ($r = .81$ for non-suicidal participants, $r = .84$ for ideators, $r = .82$ for attempters, $ps < .001$); a similar pattern was shown for negative emotion about death and dying ($r = .82$ for non-suicidal participants, $r = .83$ for ideators, $r = .79$ for attempters, $ps < .001$). At the level of specific emotions, in the non-suicidal group, rs ranged from .62 (for feeling scared and feeling peaceful about death and dying) to .74 (for feeling whole/complete about death and dying), with a median of .69; in the ideator group, rs ranged from .59 (for feeling happy about death and dying) to .78 (for feeling disgusted about death and dying), with a

median of .69; in the attempter group, r s ranged from .57 (for feeling empty about death and dying) to .79 (for feeling angry about death and dying), with a median of .69. Similar patterns are found in the undergraduate sample and in the community sample, details for which can be found in Table 20 and Table 21, respectively.

6.4 Comparing Emotions about Death and Dying Findings Between Undergraduate and Community Samples

For descriptive purposes, we explored the hypotheses and exploratory questions related to emotions about death and dying separately in undergraduate and community samples. Analytic strategies for the exploratory research questions in undergraduate and community samples were the same as those for the combined sample. Below we describe differences across samples for (1) ideator vs. non-suicidal, and (2) ideator vs. attempter comparisons on emotions about death and dying.

6.4.1 Sample Differences in Emotions about Death and Dying between Non-Suicidal vs. Ideators

As presented in Tables 15 and 16 (undergraduate sample) and Tables 17 and 18 (community sample), there were few differences between undergraduate and community samples when comparing ideator vs. non-suicidal groups on emotions about death, with suicidal ideator vs. non-suicidal groups showing negligible differences in both samples, with one exception. While in the undergraduate sample, suicidal ideator vs. non-suicidal groups showed minimal differences in emotions about dying (for positive emotion about dying: $d = .00$, $p = .1.0$; for negative emotion about dying: $d = .02$, $p = .84$), ideator vs. non-suicidal groups in the

community sample showed a small difference in negative emotion about dying, with ideators reporting higher negative emotion about dying than non-suicidal participants ($d = .32, p = .03$).

6.4.2 Sample Differences in Emotions about Death and Dying between Ideator vs.

Attempter Groups

As presented in Tables 15 and 16 (undergraduate sample) and Tables 17 and 18 (community sample), there were few differences between undergraduate and community samples when comparing ideator vs. non-suicidal groups on emotions about dying, with suicidal ideator vs. attempter groups showing negligible differences, with one exception. While in the undergraduate sample, suicidal ideator vs. attempter groups showed negligible differences in emotions about death (for positive emotion about death: $d = .18, p = .14$; for negative emotion about death: $d = .09, p = .84$), ideator vs. attempter groups in the community sample showed a small difference in positive emotion about death, with attempters in the community sample reporting higher positive emotion about death ($d = .34, p = .03$).

Additionally, in both samples, when the time-frame for assessing suicidal ideation and attempts was restricted to the past-12 months, suicidal ideator vs. attempter groups showed differences in positive emotions about death and dying at the factor level, but with varying effect sizes. Specifically, compared to recent ideators, recent attempters consistently endorsed greater positive emotions about death and dying in both samples, with the community sample demonstrating very large effect sizes (for positive emotion about death: $d = 1.74, p < .001$; for positive emotion dying: $d = 2.27, p < .001$), while the undergraduate sample exhibiting moderate effect sizes (for positive emotion about death: $d = .49, p = .08$; for positive emotion about and dying: $d = .52, p = .06$).

Chapter 7: Results – Stability of Death Construal Variables

To address the fourth exploratory question (do reports of death construal remain stable over time?), mean differences and Pearson's correlations were performed on all death construal variables at two time points one month apart, in order to examine one-month stability. These variables included the FPDS, RFDS, CLFDS, ACSS-FAD, and the TDRS. As the community sample did not have a follow-up component, we conducted the longitudinal comparisons in the undergraduate sample only. Results were reported for the entire undergraduate sample, and separately for each of the ideators, attempters, and non-suicidal sub-groups in the undergraduate sample. We also explored longitudinally whether death construal variables at baseline predicted wish to live at follow-up (i.e., 1-2 months after baseline) in the undergraduate sample.

7.1 Test-Retest Stability of Death Construal Variables

7.1.1 Follow-Up Sample

Test-retest stability of the existing death construal measures was first examined in all the participants in the undergraduate sample who completed the follow-up within 1-2 months of providing baseline data ($n = 98$). First, Pearson's correlations were used to examine stability of Fearlessness About Death (FAD), Testoni Death Representation Scale (TDRS), the six subscales comprising Fear of Personal Death Scale (FPDS), the two subscales of Collett-Lester Fear of Death Scale (CLFDS; i.e. Death of Self, Dying of Self), and the four sub-scales comprising of Reasons for Death Fear Scale (RDFS) from Time 1 (T1) to Time 2 (T2; presented Table 10.). As presented in Table 22, test-retest correlations for these death construal measures ranged from .56 (CLFDS: Dying of Self) to .84 (RDFS: Fear of Pain and Punishment), with a median of .75 (all $ps < .001$).

Next, Cohen's d s and p -values (paired-samples) were used to examine changes in means of the existing death construal measures between T1 and T2. As presented in Table 12, there were increases in three of the six subscales of Fear of Personal Death Scale (FPDS) between T1 and T2: Fear of Loss of Social Identity ($d = .35$, $p = .001$), Fear of Self Annihilation ($d = .28$, $p = .007$), and Fear of Punishment in the Hereafter ($d = .25$, $p = .016$). Similarly, there were increases in three of the four Reasons for Death Fear Scale subscales between T1 and T2: Fear of Pain and Punishment ($d = .32$, $p < .001$), Fear of Losing Worldly Involvements ($d = .37$, $p < .001$), and Fear of Religious Transgression and Failures ($d = .39$, $p = .002$). No other scales differed between T1 and T2 (p s ranged from .09 for CLFDS: Dying of Self to .90 for Testoni Death Representation Scale).

7.1.2 Sub-Groups

The 98 participants who completed the follow-up within 1-2 months of providing baseline data were then divided into three sub-groups based on their life-time suicidality reported at T1: 1) participants who endorsed no history of either ideation or attempts (non-suicidal; $n = 32$), 2) participants who reported a history of suicidal ideation but no history of attempts (ideators; $n = 39$), and 3) participants endorsed a lifetime history of suicide attempt (attempters; $n = 27$). Test-retest stability of the existing death construal measures was examined in each of the three sub-groups (presented in Table 23).

7.1.2.1 Non-Suicidal Group

Test-retest stability of the existing death construal measures was first examined in 32 non-suicidal participants who completed follow-up within 1-2 months of providing baseline data.

First, Pearson's correlations were used to examine stability. As presented in Table 13, test-retest correlations for these death construal measures ranged from .53 (CLFDS: Dying of Self) to .86 (RDFS: Fear of Pain and Punishment Subscale), with a median of .74 (all p s < .001).

Next, paired-samples t -tests were conducted to examine changes in means of the death construal measures between T1 and T2. As presented in Table 23, between T1 and T2, there were increases in several variables. The largest were for Fearless About Death (FAD) ($d = .55$, $p = .003$), one of the six FPDS subscales: Fear of Loss of Social Identity ($d = .55$, $p = .004$), and one of the four RDFS subscales: Fear of Losing Worldly Involvements ($d = .41$, $p = .03$).

7.1.2.2 Ideator Group

Test-retest stability of the existing death construal measures was then examined in 39 ideators who completed follow-up within 1-2 months of providing baseline data. First, Pearson's correlations were used to examine stability of death construal variables. As presented in Table 13, test-retest correlations for these death construal measures ranged from .54 (CLFDS: Dying of Self) to .89 (FPDS: Fear of Loss of Self-Fulfillment), with a median of .82 (all p s < .001).

Next, paired-samples t -tests were conducted to examine changes in means of the death construal measures between T1 and T2. As presented in Table 23, there were increases in three of the four Reasons for Death Fear Scale (RDFS) subscales between T1 and T2: Fear of Religious Transgressions and Failures ($d = .54$, $p = .002$), Fear of Pain and Punishment ($d = .46$, $p = .007$), and Fear of Losing Worldly Involvements ($d = .39$, $p = .02$). Additionally, one of the six subscales of Fear of Personal Death Scale (FPDS) also increased between T1 and T2: Fear of Self Annihilation ($d = .43$, $p = .01$).

7.1.2.3 Attempter Group

Test-retest stability of the existing death construal measures was finally examined in 27 attempters who completed follow-up within 1-2 months of providing baseline data. As presented in Table 13, test–retest correlations for these death construal measures ranged from .55 (FPDS: Fear of Punishment in the Hereafter) to .83 (CLFDS: Death of Self), with a median of .75 (all p s $< .001$ with the exception of FPDS: Fear of Punishment in the Hereafter, $p = .003$).

Next, paired-samples t-tests were conducted to examine changes in means of the death construal measures between T1 and T2. As presented in Table 23, there were increases in one of the four Reasons for Death Fear Scale (RDFS) subscales between T1 and T2: Religious Transgressions and Failures ($d = .53$, $p = .01$).

7.2 Temporal Relationships Between Wish to Live and Death Construal Variables

We also explored longitudinally whether death construal variables at baseline predicted wish to live at follow-up (i.e., 1-2 months after baseline). As presented in Table 24, Testoni Death Representation Scale (TDRS) at Time 1, which measured one’s cognitive representation of death on a scale from death as passage to death as total annihilation, was shown to reliably correlate with wish to live at Time 2 ($r = .46$, $p = .001$), and this relationship remained robust even when wish to live at Time 1 was partialled out ($r = .28$, $p = .03$). Additionally, negative emotion about death ($r = .25$, $p = .048$) and dying ($r = .26$, $p = .03$) were also shown to weakly but reliably correlate with wish to live at Time 2, although these relationships reduced once wish to live at Time 1 was controlled (for negative emotion about death: $r = .15$, $p = .22$, for negative emotion about dying: $r = .15$, $p = .23$).

Chapter 8: Conclusion

8.1 Overall Summary of Research Findings

The current research was designed to investigate death construal in relations to suicidal ideation and attempts. Firstly, we hypothesized that fear of death would distinguish suicide attempters from suicidal ideators, and that this effect would persist over and above common correlates of suicide risk. We did not find support for these hypotheses: fear of death did not meaningfully distinguish ideators from attempters across samples and a variety of measures.

This research also addressed several exploratory questions. We examined whether fear of death, as well as a variety of other cognitions and emotions about death, distinguished suicidal ideators from non-suicidal participants, or attempters from suicidal ideators. Results indicated that none of these variables consistently distinguished attempters from ideators. However, we found several differences in cognitions and emotions about death between ideators and non-suicidal participants.

Finally, we examined the temporal stability of death construal variables, and their longitudinal relationships with wish to live. Results indicated that most death construal variables exhibited strong temporal stability over a 2-month period, and that the conceptualization of death as annihilation predicted later reduced wish to live.

Below we elaborate these findings, including their fit with prior studies and their contribution to current knowledge in the field.

8.2 Fear of Death Findings

The current research hypothesized that fearlessness about death might uniquely distinguish attempters from ideators. However, contrary to this hypothesis, fear of death was not

shown to meaningfully differentiate attempters from ideators. This pattern was consistently observed in both undergraduate and community samples, across a variety of fear of death measures, including measures that assessed fear of death as a unitary construct (e.g., FAD), and measures that captured nuanced dimensions of fear of death and dying (e.g., CFLPS). As such, these findings corroborated and expanded the preliminary findings from an early study, which reported that risk and lethality of suicide attempt were not related to death anxiety (Tarter et al., 1974). Our findings also fit well with the body of studies using the Fearlessness About Death (FAD) subscale of the Acquired Capability for Suicide Scale (ACSS), indicating that the FAD subscale failed to distinguish attempters from ideators in a variety of samples, including adults with psychosis, eating disorders, and domestic violence history, college students, and online samples (for a review, see May & Victor, 2018).

However, results from the current research provided some evidence for a relationship between fear of death and suicidal ideation. Specifically, in the undergraduate sample but not in the community sample, we found that fear of death distinguished ideators from non-suicidal participants – a pattern that held true whether fear of death was measured by a unitary fear of death scale (i.e., FAD), or by measures that distinguished different types of fear of death (i.e., FPDS). In particular, two types of fear of death – fear of self-annihilation and fear of loss of self-fulfillment – not only accounted for differences in suicidal ideation, but continued to do so above and beyond variables such as depression, anxiety, hopelessness, thwarted belongingness, perceived burdensomeness, and psychological pain. These results replicated and expanded findings from a small early study using the FPDS, reporting that adolescent suicide attempters ($n = 24$) exhibited reduced fear of self-annihilation and loss of self-fulfillment, but not reductions in

other types of fear of death (e.g., fear of losing social identity and consequences for family), compared to psychiatric and healthy controls (Orbach et al., 1993).

It is important to note that fear of death distinguished ideators from non-suicidal participants only in the undergraduate sample, but not in the community sample. It is not immediately clear why fear of death meaningfully distinguished ideators from non-suicidal participants in one sample but not in another. There are several potential explanations for this discrepancy. One possibility is that the meaning of death, and fear of death, may vary systematically according to cultural characteristics. The vast majority of the participants in the community sample were White/Caucasian (72.5%), whereas the participants in the undergraduate samples were students from more diverse cultural backgrounds, with the plurality being East Asian (47.4%). As such, one moderating factor could be culture and ethnicity. Indeed, while not currently well understood, there is some evidence for cultural variations in death construal. For example, Wong (2004) showed that for Chinese adolescents, concepts of life and death were less conceptually distinct, but tended to overlap with each other. Additionally, several authors have noted that suicide exhibits distinct epidemiological patterns in China compared to those of North America (e.g., reverse gender ratio, with rates of suicide higher in women than in men; Phillips et al., 2002; Yip et al., 2003). These results suggested that cultural factors may influence not only how death is perceived and construed, but also how it may potentially be implicated in suicide. As the present study didn't have adequate sample size to compare cultural subgroups directly, future studies are encouraged to examine this possibility.

Another possible explanation for the discrepant results is that fear of death may not reliably distinguish ideators from non-suicidal participants. In other words, the finding in the undergraduate sample might be spurious. Coupled with the null relationship between fear of

death and suicide attempts, this interpretation would imply that fear of death might not be central to the processes involved in suicide. Given discrepant findings in the present study, it will be important for future work to confirm or refute a relationship between fearlessness about death and suicidal ideation, or determine the populations in which this relationship is present and less or not present.

The above findings have a few implications. Our results suggest that fear of death may relate to suicidal ideation, but not suicide attempts. This pattern would imply that fear of death does not contribute to suicide capability as a risk factor for reducing the barrier to making an attempt, as hypothesized in the current research. Instead, fear of death seem to be connected to the development, maintenance, or escalation of suicidal ideation. This interpretation of results fits with contemporary suicide theories. Specifically, several theoretical perspectives converge to postulate that suicide ideation develops in response to an enduring sense of psychological pain, and can be understood as a desire to annihilate pain. For example, the Three Step Theory (3ST) posits that suicidal desire develops in response to pain and hopelessness (Klonsky & May, 2015). Similarly, the Integrated Motivational–Volitional Model (IMV) postulates that defeat combined with entrapment contributes to the development of suicidal ideation (O’Connor, 2011). Consistent with these theoretical models, our results similarly identified annihilation as a key concept in suicidal ideation. Specifically, results seem to suggest that the central aspect of fear of death relevant to suicidal ideation seemed to be fear of annihilation, and that individuals experiencing suicidal ideation seemed to view the annihilation that comes with death more positively compared to their non-suicidal counterparts. As such, our results and contemporary theories seem to converge to suggest that suicidal ideation may be conceptualized as a desire to end suffering perceived as inescapable.

8.3 Emotions about Death and Dying Findings

The current research was the first to explore whether emotions about death and dying other than fear distinguished among ideators, attempters and non-suicidal participants. We explored these questions in terms of overall positive and negative emotions, as well as at the level of specific emotions. While emotions about death (i.e., the state of being dead) were measured separately from emotions about dying (i.e., the dying process), we found that people's self-report of emotions about death and dying were very highly correlated. In addition, emotions about death and emotions about dying displayed highly similar relationships to suicide ideation and attempts. Therefore, in our discussion of findings, we opted not to treat emotions about death versus dying as meaningfully distinct.

Results indicated that most positive and negative emotions about death and dying did not distinguish ideators from non-suicidal participants, nor attempters from ideators across samples. However, there was a key exception. Compared to non-suicidal participants, ideators reported feeling more relieved about their death and dying.

We interpreted these findings in a few ways. First, these findings highlight the limitations of utilizing overly broad dimensions of emotions when investigating their relationships with suicide. Early studies on this topic conceptualized emotions about death and dying in this kind of broad manner, either as attraction to death (AD) or repulsion from death (RD). AD comprised a range of positive emotions such as fulfilling, peaceful, restful (Orbach et al., 1991), and RD primarily centering around fear of death (Orbach et al., 1991). Perhaps not surprisingly, studies using this approach yielded inconsistent findings (Cotton & Range, 1996; Gutierrez et al., 1996;

Orbach et al., 1991; Orbach et al., 1998; Orbach et al., 2001; Payne & Range, 1996; Stein et al., 2003; Wong et al., 2003).

In contrast, we found that a specific emotion – relief about death and dying – was higher in participants with suicidal ideation compared to non-suicidal participants. This pattern was consistently observed across samples and for both recent and lifetime histories of ideation. This finding is consistent with the literature on motivations for suicide, which suggests that motivations to escape or relieve unmanageable internal emotions and cognitions are the most strongly endorsed by those who attempt suicide (May, Pachkowski & Klonsky, 2020). Our results also complement theories of suicide positing that pain and hopelessness in combination cause suicidal ideation (Klonsky & May, 2015; Dhingra, Klonsky & Tapola, 2017), by suggesting that suicide may be seen as a way to achieve relief from pain when there are no other options for relieving pain.

Interestingly, when the time-frame for assessing suicide ideation and attempts was restricted to the past-12 months, emotions about death and dying distinguished past-12-month attempters from past-12-month ideators. Specifically, there were large differences between past-12-month attempters and past-12-month ideators in positive emotions about death and dying, with attempters reporting more positive emotions than ideators. This pattern was observed in both the undergraduate and community samples. However, due to small sample sizes for recent attempters and recent ideators, this pattern may not be reliable and are best considered suggestive or preliminary. Future work should investigate whether positive emotions about death and dying are meaningfully and reliably different between recent suicide attempters from recent ideators, and if so, how those differences are best understood. An intriguing possibility is that positive emotions about death may increase capability for suicide: when people feel more positive about

death and dying, these positive emotions may help offset aversion to suicide and death, and make it easier for people to attempt suicide. Another possibility is that positive emotions about death and dying are a marker of high capability for suicide. In other words, when someone is or becomes capable of suicide, they may endorse more positive emotions about death and dying. Finally, there is the possibility that attempting suicide influences people's perspectives on death and dying. For example, Self Perception Theory posits that self-knowledge is acquired from observing and making inferences about one's own behavior (Bem, 1972). Thus, suicide attempters might infer from their actions that they perceive death as positive and desirable, and therefore endorse higher positive emotions about death and dying. Longitudinal studies are needed to tease out those competing explanations.

8.4 Cognitions about Death Findings

The current research was the first to investigate whether cognitions about death distinguished ideators from non-suicidal participants, and attempters from ideators, in adult samples. Our results indicated that cognitions about death distinguished ideators from non-suicidal participants, but not attempters from ideators. Specifically, we found that suicidal ideators tended to conceptualize death as annihilation (e.g., "Death is definitive annihilation. After I die I will not exist anymore, so I will not experience anything.") to a greater extent than non-suicidal participants, who endorsed stronger beliefs about death as passage (e.g., "Death is only a passage. After I die, I will continue to exist and will remember this life's experiences."). These differences ranged from small to moderate in magnitude, and were consistently observed across samples and for both recent and lifetime histories of ideation. Furthermore, longitudinal results from the undergraduate sample showed that conceptualizing death as annihilation not

only exhibited good temporal stability, but also predicted later wish to live, even after controlling prior level of wish to live. Taken together, these results provided evidence for a robust correlation between conceptualizing death as annihilation and suicidal ideation.

These findings fit with findings from the current research and the larger literature. First, our findings for cognitions about death are consistent with our findings for emotions about death. Specifically, compared to non-suicidal controls, ideators endorsed lower fear of self-annihilation, and greater relief about death and dying. These patterns fit with suicidal ideators' tendency to cognitively conceptualize death as annihilation. Additionally, our findings for cognitions about death are also consistent with the literature on the suicide belief system (Rudd, 2006). Specifically, some theoretical perspectives (e.g., the Fluid Vulnerability Theory of Suicide; Rudd, 2006) have highlighted the role of cognitions and beliefs in contributing to long-term vulnerability for suicidal behaviours. Examples of such suicidogenic beliefs included beliefs about unbearability (e.g., "It is unbearable when I get this upset"; "I would rather die now than feel this unbearable pain"), hopelessness (e.g., Nothing can help solve my problems), and entrapment (e.g., Suicide is the only way to solve my problems; Bryan & Harris, 2019). Consistent with these beliefs, results from the current research suggested that cognitions that conceptualize death as annihilation of pain may serve as another vulnerability factor for suicidal ideation.

Interestingly, whereas in our study suicidal adults tended to view death as annihilation, studies of children have found a contrasting finding: that children tended to view death as life (Orbach & Glaubman, 1977; Orbach & Glaubman, 1978; Orbach & Glaubman 1979; Pfeffer, 1989; Gothelf et al., 1998). In short, there appears to be opposite findings in adults versus children. One possible explanation for this pattern is that perceptions of death change across

development. For example, there is some evidence that in later ages death is recognized as inevitable, whereas earlier ages tend to deny the reality of death (e.g. Gesell & Ilg, 1946; Nagy, 1948). Thus, suicidal adults and children may ascribe significant different attributions about the meaning and consequences about death. Another possibility is that the early findings in children were spurious rather than robust. Indeed, the only three studies reporting these findings used small sample sizes ($n = 2$ in Orbach & Glaubman, 1977; $n = 7$ in Orbach & Glaubman, 1978; $n = 3$ in Orbach & Glaubman, 1979), and other studies failed to replicate the finding that suicidal children deny the reality of death (e.g., Pfeffer, 1989).

8.5 Temporal Stability of Death Construal

Data from the current research indicated that fear of death and cognitions about death were relatively stable over a 2-month period. This pattern suggests that some death construal variables may be more trait-like than state-like. Interestingly, while the test-retest correlations were high, there were small but systemic increases in fear of death variables across time. Specifically, at follow-up, participants reported increased fear of self-annihilation, fear of loss social identity, fear of losing worldly involvements, fear of pain and punishment, and fear of religious transgressions and failures, compared to baseline. A first possible explanation for this unexpected pattern may be that answering questions about death increases one's fear of death. Support for this explanation comes from the social psychology literature on Mortality Salience (MS), defined as an awareness by individuals that their death is inevitable (Greenberg, Solomon & Pyszczynski, 1994). Experiments have shown that manipulating MS (for example, by asking participants to briefly ponder their own mortality, respond to open-ended questions about their thoughts and feelings about death, or to express their level of agreement with statements

concerning their beliefs about death) can produce significant and meaningful changes in affect and social behaviors (for reviews, see: Lambert et al., 2014; Greenberg, Solomon & Pyszczynski, 1997). Thus, our findings may be consistent with the MS literature, and suggest that answering questions about death construal at an earlier time-point may increase awareness of morality, thereby increasing fear of death when assessed at a subsequent time-point. Alternatively, a second possibility for the increase may be that fear of death exhibits developmental fluctuations. The existing literature primarily examined cohort effects of fear of death in children or older adults, reporting age-related shifts across childhood (Slaughter & Griffith, 2007) and older adulthood (Thorson, 2000). While very few studies investigated the trajectory of fear of death among young adults, one cross-sectional study compared 50 young (mean age = 21.4), 50 middle-aged (mean age = 41.4), and 50 elderly (mean age = 74.3) participants (Gesser, Wong & Reker, 1987), and indicated a curvilinear relationship, with the middle-aged subjects the most afraid of death/dying out of the three groups, indicating an increase from young adulthood to middle age (Gesser, Wong & Reker, 1987). While Gesser, Wong and Reker (1987) examined a much wider time-frame (i.e., years) than that of the present study (i.e., months) study, their findings nevertheless implied the possibility that there may be age-related shifts in fear of death in certain developmental periods, such as young adulthood. If mortality salience increases during young adulthood, it is possible that our test-retest data captured part of this increase. A third potential explanation for the increase in fear of death over time could be the habituation effect. Specifically, answering questions about fear of death may habituate participants to the strangeness of the questions, such that it may be easier for them to endorse when the same questions were posed a second time at follow-up.

The current research also explored longitudinal relationships of death construal to future wish to live. We found that baseline cognitions about death, but not fear of death, were associated with subsequent decreases in future wish to live. These results may suggest that conceptualizing death as annihilation increases one's vulnerability to thinking about suicide. This is consistent with evidence and theoretical perspectives suggesting that suicidal ideation and attempts are motivated by the desire to annihilate pain and suffering (e.g., May, Pachkowski & Klonsky, 2020; Verrocchio et al., 2016; Baumeister, 1990). However, it should be noted that the correlational nature of the study design precludes firm causal conclusions. Future studies employing experimental paradigms (e.g. challenging the belief that death is annihilation or increasing the belief that death is passage) may further help clarifying these competing explanations.

8.6 Theoretical and Clinical Implications

Results from the current research have several theoretical implications. First, findings converged to clarify how people with suicidal ideation think and feel about death. Specifically, we found that compared to non-suicidal participants, ideators reported greater relief associated with their death and dying, reduced fear of self-annihilation, and tended to conceptualize death as annihilation. Taken together, these results appeared to identify a characterization of death as relief and annihilation in individuals experiencing suicidal ideation. On the surface, these findings may seem like opposites, as relief represents a positive emotion whereas annihilation can seem like a negative outcome. However, as individuals experiencing suicidal ideation tend to view life as painful, this pattern of findings converge to suggest that annihilation of life is viewed as relief from pain. This fits well with theoretical frameworks and empirical evidence that posit

the desire to escape pain as a central mechanism for the development of ideation (e.g. 3 Step Theory; Klonsky & May, 2015). Our findings also fit well with theories and evidence that pain and the unbearability of pain contribute to suicidal ideation (e.g. Unlovability and Unbearability as suicidogenic cognitions; Bryan et al., 2014; Unendurable Psychache; Shneidman, 1993). Consistent with Baumeister's (1990) Suicide as Escape theory and research on motivation for suicide (May, Pachkowski & Klonsky, 2020), our findings suggest that death appears to be construed as a means of escaping or relieving painful, unmanageable internal emotions and cognitions among ideators.

Additionally, along with other lines of research, our findings suggest that suicide ideation arises not because death is desirable, but because life is aversive, such that death represents the cessation of pain and suffering. Specifically, our results showed that whereas overall positive emotions about death and dying did not differentiate those with suicidal ideation from those without, relief about death and dying did. One interpretation of this pattern of findings is that relief may reflect one's perception about life, and a desire to escape a painful life. It could thus appear that in our data differences between non-suicidal and ideators indicated differences in feelings about life rather than death.

This interpretation fits with some studies that simultaneously assess perceptions of both life and death in relations to suicide using the Multi-Attitude Suicide Tendencies Scale (MAST). For example, Gutierrez, Thakkar and Kuczen (2000) showed that attitudes about life were more strongly associated with suicidal ideation than attitudes about death. Similarly, other studies using the MAST showed that the Repulsion by Life scale accounted for the most variance in suicidal ideation (Payne & Range, 1996), and was the best predictor of suicidal ideation (Range & Cotton, 1996). Research using behavioural measures of associations between self and life/death

showed a similar pattern. Specifically, using the death/suicide Implicit Association Test (d/s-IAT), Harrison et al. (2014) found that the distribution of IAT scores (indexed by a D-score, calculated by subtracting the average response latency of the “death/me” test block from the average response latency of the “life/ me” test block and dividing by the standard deviation of response latency across both death/me and life/me trials) primarily reflected variability in self-associations with life, and that the predicative effects of d/s IAT on suicide ideation and attempts were mediated by individuals’ survival and coping beliefs (Harrison et al., 2014). Taken together, current and past findings suggest that people experience suicidal ideation not because they desire death, but because life is painful and they want their emotional pain to end.

Our findings also have implications for the theoretical construct capability for suicide. In our samples fear of death did not distinguish attempters from ideators. This pattern appears consistent with several studies finding that fearlessness about death does not distinguish individuals who attempt suicide from those who ideate (May & Victor, 2018). Taken together, these findings might suggest that fear of death may not be an important contributor to suicide capability. Although fearlessness about death was a key part of the original definition of capability for suicide proposed by Joiner (2007) in the Interpersonal Psychological Theory of Suicide (IPTS), findings support efforts to expand and revise how the construct is defined. For example, the Three-Step Theory identified three contributors to suicide capability, dispositional, acquired, and practical contributors (Klonsky & May, 2015), that go well beyond fearlessness about death. Future work is needed to further refine the conceptualization and definition of capability for suicide.

Finally, findings from the current research highlight the need for suicide theories to offer explanations for suicide attempts that meaningfully differed from explanations for suicidal

ideation. Specifically, our results indicated that while death construal variables distinguished ideators from non-suicidal participants, they did not meaningfully differentiate between attempters and ideators. This is consistent with the overall pattern observed in wider suicide research, which has shown that most commonly cited risk factors for suicide predict suicidal ideation, not suicide attempts among ideators (Klonsky, Qiu & Saffer, 2017). These factors include depression (May & Klonsky, 2016), anhedonia (Winer, Drapeau & Veilleux, 2016) and most mental disorders (May & Klonsky, 2016), hopelessness (Qiu, Klonsky & Klein, 2017), low belongingness, burdensomeness, defeat and entrapment (Dhingra, Boduszek & Klonsky, 2016), bullying (both perpetration and victimization; Arango et al., 2016), emotional dysregulation (Khazem & Anestis, 2016), perfectionism (Flett, Hewitt, & Heisel, 2014), and impulsivity (May & Klonsky, 2016). Our findings suggest that death construal follows a similar pattern: it relates to suicide ideation, but does not predict attempts among ideators.

Findings from the current research also have clinical implications. One key insight generated from converging findings was that suicidal ideation may be understood as a desire for relief from/annihilation of pain perceived as unbearable or inescapable. This suggests that a key locus of intervention for suicidal ideation may be to identify ways to reduce psychological pain. This is consistent with several evidence-based interventions for depression and self-injurious behaviours (e.g., Cognitive Behavioural Therapy, Dialectical Behavioural Therapy), which included behavioural strategies that aim to reduce pain or the circumstances causing pain (e.g., Problem Solving and Emotion Regulation skills; Linehan, 2014).

Another clinical implication for reducing suicidality may be to increase one's capacity to tolerate and accept pain. Currently, there are a few therapeutic orientations that identify tolerating and accepting distress as one of their treatment targets. For example, Dialectical

Behavioural Therapy aims to teach clients skills that enable them to tolerate and radically accept distressing life experiences and internal experiences (e.g. mindfulness skills, distress tolerance skills; Linehan, 2014). Similarly, Acceptance and Commitment Therapy (ACT) identifies Defusion and Acceptance as two fundamental therapeutic processes, whereby clients learn to step back from, and drop their struggles against painful thoughts and feelings, and learn to allow them to be as they are (Hayes, Strosahl & Wilson, 2009). Indeed, there is evidence for the effectiveness of treatments that included an acceptance and tolerance of distress component in reducing suicidal ideation, including Dialectical Behavioural Therapy and Mindfulness Based Cognitive Therapy (for a meta-analysis, see: Tarrrier, Tayler & Gooding, 2008). In particular, Walsher et al. (2015) reported that, in a sample of veterans, an increase in experiential acceptance is associated with lower odds of suicidal ideation. In short, our findings provide further support for the use of distress tolerance/acceptance as intervention for reducing suicidal ideation.

8.7 Strengths, Limitations, and Future Directions

The current research had a number of strengths. First, the findings from the current research are novel in that they are, to the author's knowledge, the first to comprehensively compare various cognitive and affective dimensions of death construal among suicidal ideators, attempters, and non-suicidal participants. Second, the examination of a number of findings in two samples, which were recruited from demographically distinct populations, allows for increased confidence in the generalizability of these findings. Third, the current research was also the first to explore longitudinal relationships between death construal variables and suicidal

ideation. Longitudinal data from the current research provided some preliminary insights into temporal stability of death construal and its relationship to suicidal ideation.

However, the current research also had a number of limitations. First, as the first to comprehensively investigate this topic, the current research was necessarily exploratory. Findings from the current research should therefore be treated as preliminary until replicated. It should be noted that we reported results of numerous analyses, which increases the chances that some effects were spurious or that some real effects were misestimated. In addition, our sample sizes of participants who endorsed suicidal ideation in the past-12 months (recent ideators) and suicide attempts in the past-12 months (recent attempters) were small, which limited statistical power and reliability of effect-size estimates. Future hypothesis-driven studies are needed to rigorously test and replicate our findings using different measures, larger samples, and across diverse populations.

Second, the current research was correlational, which precludes conclusions regarding causality. Our findings offered limited insight into whether death construal variables constitute causes, consequences, or indicators of other factors that are important for the development of suicidal ideation. However, in our follow-up data most death construal variables exhibited temporal stability over a period of two months, and death construal variables (e.g., conceptualizing death as annihilation) prospectively predicted decreases in wish to live – indicating some possibility of potential causal influence of death construal variables on suicidal ideation. Moreover, we showed that the link between certain death construal variables (e.g., conceptualizing death as annihilation) and suicidal ideation remained even after common predictors were controlled, thus providing some evidence against that the possibility that conceptualizing death as annihilation was merely an indicator of a third factor (e.g., depression)

related to suicidal ideation. Future studies with more rigorous, longitudinal designs, or potential experimental paradigms that manipulate death construal variables to investigate causality, are needed to refine these interpretations.

Third, the current research had measurement limitations. First, all variables in the current research were measured using self-report. Self-report provides only one vantage-point, can include biased and misleading information, and omit important and relevant information (Klonsky et al., 2002). It would be useful for future work to include behavioural (e.g., the Implicit Association Test) as well as self-report measures for death construal in their study battery, and compare and contrast how they relate to suicidality. Additionally, suicidality was measured retrospectively, which may contain inaccuracies due to reporting biases or forgetting (Hom et al., 2019). Prospective and longitudinal studies that track suicidal ideation and attempts over time would be a helpful next step. Furthermore, the longitudinal relationship between conceptualization of death as annihilation and later wish to live was assessed using one item. It would therefore be useful for future work to replicate and extend this finding using a more comprehensive measure of suicidal ideation. Moreover, when assessing nuanced specific emotions about death and dying, we utilized an exploratory measure that was not validated by pre-existing research, and with unknown psychometric properties. This choice reflects the absence of a validated measure for assessing most discrete emotions about death, as the death construal literature predominantly has focused and assessed fear and anxiety about death. Future studies are needed to develop and validate nuanced measures that assess different emotional dimensions related to death and dying.

Fourth, the current research was conducted in North American samples, which have inherent limitations with respect to generalizability (Henrich, Heine, & Norenzayan, 2010). This

is particularly important in light of evidence showing cultural variations both in death construal (e.g., Adinkrah, 2016), and suicide (e.g., Mayer & Ziaian, 2002; Yip et al., 2003). While replication of some findings in two samples with distinct demographic characteristics, including ethnicity, strengthened our confidence in the findings, it is unclear to what extent these findings may generalize to a different cultural context. As the present study did not have adequate sample size to compare cultural subgroups directly, future work is needed to elucidate cultural influences on death construal and on its relations to suicide.

Fifth, analyses from the current research that compared ideators and attempters were based on individuals who attempted suicide, not those who died by suicide. As only a minority of attempters die by suicide, and the majority of those who do die by suicide do so on their first attempt (Nock et al., 2008), there may be fundamental differences between those who make non-fatal attempts and those who die by suicide. Future research needs to clarify whether fatal suicide and non-fatal attempts involve distinct pathways, risk factors, and underlying mechanisms.

Tables

Table 1. Demographic information for all participants in the combined sample (n = 808).

	n	%
Sex		
Male	199	24.6
Female	603	74.6
Other	6	.7
Race/Ethnicity		
African	28	3.5
East Asian	274	33.9
European/Caucasian	341	42.2
Indian/South Asian	48	5.9
Indigenous	4	.5
Latin-American/Hispanic	23	2.8
Middle Eastern	25	3.1
Other	65	8.0
Sexual Orientation		
Bisexual	91	10.2
Homosexual	29	4.3
Heterosexual	647	82.4
Questioning	25	.8
Other	16	2.4
Marital Status		
Single	609	75.4
Married/Common-Law	131	16.2
Divorced/Separated	26	3.2
Widowed	3	.4
Other	39	4.8
Education		
Some High School	2	.2
High School Graduate	68	8.4
College/University	684	84.7
Master Degree	28	3.5
Doctoral Degree	3	.4
Other Graduate/Professional School After College	25	3.1
Yearly Household Income		
Less than \$5,000	39	4.8
\$5,000 - \$9,999	34	4.2
\$10,000 - \$19,999	44	5.4

\$20,000 - \$29,999	47	5.8
\$30,000 - \$39,999	53	6.6
\$40,000 - \$49,999	44	5.4
\$50,000 - \$59,999	71	8.8
\$60,000 - \$74,999	87	10.8
More than \$75,000	190	23.4
Do not wish to answer	199	24.6

Table 2. Demographic information for all participants in the undergraduate sample (n = 549).

	Mean	SD
Age	20.72	2.66
	n	%
Sex		
Male	106	19.3
Female	439	80.0
Other	4	.7
Race/Ethnicity		
African	4	.7
East Asian	260	47.4
European/Caucasian	154	28.1
Indian/South Asian	43	7.8
Indigenous	3	.5
Latin-American/Hispanic	5	.9
Middle Eastern	24	4.4
Other	56	10.2
Sexual Orientation		
Bisexual	65	11.8
Homosexual	18	3.3
Heterosexual	434	79.1
Questioning	22	4.0
Other	10	1.8
Marital Status		
Single	503	91.6
Married/Common-law	13	2.4
Divorced/Separated	2	.4
Other	31	5.6
Yearly Household Income		
Less than \$5,000	28	5.1
\$5,000 - \$9,999	28	5.1
\$10,000 - \$19,999	23	4.2
\$20,000 - \$29,999	23	4.2
\$30,000 - \$39,999	24	4.4
\$40,000 - \$49,999	15	2.7
\$50,000 - \$59,999	36	6.6
\$60,000 - \$74,999	45	8.2
More than \$75,000	134	24.4
Do not wish to answer	193	35.2

Table 3. Demographic information for all participants in the community sample (n = 255).

	n	%
Sex		
Male	91	35.7
Female	162	63.5
Other	2	.8
Race/Ethnicity		
African	24	9.4
East Asian	14	5.5
European/Caucasian	185	72.5
Indian/South Asian	4	1.6
Indigenous	1	.4
Latin-American/Hispanic	17	6.7
Middle Eastern	1	.4
Other	9	3.5
Sexual Orientation		
Bisexual	26	10.2
Homosexual	11	4.3
Heterosexual	210	82.4
Questioning	2	.8
Other	6	2.4
Marital Status		
Single	106	41.6
Married/Common-Law	115	45.1
Divorced/Separated	23	9.0
Widowed	3	1.2
Other	8	3.1
Education		
Some High School	2	.8
High School Graduate	29	11.4
College/University	174	68.2
Master Degree	27	10.6
Doctoral Degree	3	1.2
Other Graduate/Professional School After College	20	7.8
Yearly Household Income		
Less than \$5,000	11	4.3
\$5,000 - \$9,999	5	2.0
\$10,000 - \$19,999	21	8.2
\$20,000 - \$29,999	24	9.4
\$30,000 - \$39,999	29	11.4

\$40,000 - \$49,999	28	11.0
\$50,000 - \$59,999	35	13.7
\$60,000 - \$74,999	41	16.1
More than \$75,000	55	21.6
Do not wish to answer	6	2.4

Table 4. The inter-correlations between the key study variables in the combined sample.

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1. TDRS: Annihilation/ Passage	19.9 0	6.26																					
2. Fearless About Death (FAD)	12.5 1	6.69	.03																				
3. FPDS F1: self- fulfillment	44.1 0	15.3 4	.12	-.4 8																			
4. FPDS F2: social identity	24.4 5	11.6 7	-.0 0	-.4 5	.63																		
5. FPDS F3: family & friends	17.8 5	7.12	-.0 5	-.2 3	.45	.35																	
6. FPDS F4: transcendental	18.5 1	8.36	-.0 5	-.5 5	.64	.59	.33																
7. FPDS F5: self- annihilation	12.0 6	7.05	.02	-.4 7	.65	.76	.33	.63															
8. FPDS F6: punishment of hereafter	2.48	1.87	-.2 2	-.2 2	.25	.46	.19	.40	.44														
9. CLFDS: own dying	23.8 1	6.88	.00	-.4 8	.55	.53	.37	.57	.57	.3													
10. CLFDS: own death	22.0 7	8.05	.00	-.5 9	.76	.69	.40	.72	.76	.3	.71												
11. RFDS F1: Pain Punishment	18.2 4	6.80	-.2 3	-.4 7	.45	.55	.29	.67	.55	.6	.58	.62											
12. RFDS F2: Worldly Involvement	13.1 0	5.28	-.0 1	-.4 6	.73	.64	.37	.58	.68	.3	.60	.75	.57										
13. RFDS F3: Religion	5.61	3.00	-.3 0	-.2 4	.23	.38	.18	.32	.34	.6	.27	.32	.69	.37									
14. RFDS F4: Loved Ones	10.4 6	3.41	-.0 7	-.3 2	.44	.33	.70	.41	.32	.2	.45	.47	.42	.45	.22								

15. Depression	6.72	5.56	.18	.05	-.07	-.07	-.02	.03	.1	.04	-.1	.09	-.0	.09	-.0					
					7	6			4		0		4	7						
16. Anxiety	5.15	4.60	.06	.00	.02	.16	.12	.06	.09	.1	.09	.09	.13	.06	.11	.03	.6			
									7							3				
17. Hopelessness	1.15	1.43	.21	.07	-.1	-.0	-.1	-.0	-.0	.0	-.0	-.0	-.0	-.1	-.0	-.1	.5	.3		
					5	1	0	7	7	2	6	9	3	1	1	5	8	1		
18. Thwarted Belongingness	28.1	13.0	.21	.07	-.1	.03	-.1	-.0	-.0	.0	-.0	-.0	-.0	-.1	.03	-.2	.6	.3	.6	
	7	8			6		7	9	3	8	6	9	1	2		1	2	5	0	
19. Burdensome ness	12.3	8.70	.15	.07	-.1	.14	-.0	-.0	.02	.1	-.0	-.0	.07	-.0	.13	-.1	.6	.4	.5	.5
	8				1		6	1		4	2	5		4		0	3	9	4	9
20. Psychological Pain	7.56	3.83	.08	.09	-.0	.08	.01	-.0	.00	.1	.02	-.0	.09	.04	.17	-.0	.5	.4	.3	.4
					5		1			6		1				5	1	2	9	2
																				8

Note. TDRS = Testoni Death Representation Scale; FPDS = Fear of Personal Death Scale; CLFDS = Collett-Lester Fear of Death Scale; RDFS = Reasons for Death Fear Scale.

Correlation coefficients larger than .07, and .09 were statistically reliable at alphas of .05, and .01, respectively.

Table 5. The abilities of common predictors in distinguishing ideators vs. non-suicidal and ideators vs. attempters in the combined sample (in Cohen's d).

	Ideators vs. Non-Suicidal	Ideators vs. Attempters
Depression	-.81	-.08
Anxiety	-.50	-.25
Hopelessness	-.84	.06
Thwarted Belongingness	-.86	.08
Burdensomeness	-.86	-.15
Psychological Pain	-.66	.06

Note. Effect-sizes greater than .25, and .50 have p-value less than .01 and .001, respectively; no other effect sizes achieved p-value less than .05.

Table 6. The abilities of death construal variables in distinguishing ideators vs. non-suicidal and ideators vs. attempters in the combined sample (in Cohen's d).

	<u>Lifetime Comparisons</u>		<u>Past-12-Month Comparisons</u>	
	Ideators vs. Non-Suicidal (LT)	Attempters vs. Ideators (LT)	Ideators vs. Non-Suicidal (12M)	Attempters vs. Ideators (12M)
Fear of Death Measures				
Fearless About Death (FAD)	-.22	-.08	-.33	-.46
FPDS F1: self-fulfillment	.21	.22	.39	.30
FPDS F2: social identity	.00	-.01	.06	-.12
FPDS F3: family & friends	.20	.02	.21	.18
FPDS F4: transcendental	.09	.08	.10	.27
FPDS F5: self-annihilation	.23	-.03	.34	-.10
FPDS F6: punishment of hereafter	.00	.03	.04	-.06
CLFDS: own dying	-.01	.07	.10	-.14
CLFDS: own death	.16	.07	.34	.04
RFDS F1: Pain Punishment	.01	.05	.02	.27
RFDS F2: Worldly Involvement	.10	.07	.18	.15
RFDS F3: Religion	-.05	.07	.04	-.03
RFDS F4: Loved Ones	.13	.00	.26	.17
Cognitions about Death Measure				
Death As Annihilation vs. Passage (TDRS)	-.37	.05	-.43	.12

Note. TDRS = Testoni Death Representation Scale; FPDS = Fear of Personal Death Scale; CLFDS = Collett-Lester Fear of Death Scale; RDFS = Reasons for Death Fear Scale. LT = lifetime comparisons; 12M = past-12-month comparisons.

For Ideators vs. Non-Suicidal (LT) comparisons, effect sizes greater than -.16, -.23, and .37 have p-value less than .05, .01 and .001, respectively. For Ideators vs. Non-Suicidal (12M) comparisons, effect sizes greater than -.26, .33, and -.39 have p-value less than .05, .01 and .001, respectively. For Attempters vs. Ideators (LT) comparisons, FPDS F1 has p-value less than .05, all other effect sizes corresponded to $p > .05$. For Attempters vs. Ideators (12M) comparisons, FAD has p-value less than .05, all other effect sizes corresponded to $p > .05$.

Table 7. The abilities of death construal variables in distinguishing ideators vs. non-suicidal and ideators vs. attempters in the undergraduate sample (in Cohen's d).

	<u>Lifetime Comparisons</u>		<u>Past-12-Month Comparisons</u>	
	Ideators vs. Non-Suicidal (LT)	Ideators vs. Attempters (LT)	Ideators vs. Non-Suicidal (12M)	Ideators vs. Attempters (12M)
Fear of Death Measures				
FPDS F1: self-fulfillment	.33	.17	.46	.31
FPDS F2: social identity	.09	-.09	.08	-.16
FPDS F3: family & friends	.22	.09	.17	.39
FPDS F4: transcendental	.07	.06	.07	.35
FPDS F5: self-annihilation	.35	-.12	.40	-.14
FPDS F6: punishment of hereafter	0	.07	-.12	-.01
CLFDS: own dying	.02	.07	.11	-.14
CLFDS: own death	.26	.01	.41	-.04
RFDS F1: Pain Punishment	.06	.12	.05	.34
RFDS F2: Worldly Involvement	.13	.06	.18	.22
RFDS F3: Religion	-.01	.15	.03	.18
RFDS F4: Loved Ones	.11	.08	.24	.37
Cognitions about Death Measure				
Death As Annihilation vs. Passage (TDRS)	-.28	-.02	-.36	.02

Note. TDRS = Testoni Death Representation Scale; FPDS = Fear of Personal Death Scale; CLFDS = Collett-Lester Fear of Death Scale; RDFS = Reasons for Death Fear Scale. LT = lifetime comparisons; 12M = past-12-month comparisons.

For Ideators vs. Non-Suicidal (LT) comparisons, effect sizes greater than .22, .26, and .33 have p-value less than .05, .01 and .001, respectively. For Ideators vs. Non-Suicidal (12M) comparisons, effect sizes greater than .36, and .41 have p-value less than .01 and .001, respectively; no other effect sizes achieved p-value less than .05. For Ideators vs. Attempters (LT) and Ideators vs. Attempters (12M) comparisons, all effect sizes corresponded to $p > .05$.

Table 8. The abilities of death construal variables in distinguishing ideators vs. non-suicidal and ideators vs. attempters in the community sample (in Cohen's d).

	<u>Lifetime Comparisons</u>		<u>Past-12 Months Comparisons</u>	
	Ideators vs. Non-Suicidal (LT)	Ideators vs. Attempters (LT)	Ideators vs. Non-Suicidal (12M)	Ideators vs. Attempters (12M)
Fear of Death Measures				
FPDS F1: self-fulfillment	-.09	.26	.20	.31
FPDS F2: social identity	-.15	.13	.20	-.02
FPDS F3: family & friends	.11	-.10	.30	-.22
FPDS F4: transcendental	.11	.05	.16	.07
FPDS F5: self-annihilation	.02	.12	.22	-.04
FPDS F6: punishment of hereafter	.03	.00	.15	-.15
CLFDS: own dying	-.12	.03	.05	-.10
CLFDS: own death	-.04	.13	.19	.26
RFDS F1: Pain Punishment	-.12	-.01	-.08	.05
RFDS F2: Worldly Involvement	.00	.06	.15	.05
RFDS F3: Religion	-.11	.01	.08	-.64
RFDS F4: Loved Ones	.11	-.12	.30	-.31
Cognitions about Death Measure				
Annihilation vs Passage (TDRS)	-.62	.09	-.64	.39

Note. TDRS = Testoni Death Representation Scale; FPDS = Fear of Personal Death Scale; CLFDS = Collett-Lester Fear of Death Scale; RDFS = Reasons for Death Fear Scale. LT = lifetime comparisons; 12M = past-12-month comparisons.

For Ideators vs. Non-Suicidal (LT) comparisons, effect sizes greater than .62 have p-value less than .001; no other effect sizes achieved p-value less than .05 or less than .01. For Ideators vs. Non-Suicidal (12M) comparisons, effect sizes greater than .64 have p-value less than .01; no other effect sizes achieved p-value less than .05 or less than .001. For Ideators vs. Attempters (LT) and Ideators vs. Attempters (12M) comparisons, all effect sizes corresponded to $p > .05$.

Table 9. Beliefs about death in non-suicidal participants, suicidal ideators and attempters in the combined sample.

	Non-Suicidal		Ideators		Attempters	
	% ^a	Median ^b	% ^a	Median ^b	% ^a	Median ^b
Doubtful: “There is something, but I don’t know what.”	59.3%	Yes, probably	55.0%	Yes, probably	51.4%	Yes, probably
Agnostic: “I don’t know whether there is anything or not.”	51.9%	Yes, probably	57.7%	Yes, probably	61.7%	Yes, probably
Atheistic: “Nothing— death is the end.”	33.2%	Unsure	47.2%	Unsure	45.1%	Unsure
Reincarnation: “We are reincarnated— that is, after our physical death we are born in this world again and again.”	20.3%	Unsure	20.2%	Unsure	20.0%	Unsure
New Age: “We merge into some kind of eternal bliss after this life.”	20.3%	Unsure	16.9%	Unsure	17.1%	Unsure
Traditional Christian: “We go either to heaven or to hell.”	28.4%	Unsure	19.9%	No, probably not	21.1%	No, probably not
Modern Christian: “We all go to heaven.”	6.3%	No, probably not	4.2%	No, probably not	5.7%	No, definitely not

Notes.

^a Indicates the percentage of participants who rated the beliefs as at least probably (i.e., yes probably, or yes, definitely).

^b Indicates the median of participants' ratings for the extent to which they believe what happens after death on a five-point scale: 1 (No, definitely not), 2 (No, probably not), 3 (Unsure), 4 (Yes, probably), and 5 (Yes, definitely).

Table 10. Effect size differences in beliefs about death between ideators vs. non-suicidal and between ideators vs. attempters in the combined sample (in Cohen's d).

	<u>Lifetime comparisons</u>		<u>Past-12 Months comparisons</u>	
	Ideators vs. Non-Suicidal (LT)	Ideators vs. Attempters (LT)	Ideators vs. Non-Suicidal (12M)	Ideators vs. Attempters (12M)
Agnostic: "I don't know whether there is anything or not."	-.18	-.04	-.32	.14
Doubtful: "There is something, but I don't know what."	.07	.02	.00	.06
Atheistic: "Nothing—death is the end."	-.30	-.01	-.39	-.12
Reincarnation: "We are reincarnated—that is, after our physical death we are born in this world again and again."	.02	-.04	.02	.02
New Age: "We merge into some kind of eternal bliss after this life."	.14	-.08	.13	-.20
Traditional Christian: "We go either to heaven or to hell."	.27	-.04	.42	.03
Modern Christian: "We all go to heaven."	.21	.02	.25	-.05

Note. LT = lifetime comparisons; 12M = past-12-month comparisons. For Ideators vs. Non-Suicidal (LT) comparisons, effect sizes greater than .18, .27, and .30 have p-value less than .05, .01, and .001, respectively. For Ideators vs. Non-Suicidal (12M) comparisons, effect sizes greater than .25, .32, and .39 have p-value less than .05, .01, and .001, respectively. For Ideators vs. Attempters (LT) and Ideators vs. Attempters (12M) comparisons, all effect sizes corresponded to $p > .05$.

Table 11. Effect size differences in beliefs about death between ideators vs. non-suicidal and between ideators vs. attempters in the undergraduate sample (in Cohen’s d).

	<u>Lifetime comparisons</u>		<u>Past-12 Months comparisons</u>	
	Ideators vs. Non-Suicidal (LT)	Ideators vs. Attempters (LT)	Ideators vs. Non-Suicidal (12M)	Ideators vs. Attempters (12M)
Agnostic: “I don’t know whether there is anything or not.”	-.21	-.23	-.37	.28
Doubtful: “There is something, but I don’t know what.”	.02	.03	-.10	.20
Atheistic: “Nothing—death is the end.”	-.27	-.05	-.34	.02
Reincarnation: “We are reincarnated—that is, after our physical death we are born in this world again and again.”	.00	-.01	-.06	.25
New Age: “We merge into some kind of eternal bliss after this life.”	.07	-.04	.07	-.16
Traditional Christian: “We go either to heaven or to hell.”	.28	.06	.41	.00
Modern Christian: “We all go to heaven.”	.15	.08	.09	.31

Note. LT = lifetime comparisons; 12M = past-12-month comparisons. For Ideators vs. Non-Suicidal (LT) comparisons, effect sizes greater than .21, and .27 have p-value less than .05, and .01, respectively; no effect sizes achieved p-value less than .001. For Ideators vs. Non-Suicidal (12M) comparisons, effect sizes greater than .34, have p-value less than .01; no other effect sizes achieved p-value less than .05 or less than .001. For Ideators vs. Attempters (LT) and Ideators vs. Attempters (12M) comparisons, all effect sizes corresponded

to $p > .05$.

Table 12. Effect size differences in beliefs about death between non-suicidal vs. ideators and between ideators vs. attempters in the community sample (in Cohen's d).

	<u>Lifetime Comparisons</u>		<u>Past-12 Months Comparisons</u>	
	Ideators vs. Non-Suicidal (LT)	Ideators vs. Attempters (LT)	Ideators vs. Non-Suicidal (12M)	Ideators vs. Attempters (12M)
Agnostic: "I don't know whether there is anything or not."	-.18	.10	-.31	-.13
Doubtful: "There is something, but I don't know what."	.11	-.02	.15	-.20
Atheistic: "Nothing—death is the end."	-.44	.01	-.52	-.47
Reincarnation: "We are reincarnated—that is, after our physical death we are born in this world again and again."	.04	-.07	.17	-.48
New Age: "We merge into some kind of eternal bliss after this life."	.33	-.24	.32	-.32
Traditional Christian: "We go either to heaven or to hell."	.32	-.09	.49	.06
Modern Christian: "We all go to heaven."	.37	-.01	.63	-.77

Note. LT = lifetime comparisons; 12M = past-12-month comparisons. For Ideators vs. Non-Suicidal (LT) comparisons, effect sizes greater than .32 and .44 have p-value less than .05 and .01, respectively; no effect sizes achieved p-value less than .001. For Ideators vs. Non-Suicidal (12M) comparisons, effect sizes greater than .49 and .63 have p-value less than .01 and .001, respectively; no other effect sizes achieved p-value less than .05. For Ideators vs. Attempters (LT) and Ideators vs. Attempters (12M) comparisons, all effect sizes corresponded to $p > .05$.

Table 13. Effect size differences in emotions about death between ideators vs. non-suicidal and between ideators vs. attempters in the combined sample (in Cohen's d).

	<u>Lifetime Comparisons</u>		<u>Past-12-Month Comparisons</u>	
	Ideators vs. Non-Suicidal (LT)	Attempters vs. Ideators (LT)	Ideators vs. Non-Suicidal (12M)	Attempters vs. Ideators (12M)
Factor 1: Positive emotion about death	.08	-.27	-.06	-.72
Factor 2: Negative emotion about death	.00	.00	-.13	.03
Specific emotions about death – positive emotions				
Peaceful	-.07	-.14	-.11	-.40
Relieved	-.37	-.20	-.66	-.41
Excited	.03	-.19	-.04	-.43
Happy	.04	-.24	.00	-.55
Whole/Complete	.11	-.20	.21	-.66
Inspired	.21	-.14	.32	-.52
Hopeful	.21	-.20	.27	-.49
Powerful	.22	-.23	.23	-.58
Enthusiastic	.15	-.22	.19	-.59
Enlightened	.12	-.15	.24	-.41
Specific emotions about death – negative emotions				
Scared	.13	.05	.13	.25
Sad	.06	.08	.01	.27
Lonely	-.15	.06	-.31	.01
Angry	.08	-.02	.03	.13
Nervous	.16	.07	.20	.25
Disgusted	-.01	-.14	-.14	-.19
Empty	-.21	-.10	-.46	-.36
Powerless	.15	-.01	.14	.05
Hopeless	-.04	-.01	-.21	.06
Numb	-.15	-.01	-.29	-.23

Note. LT = lifetime comparisons; 12M = past-12-month comparisons.

For Ideators vs. Non-Suicidal (LT) comparisons, effect sizes greater than .15, .21, and .37 have p-value less than .05, .01, and .001, respectively. For Ideators vs. Non-Suicidal (12M) comparisons, effect sizes greater than .23, .27, and .66 have p-value less than .05, .01, and .001, respectively. For Ideators vs. Attempters (LT) comparisons, effect sizes greater than .20 have p-

value less than .05; no effect sizes achieved p-value less than .01 or less than .001. For Ideators vs. Attempters (12M) comparisons, effect sizes greater than .49 and .66 have p-value less than .05 and .01, respectively; no effect sizes achieved p-value less than .001.

Table 14. Effect size differences in emotions about dying between ideators vs. non-suicidal and between ideators vs. attempters in the combined sample (in Cohen's d).

	<u>Lifetime Comparisons</u>		<u>Past-12-Month Comparisons</u>	
	Ideators vs. Non-Suicidal (LT)	Attempters vs. Ideators (LT)	Ideators vs. Non-Suicidal (12M)	Attempters vs. Ideators (12M)
Factor 1: Positive emotion about dying	.00	-.19	-.03	-.78
Factor 2: Negative emotion about dying	-.12	-.02	-.24	.19
Specific emotions about dying – positive emotions				
Peaceful	-.02	-.07	-.01	-.44
Relieved	-.51	-.25	-.90	-.45
Excited	.00	-.15	-.10	-.58
Happy	-.04	-.14	-.16	-.48
Whole/Complete	.07	.00	.19	-.55
Inspired	.19	-.12	.37	-.88
Hopeful	.15	-.07	.18	-.41
Powerful	-.02	-.16	.00	-.61
Enthusiastic	.16	-.23	.17	-.63
Enlightened	.12	-.17	.24	-.47
Specific emotions about dying – negative emotions				
Scared	.01	.20	.09	.32
Sad	.09	.05	.08	.04
Lonely	-.33	.03	-.48	.04
Angry	-.01	-.05	-.06	.19
Nervous	.07	.08	.06	.39
Disgusted	.00	-.17	-.07	.07
Empty	-.27	-.04	-.51	-.09
Powerless	.09	.03	.09	.25
Hopeless	-.20	.01	-.38	.15
Numb	-.16	-.06	-.33	-.15

Note. LT = lifetime comparisons; 12M = past-12-month comparisons.

For Ideators vs. Non-Suicidal (LT) comparisons, effect sizes greater than .16, .20 and .33 have p-value less than .05, .01, and .001, respectively. For Ideators vs. Non-Suicidal (12M) comparisons, effect sizes greater than .24, .33, and .38 have p-value less than .05, .01, and .001, respectively. For Ideators vs. Attempters (LT) comparisons, effect sizes greater than .20, and .25

have p-value less than .05 and .01, respectively; no effect sizes achieved p-value less than .001. For Ideators vs. Attempters (12M) comparisons, effect sizes greater than .47 and .61 have p-value less than .05 and .001, respectively; no other effect sizes achieved p-value less than .01.

Table 15. Effect size differences in emotions about death between ideators vs. non-suicidal and between ideators vs. attempters in the undergraduate sample (in Cohen's d).

	<u>Lifetime Comparisons</u>		<u>Past-12-Month Comparisons</u>	
	Ideators vs. Non-Suicidal (LT)	Ideators vs. Attempters (LT)	Ideators vs. Non-Suicidal (12M)	Ideators vs. Attempters (12M)
Factor 1: Positive emotion about death	.07	-.18	.08	-.49
Factor 2: Negative emotion about death	.13	.09	-.05	.24
Specific emotions about death – positive emotions				
Peaceful	-.07	-.10	-.14	-.17
Relieved	-.33	-.22	-.58	-.39
Whole/Complete	.07	-.14	.21	-.60
Enlightened	.12	-.16	.26	-.49
Hopeful	.22	-.07	.36	-.19
Powerful	.17	-.13	.23	-.39
Inspired	.15	.01	.26	-.26
Happy	.05	-.16	.03	-.39
Excited	.04	-.06	-.02	-.17
Enthusiastic	.13	-.09	.12	-.30
Specific emotions about death – negative emotions				
Scared	.20	.06	.18	.46
Sad	.11	.05	-.03	.39
Nervous	.16	.06	.22	.31
Empty	-.14	-.24	-.47	-.48
Numb	-.09	-.04	-.22	-.04
Lonely	-.04	-.07	-.28	.23
Powerless	.21	-.19	.11	-.07
Hopeless	.05	-.12	-.18	.08
Angry	.13	-.10	.09	.14
Disgusted	.01	-.19	-.18	.08

Note. LT = lifetime comparisons; 12M = past-12-month comparisons.

For Ideators vs. Non-Suicidal (LT) comparisons, effect sizes greater than .20, and .33 have p-value less than .05, and .01, respectively; no effect sizes achieved p-value less than .001. For Ideators vs. Non-Suicidal (12M) comparisons, effect sizes greater than .26, .36, and .47 have p-value less than .05, .01, and .001, respectively. For Ideators vs. Attempters (LT) comparisons,

effect sizes greater than .24 have p-value less than .05; no effect sizes achieved p-value less than .01 or less than .001. For Ideators vs. Attempters (12M) comparisons, effect sizes greater than .48 have p-value less than .05; no effect sizes achieved p-value less than .01 or less than .001.

Table 16. Effect size differences in emotions about dying between ideators vs. non-suicidal and between ideators vs. attempters in the undergraduate sample (in Cohen's d).

	<u>Lifetime Comparisons</u>		<u>Past-12-Month Comparisons</u>	
	Ideators vs. Non-Suicidal (LT)	Ideators vs. Attempters (LT)	Ideators vs. Non-Suicidal (12M)	Ideators vs. Attempters (12M)
Factor 1: Positive emotion about dying	.00	-.09	.00	-.52
Factor 2: Negative emotion about dying	-.02	-.03	-.22	.40
Specific emotions about dying – positive emotions				
Peaceful	.00	-.04	-.04	-.26
Relieved	-.45	-.25	-.84	-.31
Whole/Complete	.06	.08	.19	-.34
Enlightened	.13	-.15	.26	-.27
Hopeful	.15	.11	.28	-.26
Powerful	-.09	-.08	-.04	-.30
Inspired	.15	.03	.39	-.76
Happy	-.05	-.03	-.19	-.13
Excited	.00	-.10	-.09	-.30
Enthusiastic	.17	-.14	.23	-.38
Specific emotions about dying – negative emotions				
Scared	.05	.20	.10	.47
Sad	.12	.06	.07	.16
Nervous	.12	.09	.12	.48
Empty	-.23	-.10	-.52	.03
Numb	-.15	-.02	-.31	.12
Lonely	-.18	-.11	-.42	.15
Powerless	.21	-.04	.13	.26
Hopeless	-.07	-.08	-.29	.13
Angry	.04	-.09	-.02	.12
Disgusted	-.05	-.08	-.16	.61

Note. LT = lifetime comparisons; 12M = past-12-month comparisons.

For Ideators vs. Non-Suicidal (LT) comparisons, effect sizes greater than .21, and .45 have p-value less than .05, and .001, respectively; no other effect sizes achieved p-value less than .01.

For Ideators vs. Non-Suicidal (12M) comparisons, effect sizes greater than .23, and .39 have p-value less than .05, and .001, respectively; no other effect sizes achieved p-value less than .01.

For Ideators vs. Attempters (LT) comparisons, effect sizes greater than .25 have p-value less than .05; no effect sizes achieved p-value less than .01 or less than .001. For Ideators vs. Attempters (12M) comparisons, effect sizes greater than .47 and .61 have p-value less than .05 and .001, respectively; no other effect sizes achieved p-value less than .01.

Table 17. Effect size differences in emotions about death between ideators vs. non-suicidal and between ideators vs. attempters in the community sample (in Cohen's d).

	<u>Lifetime Comparisons</u>		<u>Past-12-Month Comparisons</u>	
	Ideators vs. Non-Suicidal (LT)	Ideators vs. Attempters (LT)	Ideators vs. Non-Suicidal (12M)	Ideators vs. Attempters (12M)
Factor 1: Positive emotion about death	.10	-.34	.04	-1.74
Factor 2: Negative emotion about death	-.18	.12	-.17	-.25
Specific emotions about death – positive emotions				
Peaceful	-.07	-.17	-.05	-1.3
Relieved	-.45	-.12	-.82	-.65
Whole/Complete	.15	-.30	.53	-.78
Enlightened	.14	-.09	.20	-.26
Hopeful	.25	-.29	.17	-2.08
Powerful	.35	-.37	.27	-1.26
Inspired	.36	-.35	.45	-1.22
Happy	0	-.32	-.06	-1.05
Excited	-.01	-.29	-.07	-1.6
Enthusiastic	.24	-.30	.35	-1.40
Specific emotions about death – negative emotions				
Scared	-.02	.05	.05	-.30
Sad	-.04	.11	.09	-.02
Nervous	.16	.05	.16	.10
Empty	-.46	.01	-.52	.10
Numb	-.36	-.02	-.50	-.79
Lonely	-.40	.24	-.42	-.57
Powerless	.07	.25	.21	.50
Hopeless	-.25	.14	-.29	.03
Angry	0	.10	-.05	0
Disgusted	-.07	-.09	-.02	-.83

Note. LT = lifetime comparisons; 12M = past-12-month comparisons. For Ideators vs. Non-Suicidal (LT) comparisons, effect sizes greater than .35 and .40 have p-value less than .05 and .01, respectively; no effect sizes achieved p-value less than .001. For Ideators vs. Non-Suicidal (12M) comparisons, effect sizes greater than .35, .45 and .82 have p-value less than .05, .01 and .001, respectively. For Ideators vs. Attempters (LT) comparisons, effect sizes

greater than .32 have p-value less than .05; no effect sizes achieved p-value less than .01 or less than .001. For Ideators vs. Attempters (12M) comparisons, effect sizes greater than 1.3 and 1.6 have p-value less than .05 and .001, respectively; no other effect sizes achieved p-value less than .01.

Table 18. Effect size differences in emotions about dying between ideators vs. non-suicidal and between ideators vs. attempters in the community sample (in Cohen's d).

	<u>Lifetime Comparisons</u>		<u>Past-12-Month Comparisons</u>	
	Ideators vs. Non-Suicidal (LT)	Ideators vs. Attempters (LT)	Ideators vs. Non-Suicidal (12M)	Ideators vs. Attempters (12M)
Factor 1: Positive emotion about dying	.03	-.26	-.05	-2.27
Factor 2: Negative emotion about dying	-.32	.08	-.32	-.30
Specific emotions about dying – positive emotions				
Peaceful	-.04	-.08	.06	-1.28
Relieved	-.63	-.18	-1.04	-1.35
Whole/Complete	.05	-.11	.17	-1.21
Enlightened	.12	-.18	.22	-1.22
Hopeful	.24	-.22	.04	-1.21
Powerful	.17	-.22	.11	-2.64
Inspired	.28	-.29	.34	-1.38
Happy	.02	-.23	-.09	-1.99
Excited	.03	-.15	-.10	-1.75
Enthusiastic	.15	-.27	.08	-1.74
Specific emotions about dying – negative emotions				
Scared	-.09	.20	.04	-.10
Sad	.05	.03	.13	-.31
Nervous	-.06	.06	-.08	.06
Empty	-.45	-.01	-.54	-.35
Numb	-.27	-.18	-.46	-.91
Lonely	-.68	.27	-.67	-.31
Powerless	-.15	.18	-.01	.19
Hopeless	-.47	.17	-.57	.15
Angry	-.09	.02	-.14	.36
Disgusted	.09	-.30	.18	-.91

Note. LT = lifetime comparisons; 12M = past-12-month comparisons. For Ideators vs. Non-Suicidal (LT) comparisons, effect sizes greater than .32, .45, and .63 have p-value less than .05, .01 and .001, respectively. For Ideators vs. Non-Suicidal (12M) comparisons, effect sizes greater than .46, .54, and .67 have p-value less than .05, .01 and .001, respectively. For Ideators vs. Attempters (12M) comparisons, effect sizes greater than .91, 1.21 and 1.75 have p-

value less than .05, .01 and .001, respectively. For Ideators vs. Attempters (LT) comparisons, all effect sizes corresponded to p s > .05.

Table 19. The correlations between emotions about death and emotions about dying in the combined sample.

	Non-Suicidal	Ideators	Attempters
Positive emotion about death & dying (factor)	.81	.84	.82
Negative emotion about death & dying (factor)	.82	.83	.79
Positive specific emotions about death & dying			
Peaceful	.62	.63	.62
Relieved	.68	.71	.59
Whole/Complete	.74	.69	.72
Enlightened	.67	.74	.72
Hopeful	.70	.74	.75
Powerful	.66	.66	.73
Inspired	.68	.69	.69
Happy	.65	.59	.65
Excited	.71	.66	.77
Enthusiastic	.64	.62	.68
Negative specific emotions about death & dying			
Scared	.62	.65	.64
Sad	.66	.63	.64
Nervous	.73	.60	.62
Empty	.72	.74	.57
Numb	.71	.75	.70
Lonely	.73	.76	.70
Powerless	.70	.68	.65
Hopeless	.71	.70	.72
Angry	.71	.70	.79
Disgusted	.66	.78	.65

Note. All correlation coefficients are statistically reliable at alpha of .001.

Table 20. The correlations between emotions about death and emotions about dying in the undergraduate sample.

	Non-Suicidal	Ideators	Attempters
Factor 1: Positive emotion about dying	.76	.81	.82
Factor 2: Negative emotion about dying	.81	.83	.81
Specific emotions about dying – positive emotions			
Peaceful	.58	.62	.55
Relieved	.65	.71	.61
Whole/Complete	.74	.65	.67
Enlightened	.68	.75	.70
Hopeful	.67	.75	.63
Powerful	.60	.74	.74
Inspired	.69	.68	.61
Happy	.64	.56	.54
Excited	.69	.58	.74
Enthusiastic	.61	.63	.76
Specific emotions about dying – negative emotions			
Scared	.56	.61	.69
Sad	.67	.61	.70
Nervous	.70	.57	.64
Empty	.70	.75	.49
Numb	.69	.73	.68
Lonely	.72	.76	.66
Powerless	.66	.73	.67
Hopeless	.67	.73	.77
Angry	.67	.58	.73
Disgusted	.63	.76	.54

Note. All correlation coefficients are statistically reliable at alpha of .001.

Table 21. The correlations between emotions about death and emotions about dying in the community sample.

	Non-Suicidal	Ideators	Attempters
Factor 1: Positive emotion about dying	.82	.85	.82
Factor 2: Negative emotion about dying	.90	.83	.78
Specific emotions about dying – positive emotions			
Peaceful	.72	.65	.71
Relieved	.77	.71	.56
Whole/Complete	.72	.79	.77
Enlightened	.67	.73	.74
Hopeful	.77	.71	.80
Powerful	.76	.49	.72
Inspired	.68	.74	.75
Happy	.67	.65	.74
Excited	.78	.77	.79
Enthusiastic	.69	.60	.62
Specific emotions about dying – negative emotions			
Scared	.74	.73	.58
Sad	.64	.67	.59
Nervous	.78	.64	.59
Empty	.73	.72	.64
Numb	.75	.80	.72
Lonely	.77	.69	.73
Powerless	.77	.60	.64
Hopeless	.79	.63	.66
Angry	.83	.85	.84
Disgusted	.74	.84	.74

Note. All correlation coefficients are statistically reliable at alpha of .001.

Table 22. Test-Retest stability of death construal variables over 1-2 months in the full follow-up undergraduate sample.

	Full Follow-Up Sample (n = 98)			
	Time 1 (T1) Mean (SD)	Time 2 (T2) Mean (SD)	Correlation (r) between T1 and T2	Effect Size (d)
Fearless About Death (FAD)	13.20 (6.68)	13.80 (6.01)	.76	.14
FPDS F1: self-fulfillment	42.91 (14.69)	43.80 (14.21)	.82	.10
FPDS F2: social identity	22.83 (10.66) ^a	25.61 (11.53) ^a	.74	.35
FPDS F3: family & friends	17.49 (6.83)	17.60 (6.46)	.66	.02
FPDS F4: transcendental	18.41 (8.51)	18.49 (7.70)	.79	.02
FPDS F5: self-annihilation	10.67 (6.33) ^a	12.13 (6.30) ^a	.66	.28
FPDS F6: punishment of hereafter	2.47 (1.88) ^a	2.82 (2.04) ^a	.75	.25
CLFDS: own dying	24.19 (6.26)	25.15 (5.65)	.56	.37
CLFDS: own death	21.65 (8.15)	21.50 (7.20)	.80	.03
RFDS F1: Pain Punishment	18.02 (6.73) ^a	19.25 (6.78) ^a	.84	.32
RFDS F2: Worldly Involvement	12.87 (5.15) ^a	14.19 (4.98) ^a	.75	.37
RFDS F3: Religion	5.25	6.10	.74	.39

	(2.77) ^a	(3.16) ^a		
RFDS F4: Loved Ones	10.51 (3.29)	10.66 (3.03)	.73	.06
Death As Annihilation vs. Passage (TDRS)	20.83 (5.67)	20.78 (5.09)	.75	.01

Note. TDRS = Testoni Death Representation Scale; FPDS = Fear of Personal Death Scale; CLFDS = Collett-Lester Fear of Death Scale; RDFS = Reasons for Death Fear Scale.

^a Paired-samples t-tests indicate a difference at the $p < .05$ level between T1 and T2 functional scores.

All correlation coefficients are statistically reliable at alpha of .001.

Table 23. Test-Retest stability of death construal variables over 1-2 months in subgroups (undergraduate sample).

	<u>Non-Suicidal (n = 32)</u>			<u>Ideators (n = 39)</u>			<u>Attempters (n = 27)</u>		
	Time 1 (T1) Mean (SD)	Time 2 (T2) Mean (SD)	Correlation (r) between T1 and T2	Time 1 (T1) Mean (SD)	Time 2 (T2) Mean (SD)	Correlation (r) between T1 and T2	Time 1 (T1) Mean (SD)	Time 2 (T2) Mean (SD)	Correlation (r) between T1 and T2
Fearless About Death (FAD)	11.41 (6.34) ^a	13.78 (5.07) ^a	.74	14.51 (6.53)	13.82 (6.67)	.82	13.44 (7.03)	13.81 (6.21)	.75
FPDS F1: self- fulfillment	46.53 (13.50)	47.41 (14.88)	.74	41.95 (15.41)	41.74 (14.45)	.89	40.00 (14.66)	42.48 (12.66)	.81
FPDS F2: social identity	22.06 (9.93) ^a	26.59 (11.89) ^a	.73	23.03 (11.92)	25.15 (11.22)	.74	23.44 (9.87)	25.11 (11.91)	.78
FPDS F3: family & friends	18.53 (6.75)	18.63 (6.08)	.62	17.23 (7.28)	17.95 (6.92)	.63	16.63 (6.34)	15.89 (6.09)	.76
FPDS F4: transcendental	18.63 (8.59)	18.22 (7.46)	.82	18.36 (8.43)	18.33 (7.84)	.75	18.22 (8.85)	19.04 (8.03)	.82
FPDS F5: self- annihilation	11.41 (5.88)	12.78 (6.84)	.66	9.72 (5.99) ^a	11.82 (5.92) ^a	.66	11.19 (7.32)	11.81 (6.35)	.67
FPDS F6: punishment of hereafter	2.66 (1.86)	2.75 (1.95)	.81	2.33 (2.04)	2.69 (2.12)	.83	2.44 (3.07)	1.72 (2.07)	.55
CLFDS: own dying	24.97 (6.19)	26.75 (5.27)	.53	23.87 (6.92)	23.97 (6.05)	.54	23.74 (5.42)	24.96 (5.23)	.65

CLFDS: own death	23.66 (8.06)	22.63 (8.14)	.74	20.49 (8.18)	20.33 (7.03)	.83	20.96 (8.05)	21.85 (6.21)	.83
RFDS F1: Pain Punishment	18.63 (7.51) ^a	19.28 (6.67) ^a	.86	17.26 (6.04) ^a	18.77 (6.62) ^a	.87	18.41 (6.83)	19.89 (7.31)	.81
RFDS F2: Worldly Involvement	13.13 (5.22)	14.47 (5.38)	.81	12.77 (5.04) ^a	14.26 (4.93) ^a	.71	12.70 (5.39)	13.78 (4.71)	.74
RFDS F3: Religion	5.75 (3.24)	6.34 (3.25)	.64	4.90 (2.46) ^a	5.77 (3.04) ^a	.85	5.15 (2.58) ^a	6.30 (3.30) ^a	.75
RFDS F4: Loved Ones	11.19 (3.59)	11.13 (2.92)	.66	10.36 (3.27)	10.41 (3.30)	.83	9.92 (2.89)	10.48 (2.81)	.67
Death As Annihilation vs. Passage (TDRS)	18.59 (6.42)	19.97 (5.53)	.78	22.23 (5.23)	21.62 (4.87)	.70	21.44 (4.61)	20.52 (4.84)	.81

Notes. TDRS = Testoni Death Representation Scale; FPDS = Fear of Personal Death Scale; CLFDS = Collett-Lester Fear of Death Scale; RDFS = Reasons for Death Fear Scale.

a. Paired-samples t-tests indicate a difference at the $p < .05$ level between T1 and T2 functional scores.

All correlation coefficients were statistically reliable at alpha of .001, with the exception for with the exception of FPDS: Fear of Punishment in the Hereafter (Attempters group), $p = .003$.

Table 24. Correlations of wish to live at Time 1, Time 2, and death construal variables in the undergraduate sample.

	Wish to live Time 1 (T1)	Wish to live Time 2 (T2)	Wish to live T2 Partialling out T1
Fearless About Death (FAD)	.12	.09	.01
FPDS F1: self-fulfillment	-.04	-.05	-.04
FPDS F2: social identity	.34	.21	-.03
FPDS F3: family & friends	.04	-.05	-.11
FPDS F4: transcendental	.16	.14	.04
FPDS F5: self-annihilation	.07	-.02	-.10
FPDS F6: punishment of hereafter	.23	.15	-.02
CLFDS: own dying	.08	-.02	-.11
CLFDS: own death	.05	.04	.01
RFDS F1: Pain Punishment	.01	-.02	-.04
RFDS F2: Worldly Involvement	-.06	-.11	-.09
RFDS F3: Religion	-.08	-.04	.02
RFDS F4: Loved Ones	-.21	-.21	-.09
Death As Annihilation vs. Passage (TDRS)	.40	.46	.28

Notes. TDRS = Testoni Death Representation Scale; FPDS = Fear of Personal Death Scale; CLFDS = Collett-Lester Fear of Death Scale; RDFS = Reasons for Death Fear Scale. Correlation coefficients larger than .28, .34, and .40 were statistically reliable at alphas of .05, .01, and .001, respectively.

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