DISCRETE EMOTIONS, THWARTED NEEDS, AND SUICIDALITY: AN ANALYSIS OF SUICIDE NOTES

by

JOHN F. GUNN III

A thesis submitted to the

Graduate School-Camden

Rutgers, The State University of New Jersey

in partial fulfillment of the requirements

for the degree of Master of Arts

Graduate Program in Psychology

Written under the direction of

Ira J Roseman, PhD

and approved by

Ira J Roseman, PhD

Courtenay Cavanaugh, PhD

Kristin August, PhD

Camden, New Jersey May 2012

ABSTRACT OF THE THESIS

Discrete Emotions, Thwarted Needs, and Suicidality: An Analysis of Suicide Notes

By JOHN F. GUNN III

Thesis Director:

Ira J Roseman, PhD

The present study had several aims. The first aim was to test the theory of Roseman and Kaiser (2001) which hypothesized that distress is more associated with suicidal behavior than sadness. The second aim was to compare the needs of the Interpersonal-Psychological Theory of Suicide (i.e., thwarted belonging and perceived burdensomeness) to the needs proposed by Shneidman (1996) (e.g., abasement, aggression) in their ability to predict suicidal behavior. The final aim was to do a series of exploratory analyses meant to test the role of various emotions and needs in suicidal behavior absent of any specific hypotheses. The emotional content of the notes were ascertained through the use of graduate student raters and analysis using the *Linguistic Inquiry and Word Count* (LIWC), which was used to test the first aim independently of the raters' results. The presence of the IPTS needs and the Shneidman needs were ascertained using the graduate student raters. Logistic regressions revealed that the emotions of sadness and distress were not significant predictors of suicide lethality, but that one motivational state of sadness (i.e., wanting to get (or keep) something pleasurable) and one of distress (i.e., wanting to get away from (or avoid) something painful) were predictive of suicide lethality. However, sadness' motivational state was associated with lethal suicides while distress' was associated with non-lethal suicides. Additionally, none of the Shneidman needs were significantly related to suicide lethality,

while the IPTS needs (i.e., perceived burdensomeness and thwarted belonging) were marginally predictive of suicide lethality.

Acknowledgments

I would like to express my deepest thanks to my advisor Dr. Ira J. Roseman for his help in designing this study, for his comments and feedback, for his guidance, and for the training I have received from him over the past two years. I would also like to thank my committee members, Dr. Courtenay Cavanaugh and Dr. Kristin August who have been very patient and very informative in their feedback. I would also like to thank my two graduate student raters (who shall remain anonymous) who were instrumental in getting this project done. I would also like to thank the faculty and students of the psychology department at Rutgers-Camden for being supportive and helpful. I would also like to thank Dr. David Lester at The Richard Stockton College of New Jersey for making this sample of suicide notes available to me. Finally, I would like to thank my loving fiancée Allison L. Carroll, who has not only helped to keep me on task, but has also provided me with a shoulder to lean on.

Table of Contents

List of Tables

List of Illustrations

Introduction

In 2008, suicide claimed 36,035 lives in the US, making it the 10th leading cause of death overall and the 3rd leading cause of death in the young (McIntosh, 2011). Estimates also indicate that over 800,000 suicide attempts are made annually in the United States. With these numbers in mind, any attempt to shed light on the phenomena of suicide is a worthwhile endeavor. Previous research has drawn the connection between specific emotions (e.g., anger, shame) and suicidal behavior (Callanan & Davis, 2009; Diedrich & Warelow, 2002; Hendin & Haas, 1991; Hendin, Jurdi, Houck, Hughes, Turner, 2010) and other researchers have theorized about the key emotions to suicidal behavior (Lester, 1997; Kalafat & Lester, 2000).

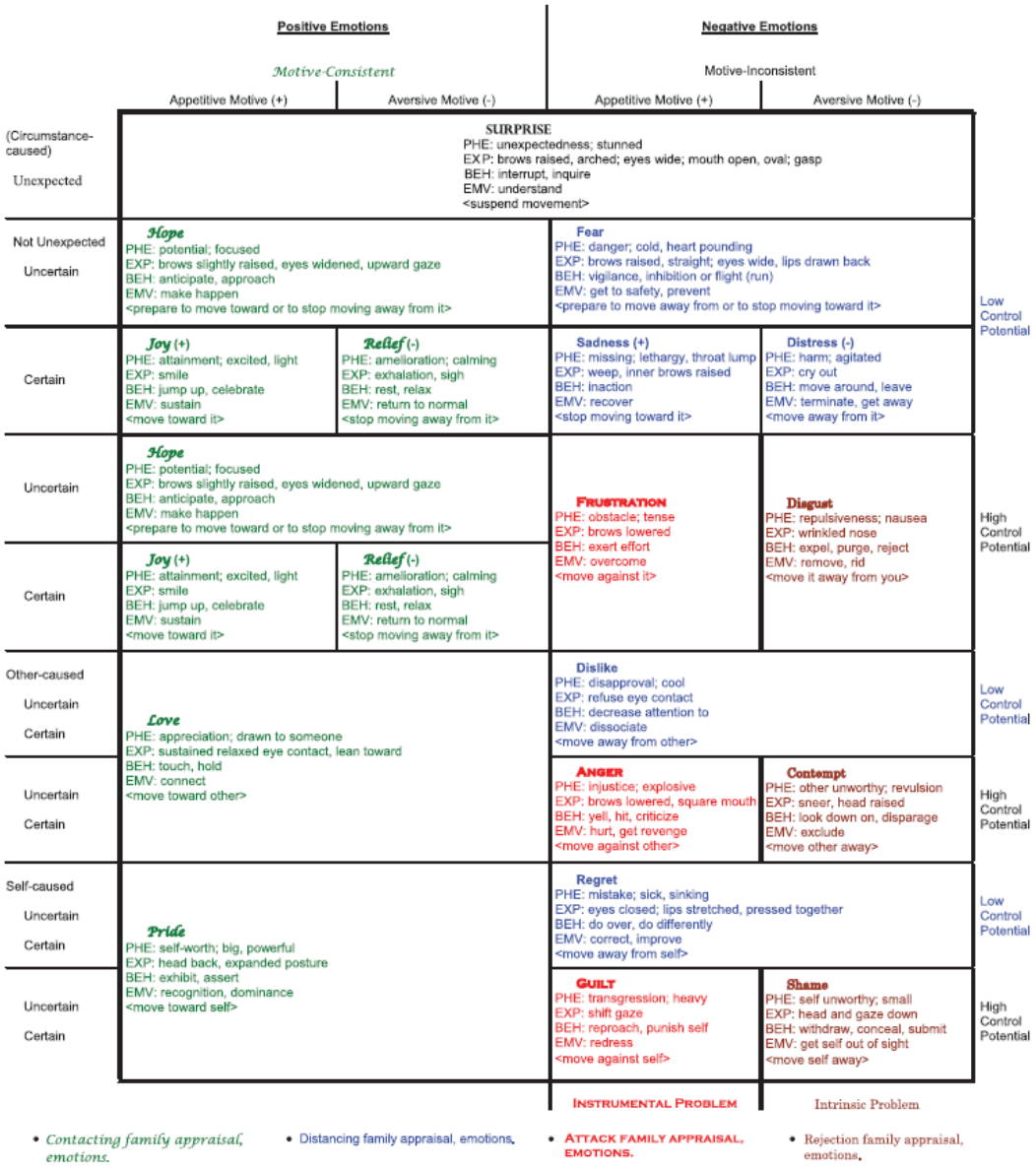
Emotion Appraisal Processes

Prior to discussing the three specific aims of this study, it is first necessary to clarify how we view emotions. This study views emotions as resulting from appraisal processes. Appraisal processes refer to our evaluations of an event. Different evaluations of an event lead to different emotional responses. Several theorists discuss emotions in terms of appraisal processes. For example, Frijda (1988) has proposed several laws pertaining to the elicitation and regulation of emotions. Roseman (1984, 2001) has proposed a model specifying appraisals of events that combine to elicit 17 discrete emotions. Scherer's (1984, 2001) theory specifies four major "stimulus evaluation checks" (some, with multiple subchecks) that are antecedents of emotions. Smith and Kirby (2009) have outlined a three component appraisal theory to explain the elicitation of emotions. There is a good deal of overlap among these theories (see Scherer, Schorr, &

Johnstone, 2001), and the present study focuses on the appraisal theory developed by Roseman (2001, 2011).

According to Roseman (2011), particular emotions are elicited by different combinations of seven appraisals (see Figure 1). Unexpectedness (expected/not unexpected) refers to whether an event is in line with one's

Figure 1: Hypothesized appraisal combinations leading to 17 emotions (Roseman, 2011)



expectations. Situational state (motive-inconsistent/motive-consistent) refers to whether or not the event is wanted by the individual. A motive-inconsistent event would be one that is unwanted and a motive-consistent event would be one that is wanted. Motivational State (aversive/appetitive) refers to whether an event is related to getting less of something painful (aversive) or more of something pleasurable (appetitive). Probability (uncertain/certain) refers to whether the painful/pleasurable element of an event is certain or uncertain. Agency (circumstance/other person/self) refers to what caused the painful/pleasurable event. Control potential (low/high) refers to whether nothing can be done (low), or something can be done (high) about the painful/pleasurable event. Problem type (instrumental/intrinsic) refers to whether or not a motive-inconsistent event is unwanted because it interferes with something you want (instrumental), or because it has a characteristic that is viewed negatively (instrinsic). Problem type is only involved in the development of "attack emotions" (i.e., frustration, anger, and guilt) and "rejection emotions" (disgust, contempt, and shame). Figure 1 shows which combinations of these appraisals are hypothesized to elicit specific emotions. For example, the emotion of distress (of particular importance to this study) is elicited when an event is certain, motive-inconsistent, related to aversive motives (wanting to get rid of or avoid something painful), circumstance-caused (or when causality is not specified or when one's focus is on an outcome rather than its agent), and when there is low control potential (Roseman, 2001). Sadness is elicited by this same set of appraisals except that the event is related to appetitive motives (wanting to get or keep something pleasurable) rather than aversive motives.

Based on this appraisal theory, Roseman and Kaiser (2001) discussed the potential role of several discrete emotions in the development of emotional disorders. Of particular importance to this study is the theorized relationship between suicidal behavior and the emotion of distress. Specifically, Roseman and Kaiser (2001) theorized that distress, with a resulting "emotivational goal" (Roseman, 1984) of terminating aversive stimulation, would be more associated with suicidal behavior than is sadness. In contrast, Roseman and Kaiser (2001) proposed that sadness (associated not with a moving away, but with stopping or lethargy) is linked to Depression and Bipolar Disorder. Testing the hypothesis linking distress rather than sadness to suicidality is the first aim of the present study.

Finally, when this study examines emotions, it will do so in whole and in part. What is meant by this is that we will examine emotion indices (constructed by combining the ratings of the emotion, its hypothesized antecedent motivational state, and its component emotivational goal; see Figure 1) and will also examine the emotions' individual components (i.e., the emotion rating itself, the motivational state rating itself, and the emotivational goal rating itself). Our reasoning for doing this is tied into a debate that is currently ongoing in the emotions literature. The argument that emotions are variable can be attributed to Barrett (2009), who outlined a model, called the *conceptual act model*, by which to explain the variability of emotions. According to Barrett, "[t]here is remarkable variety in emotional life" (Barrett, 2009, *p*. 1284) and the three sources talked about in her model (i.e., sensations from the world, sensations from the body, and prior experience):

> "…are continually variable and form the basic three ingredients of all mental life. Different recipes (the combination and weighting of these three ingredients) produce the myriad of mental events that people give commensense names to, like perception, cognition, and emotion" (Barrett, 2009, *p*. 1300).

Additionally, Roseman (2011) indicates that "many studies show variation across situations, among individuals, or over time in responses thought to be characteristic of particular emotions" but indicates that there is coherence in the functions of emotions (Roseman, 2011, *p*. 435). Finally, Lewis and Liu (2011) concluded their discussion on the emotions debate by stating that "the multiscale processes that give rise to coherent emotional forms are likely to *vary* seamlessly from more normative to more unique constellations" (emphasis added). Due to the possible variability of emotions, including their hypothesized antecedent motivational states and component emotivational goals, we feel it best to examine emotions both as a whole and in part.

Aim 1: *Distress versus Sadness Hypothesis*

The first aim of this study is to examine the theory of Roseman and Kaiser (2001) who hypothesized that distress is more related to suicidal behavior than is sadness. This is reflected in the first hypothesis of this study, the *Distress versus Sadness hypothesis*. The *Distress versus Sadness hypothesis* posits that distress will be more predictive of lethal suicide than will sadness. However, we should stipulate that Roseman and Kaiser (2001) did not hypothesize that distress was associated with lethal suicide over non-lethal suicide, but that it was more related to suicidal behavior than sadness.

Before we continue, however, we should clarify what is meant by the term "suicidal behavior." Suicidal behavior can be both lethal (i.e., suicide) or non-lethal (i.e., attempted suicide). It is defined, for the purposes of this study, as injurious (or potentially

injurious) behavior directed towards the self with the intention of dying as a result of that behavior. Of particular importance is the intention to die, as this separates non-lethal suicidal behavior from non-suicidal self-injury (NSSI), which is self-directed injurious behavior not intended to result in death. From this point forward we use the terms non-lethal suicidal behavior to refer to suicidal behavior that does not result in death and lethal suicidal behavior to refer to suicidal behavior that does result in death. When the term suicidal behavior is used alone we will be referring to both non-lethal and lethal suicidal behavior.

Theoretical Perspectives

Roseman (2002) found that, in remembered events, distress was associated with feelings of wanting to move away from something (more so than sadness), while sadness was associated with feelings of wanting to do nothing (more so than distress). Several suicidologists have theorized that suicide is a moving away action, or a flight response. Shneidman (1993, 1996, 2005) theorized that suicide stemmed from the need to escape from psychological pain (psychache). Psychache developed when particular vital needs (which will be discussed in greater detail later) were deprived, or thwarted. When psychache reached an unbearable threshold, suicide would occur. Baumeister (1990) theorized that suicide was a means of escape from the self. From Baumeister's perspective, the individual begins to focus failures, or perceived failures, inward, making self-awareness painful. This aversive self-awareness leads to negative affect, and suicide occurs as a way of escaping from this aversive self-awareness. O'Connor (2003) showed support for the role of arrested flight in suicidal behavior. Arrested flight refers to the inability to escape from something painful. The suicidal person is in an aversive state,

from which they wish to escape. Finding themselves unable to escape, or rather perceiving that they cannot escape, from this aversive state they turn to suicide. Finally, Baechler (1979) proposed several "types" of suicide, one of which was the "escapist" suicide (Baechler, 1979, *p*. 111). The motivation behind an escapist suicide is to "escape by taking one's own life from a situation sensed by the subject to be intolerable" (Baechler, 1979, *p*. 111).

Empirical Support

While the literature previously reviewed offered theoretical support for the role of distress in suicidal behavior, several empirical studies have also found distress, or similar constructs, present in suicidal behavior. Slee, Garnefski, Spinhoven, and Arensman (2008) investigated cognitive emotion regulation strategies on Depression and deliberate self-harm (DSH) by comparing a sample of women who engaged in DSH and a sample of women who did not. Individuals who engaged in DSH were higher in measures of self-blame and had higher ratings of poor distress tolerance. Distress was measured through the question "when I get this upset it is unbearable" (Slee, et al., 2008, *p*. 277). This definition of distress is similar to that proposed by Roseman (2011) in which the motivation is to avoid an aversive state. Kienhorst, De Wilde, Diekstra, and Wolters (1995) interviewed a sample of suicide attempters investigating the reasons for adolescents' suicides. The most commonly cited reasons for attempting suicide stressed the situation being "unbearable (80%) or impossible (71%), or that the adolescent wanted to stop feeling pain (75%)" (Kienhorst, et al., 1995, *p*. 627). Again these findings support the notion that distress would be vital to suicidal behavior, in that suicidal behavior is

often motivated by the need to escape form a situation that is aversive, or deemed unbearable.

Each of these theories point to suicide being a means of escape from intolerable conditions or from aversive states. Seeking to escaping from psychological pain and pulling away from something painful are both linked to distress (Roseman, 2002). Given this, the hypothesized role of distress in suicidal behavior, put forth by Roseman and Kaiser (2001), is one worthy of further investigation. The first hypothesis of this study, the *Distress versus Sadness hypothesis*, aims to investigate this relationship.

Aim 2: *IPTS Hypothesis*

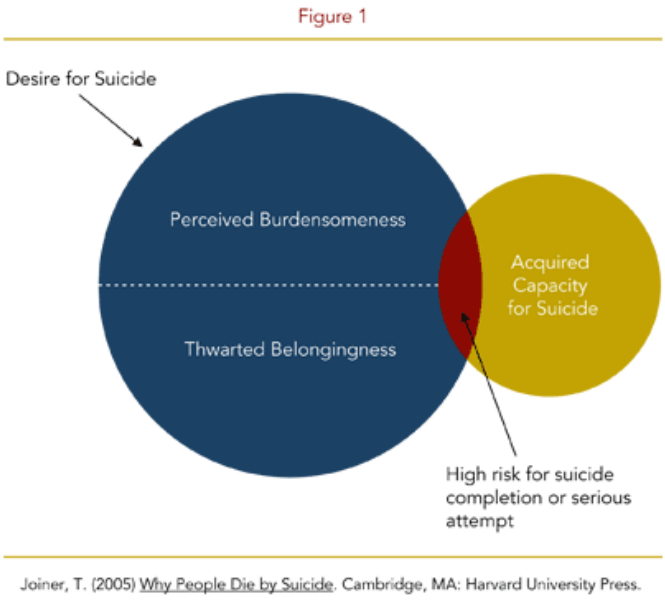
The second aim of this study relates to the needs associated with suicidal behavior. The Interpersonal-Psychological Theory of Suicide (IPTS) theorizes that the presence of three elements lead to the development of suicidal behavior: perceived burdensomeness, thwarted belonging, and the acquired capacity for suicide. Additionally, Shneidman (1996), as previously discussed, theorized that suicide occurs because of the development of psychache, which is a byproduct of thwarted (unfulfilled) needs. The second aim of this study was to investigate both of these claims with the *IPTS hypothesis*. The *IPTS hypothesis* posits that perceived burdensomeness and thwarted belonging will be more predictive of lethal suicide than the Shneidman needs.

Before we begin a discussion of the literature on needs and suicidal behavior, it is first necessary to discuss the differences between the "needs" being investigated and the "wants" also being investigated. What exactly is the difference between these two constructs? As discussed in Roseman (2008), needs refer to motivations (such as the need

for affiliation or the need for achievement) that cause emotions (when fulfilled or unfulfilled), in contrast to “emotivations”, which are goals that people pursue once they are feeling an emotion (such as wanting to be comforted when feeling sadness or wanting to escape from psychological pain when feeling distress). In this thesis, when needs are discussed, they are in relation to the second aim of this study (*IPTS hypothesis)* while "wants" refer to the first aim (*Distress versus Sadness hypothesis*).

A thwarted need to belong and the need to not be a burden on others are two elements of the Interpersonal-Psychological Theory of Suicide (IPTS) proposed by Joiner (2005). The IPTS stipulates that the co-occurrence of three elements lead to suicidal behavior: thwarted belonging, perceived burdensomeness, and the acquired capacity for suicide. Figure 3 illustrates the interaction between these three variables. Thwarted belonging and perceived burdensomeness

Figure 2: Interpersonal-Psychological Theory of Suicidal Behavior (Joiner, 2005)



combine to form the desire for suicide and, when combined with the acquired capacity for suicide, lead to high suicide risk. Several studies have supported the presence of these

variables in suicidal behavior. Joiner, et al. (2002) examined the presence of perceived burdensomeness in suicide notes from attempted and completed suicides. They found that perceived burdensomeness correlated higher with completed suicides than with attempted suicides (r = .33). Additionally, it was found that perceived burdensomeness was more associated with high lethality suicides (e.g., gunshot, jumping) than lower lethality suicides (e.g., drug overdose) (r = .40).

Pettit, et al. (2002) examined a sample of notes from the People's Republic of China once again testing for perceived burdensomeness and its relationship to suicide lethality. Contrary to the findings of Joiner, et al., (2002), Pettit, et al. (2002) found that perceived burdensomeness was negatively correlated with lethality. This finding was attributed by the authors to the lower number of suicide notes in Chinese sample (N=16) when compared to the US sample from Joiner, et al. (2002) (N=40).

Joiner, Hollar, and Van Orden (2006) examined the "pulling together" effect of sports team success on suicide rates. They hypothesized that when sports teams from specific areas are successful they increase the sense of belonging in that area and lead to lower suicide rates through the "pulling together" effect. They looked at suicide rates in relation to NCAA football rankings, Superbowl Sundays, and the "Miracle on Ice." They found that suicide rates correlated with the rankings of college football teams, that Superbowl Sundays had lower suicide rates than other Sundays of those years, and that February 22, 1980 (date of the "Miracle on Ice") had lower suicide rates than any other February 22nd in the 1970s and the 1980s. One limitation the study notes is the use of the "pulling together" effect as a measure of belonging. The authors note in their limitations section that some could argue that the lowered suicide rates occur because the sports

events are “attention-grabbing events” (Joiner, et al., 2006, p. 191). However, the authors feel that because of the previously tested relationship between social disconnection (i.e., thwarted belonging) and suicidal behavior, increased belonging is the most plausible explanation for these lowered suicide rates.

Shneidman (1996) theorized that suicidal behavior occurred because of the psychological pain associated with the deprivation of certain vital needs. These needs are taken directly from Murray (1938). Figure 2 lists the twenty needs from Shneidman (1996). Each of these needs will be examined in the present study.

Figure 3: Needs theorized to be associated with suicide (Shneidman, 1996)

ABASEMENT: The need to submit passively; to belittle self.
ACHIEVEMENT: To accomplish something difficult; to overcome.
AFFILIATION: To adhere to a friend or group; to affiliate.
AGGRESSION: To overcome opposition forcefully; fight, attack.
AUTONOMY: To be independent and free; to shake off restraint.
COUNTERACTION: To make up for loss by restriving; get even.
DEFENDANCE: To vindicate the self against criticism or blame.
DEFERENCE: To admire and support, praise, emulate a superior.
DOMINANCE: To control, influence, and direct others; dominate.
EXHIBITION: To excite, fascinate, amuse, and entertain others.
HARMAVOIDANCE: To avoid pain, injury, illness, and death.
INVIOLACY: To protect the self and one’s psychological space.
NURTURANCE: To feed, help, console, protect, nurture another.
ORDER: To achieve organization and order among things and ideas.
PLAY: To act for fun; to seek pleasure for its own sake.
REJECTION: To exclude, banish, jilt, or expel another person.
SENTIENCE: To seek sensuous, creature-comfort experiences.
SHAME-AVOIDANCE: To avoid humiliation and embarrassment.
SUCCORANCE: To be taken care of; to be loved and succored.
UNDERSTANDING: To know answers; to know the hows and whys

Aim 3: *Other Emotions*

The final aim of this study is to investigate relationships of other emotions to suicide lethality, and their ability to predict lethal suicide. No specific hypotheses are

drawn concerning other emotions, though prior research has investigated the role of specific emotions in suicidal behavior (e.g., anger) and has also theorized about the role of others (e.g., shame).

The role of anger in suicide is most commonly seen in the classical psychoanalytic perspective on suicide. This perspective is what Shneidman (1996) calls "suicide in the 180th degree" (Shneidman, 1996, p. 118). What is meant by this is that suicide is the result of hostility/anger turned inward. Menninger in his book Man against Himself (1938) theorized that three motivations went into a suicidal act: the wish to kill, the wish to be killed, and the wish to die. The wish to kill represents inner directed anger and murderous intent. From Menninger's perspective, murderous intent is directed toward the love-hate figure (typically a parent), but unable to direct this anger externally, the anger is directed at the introjected elements of the love-hate figure within yourself (Menninger, 1938). Additionally, the "wish to be killed" can be seen as being theoretically linked to guilt. The individual feels that they have done wrong and therefore must be punished. Maiuro, O'Sullivan, Michael, and Vitaliano (1989) compared male psychiatric patients who had exhibited assaultive behavior, male psychiatric patients who had exhibited suicidal behavior, and a nonviolent male control group on measures of hostility, depression, guilt, and anger. Hostility was found to be greater in the assaultive and suicidal group than in the nonviolent group. Lehnert, Overholser, and Spirito (1994) examined the role of internalized and externalized anger in adolescent suicidal behavior. Comparing adolescent suicide attempters and high school students, they found that adolescent suicide attempters had an increased likelihood of experiencing anger, exhibiting aggressive outbursts, and had higher levels of internalized anger.

Suicide has also been linked to shame in several theoretical papers. Lansky (1991) looked at the role of shame in suicidal behavior from a Family Systems perspective. Lansky theorizes that shame is the "premonitory danger signal and the catastrophic end-stage of narcissistic wounding" (Lansky, 1991, *p.* 230). Further, he goes on to suggest that shame and "not guilt, depression, anger, stress or unspecified psychic pain" is the most important emotion for the clinician to focus on when handling suicidal clients (Lansky, 1991, *p.* 231). In fact, he takes it a step further and theorizes that the other emotions (depression, guilt, psychic pain, anger) are of little importance to the suicidal act and even hypothesizes that anger associated with suicidal behavior can be attributed to rage felt as a result of pervasive shame. This study's evaluation of the 17 emotions of the Appraisal Theory will, in part, put this claim to the test. Shreve and Kunkel (1991) looked at the role of shame in adolescent suicide from a self-psychology perspective. From their perspective suicide occurs when one tries to escape from pervasive shame.

Mokros (1995) views shame as an experience of "acute self-awareness in relation to social others" (Mokros, 1995, *p.* 1095). From this perspective, suicidal acts are a solution to "pathological shame" and stem from despair over the loss of a "sense of social place" (Mokros, 1995, *p.* 1096). Lester (1997) explored the differences between shame and guilt and their role in suicidal behavior. This paper differentiates shame and guilt by their focus. Guilt is focused on a specific action (and the regret associated with it) whereas shame is focused on the self. Several populations are listed as being prone to shame suicides, such as adolescents and prisoners. An example of a shame suicide is given in Kalafat and Lester (2000) which evaluates the case study of a young woman who had survived WWII. Upon the death of her husband, the young woman went through

the grief processes without complication. However, when it became clear (through letters she found) that her husband had had an affair and the whole town had known about it (except her) she made a suicide attempt. The authors conclude that her suicide attempt was the result of the shame she felt over the affair and, more specifically, the fact that she was the last to become aware of the affair. Trumbull (2003) viewed shame as a stress response to a negative view of the self from another person's perspective. The researchers link suicidal behavior (and other pathologies) to prolonged exposure to shame. Finally, Diedrich and Warelow (2002) make the claim that fear, isolation, guilt, failure and shame, sadness, hopelessness, loss, anger, and despair are linked to suicidal behavior, but offer no empirical evidence of this.

As can be seen, several theorists (i.e., Lansky, 1991) claim that one emotion plays a more significant role in suicidal behavior (i.e., shame) than others, while some (i.e., Diedrich and Warelow, 2002) cite several emotions (i.e., guilt, shame, sadness, anger...) as being vital to the development of suicidal behavior. For the present study, it is not proposed that any emotion is more predictive of suicidal behavior over all others, but rather that distress will be more predictive of suicidal behavior than will sadness. Other emotions will be measured (e.g., shame, guilt, anger...) but no hypotheses will be drawn on the importance of these emotions as predictors of suicidal behavior. The role of several of these emotions (namely anger and shame), if found to be significant predictors of suicidal behavior, would give support for the aforementioned theories. Therefore, the findings of this study could in fact lend empirical support to a plethora of theories concerning the role of certain emotions in suicidal behavior.

Hendin and Haas (1991) investigated the link between suicide and guilt in a sample of combat veterans meeting DSM-III criteria for Posttraumatic Stress Disorder (PTSD). Combat-related guilt was consistently found to be associated with the veterans' post-service suicidal behavior. Kotler, et al., (1993) compared a sample of suicidal psychiatric patients with nonsuicidal psychiatric patients on measures of suicide risk, violence risk, impulsivity, feelings of anger, social support, and eight coping styles. Of interest to this study was the finding that anger significantly distinguished the suicidal group from the nonsuicidal group and that anger was correlated with ratings of suicide risk. Additionally, social support was negatively correlated with suicidal behavior, lending support for the role of thwarted belonging in suicidal behavior, as will be discussed later. Goldney, Winefield, Saebel, Winefield, and Tiggeman (1997) compared anger and suicidal ideation ratings from a large sample of college students. They found that there was a statistically significant association between anger with oneself and the development of suicidal ideation.

Most of these theoretical perspectives and empirical findings examined only a few emotions and their role in suicidal behavior, whereas the proposed study will examine all emotions of the emotion theory put forth by Roseman (2001). Findings were supportive of the role of certain emotions in suicidal behavior (e.g., shame and anger) but were not conclusive for others (e.g., guilt). One limitation of all the studies examined was the focus on negative emotions. Though it may seem contrary to expectations, Lester (2004), in examining the diary of a young woman who died by suicide over time with the LIWC, found that there was a decrease in negative emotions and an increase in positive emotions up until the time of her death. Lester (2009) found a similar trend in examining the diary

of Cesare Pavese using the LIWC. For this reason, and to fully test the emotions of Roseman's theory, both positive and negative emotions will be examined.

Implications of Research

Paulson and Worth (2002) examined previously suicidal clients to determine what techniques were useful in overcoming their suicidal thoughts and behaviors. One technique found to be effective was to work with the emotions associated with their suicidal behavior. Of interest to the present study were the emotional needs to feel loved, to express their anger, the fear of being violated, and the resolution of despair and hopelessness. Specifically, the resolution of despair and hopelessness were pivotal to the alleviation of the suicidal behavior. Therefore, understanding what emotions are predictive of suicidal behavior could allow for better therapeutic techniques to be developed and the development of better screening techniques for suicidal intent.

Furthermore, understanding the needs associated with suicidal behavior has its own therapeutic implications. Shneidman (2005) laid out a psychotherapy based on identifying the psychological needs being deprived in suicidal clients. Anodyne psychotherapy focuses on the psychological needs laid out by Shneidman's (1996) theory. Through identifying the vital need(s) being deprived and working towards fulfilling that need(s), psychache can be lowered and with it suicide risk. Furthermore, Stellrecht, et al., (2006), working from the IPTS, suggests several clinical applications. They suggest working towards increasing a sense of belonging in the patient through the therapeutic relationship in order to lower suicide risk. Additionally, they also suggest using Cognitive Behavioral Techniques to deal with the feelings of thwarted belonging and perceived burdensomeness, which are often cognitive distortions.

Use of Suicide Notes

The use of suicide notes in research has a long history. The most well known early study was Shneidman and Farberow (1956), while more recent studies include Joiner et al., (2002) and Pettit et al., (2002). Joiner et al., (2002) examined perceived burdensomeness in the same sample of notes we are using (40 notes; 20 from attempted suicides, 20 from completed suicides), however, our study will compare the needs of the IPTS (i.e., thwarted belonging and perceived burdensomeness) with the needs of Shneidman's theory (e.g., affiliation, achievement). Pettit et al. (2002) used 16 notes of completed suicides from the Peoples Republic of China to compare perceived burdensomeness and lethality. Additionally, suicide notes have been analyzed using the LIWC. However, those studies utilized the standard dictionary of the LIWC which does not distinguish between specific emotions (distress versus sadness) but rather between emotions in general (positive versus negative).

There are several gaps in the literature that this study wishes to address. First, the hypothesis of Roseman and Kaiser (2001) is a currently untested hypothesis. This study will be the first attempt to assess whether there is support for their theory regarding the relationship between distress, sadness, and suicidal behavior. Second, while previous research has utilized the LIWC to analyze suicide notes, none have examined specific emotions (e.g., distress, sadness, anger), but rather have relied on the general categories of positive versus negative emotions. This study will use a newly developed dictionary (discussed below) to examine the specific emotion terms within the notes. Finally, while the needs of the IPTS have received some support in the literature, none have examined the needs of this theory together with the needs of other theories, but have rather

examined them alone. This study will compare ratings on thwarted belonging and perceived burdensomeness with all the needs of Shneidman's (1993, 1996, 2005) theory.

The three aims of this study revolve around determining what emotions and needs are predictive of suicidal behavior, and in so doing, pave the way for further research in these areas. Any increase in the knowledge of suicide predictors could ultimately lead to the development of better measures to determine suicide risk in patients and therefore increase the efficacy of therapeutic practices geared towards preventing and treating suicidal patients. Furthermore, a better understanding of the specific emotions involved in suicidal behavior may lead to the development of better therapeutic practices that target these key emotions.

Methods

Participants

Suicide Notes' Authors. The forty notes analyzed in this study were collected by a police officer from a town in Arizona and given to Dr. David Lester of The Richard Stockton College of New Jersey. Two notes were discarded from the final analysis, as the writers of these notes made no suicide attempt. The mean age for the full sample was 35.7 (*SD*=16.2), with the twenty completed suicides having a mean age of 37.4 (*SD*=14.3) and the twenty attempted suicides having a mean age of 35.8 (*SD*=16.7). There were 21 females and 19 males in the full sample, 20 females and 18 males in the final sample after the exclusion of the two no-attempt notes. No data were collected on ethnicity. Data on method of suicide were available for a majority of the notes (87.5 %). Of the forty note-writers, 15 used a gun (39.5%), 8 used pills (21.1%), 5 used unknown methods (13.2%), 4 used hanging (10.5%), 2 used a razor (5.3%), 1 used car exhaust (2.6%), 1 drank Drano and cut their wrists (2.6%), 1 used the smoke from a charcoal fire in an enclosed space (2.6%), and 1 used a car wreck (2.6%). Prior research has been published using this sample (Joiner et al., 2002; Pettit et al., 2002; Handelman & Lester, 2007).

Graduate Student Raters. Two students were selected from the graduate program in psychology at Rutgers, The State University of New Jersey (Camden Campus), to serve as raters. Both students were recruited via an email sent to the first-year graduate students explaining the opportunity to partake in the study for a small monetary incentive (a $50 gift-card for each rater). First-year graduate students were

selected for their lack of knowledge concerning the hypotheses of the study. Though undergraduate students could just as easily have been used, we choose to use graduate students because we felt they would take the assignment more seriously (being more professional and dedicated to a career in psychology) and would rate more consistently (due to more experience with psychological studies). Graduate students have been used as raters for suicide notes in prior research (e.g., Joiner et al., 2002). Raters were blind to the conditions of the study (i.e., they did not know what the hypothesis being tested was) and were also kept blind to which notes were written by non-lethal suicides and which by lethal suicides. By keeping the raters blind to the specific goals of the study we hoped to limit the likelihood of biasing the ratings. We felt two raters were enough, as previous research has utilized two raters when working with suicide notes (Leenaars, DeWilde, Wenckstern, & Kral, 2001; Gunn, Lester, Haines, & Williams, 2012). Raters were Caucasian, one female, one male, and both were 24 years of age.

Materials

Rating Instrument. The rating instrument for this study was adapted from: Shneidman's Psychological Pain Assessment Scale (Shneidman, 1996, 1999), a distress questionnaire designed to study appraisal determinants of emotions (Sulik, Roseman, & Jose, 2009), the current version of Roseman's (2011) theory of emotion-eliciting appraisals and emotional responses (see Figure 1), and the criteria used to assess thwarted belonging and perceived burdensomeness in Gunn, Lester, Haines, and Williams (in press). Leenaars and Lester (2004/2005) found that Shneidman's Psychological Pain Assessment Scale (PPAS) had good test-retest reliability and modest validity. However, initial pilot testing of the PPAS section of the rating scale revealed that raters would rate

simply the degree to which the need was present. This scale is meant to test the degree to which these needs are being thwarted, or unfulfilled, and therefore the words "as thwarted" were added to the end of every item (see Appendix D). Our pilot testers indicated that this made the rating process easier and reminded them that the presence of the need was not enough--scoring was based on the need being thwarted. This change was therefore made to the wording of the PPAS in order to make the scale better suited to be used for rating the suicide notes. The other scales have been used previously in published research.

The instrument was divided into five parts. Raters indicated which note they were rating in the upper corner of the questionnaire. Then Part 1 asked raters to rate to what degree the note implied the author was feeling each of the 17 emotions from Roseman (2011). First raters indicated this by rating each of the 17 emotions (see Figure 1) on a 1-5 Likert scale (1 = not at all, 2 = a little, 3 = moderately, 4 = quite a bit, 5 = extremely). Then raters indicated which one of the emotion terms best described the emotion that the author of the note was feeling most intensely. This could then be used in the case of a tie between two or more emotions for the highest rating.

Part 2 asked raters to rate to what degree the note implied that the author was experiencing each of the wants examined in this study (See Appendix D). As with Part 1, raters indicated this on the same 1-5 Likert scale and by indicating which one of the want terms best described what the author of the note was experiencing most intensely.

Part 3 asked raters to rate to what degree the note implied that the author was experiencing each of the Shneidman needs (see Figure 2) examined in this study. As with Part 1 and Part 2, raters indicated this on the same 1-5 Likert scale and by indicating

which one of the need terms from the list best described what the author of the note was experiencing most intensely.

Part 4 asked the raters to rate to what degree the note implied the authors were experiencing a sense of thwarted belonging and to what degree the authors perceived themselves to be a burden on others. As with Part 1, Part 2, and Part 3, raters indicated this on the same 1-5 Likert scale.

Finally, Part 5 had raters indicate what the first three words of the note were and what the last three words in the note were. This, along with the suicide note code on the upper corner of the rating scale, was used to verify what note the raters rated.

Linguistic Inquiry and Word Count (LIWC). The LIWC was developed by Pennebaker, Francis, and Booth (2001) for the purpose of examining written text word-by-word. The program can count pronouns (e.g., "I", "Me"), emotional words (negative versus positive), and particular words (e.g., "death"). Aside from the basic dictionary developed by Pennebaker, et al. (2001), the program allows for researchers to develop their own dictionaries.

For the purposes of this study, two emotion dictionaries (see Appendix E and F) were initially developed based on the findings of Shaver, Schwartz, Kirson, and O'Connor (1987). Shaver et al. (1987) examined what key concepts clustered and based their emotion categories off of these clusters. The first dictionary was based on the model outlined in this article in which emotion words scoring 2.75 or higher on a 1-4 Likert Scale ("1 = I definitely would not call this an emotion…4 = I definitely would call this an emotion"; Shaver et al., *p*. 1066) were categorized via cluster analysis into specific emotion categories. The second dictionary was an exploratory one, incorporating the

emotions word that scored between 2.0 and 2.74 on the same 1-4 Likert Scale. It was thought necessary to utilize the exploratory dictionary as well as the conservative dictionary to analyze the notes, because with the conservative dictionary, some emotion words that are likely to appear in suicide notes will be excluded from the analysis (e.g., despondency, 2.73; surprise, 2.69; exhaustion, 2.19). However, after initial testing we found that of the words that were to be added, only one appeared and it appeared once. For this reason the exploratory dictionary was not used.

One limitation to the use of the LIWC is that it cannot account for words directed at the self versus words directed at others. For example, if an individual writes "I hate you" the word hate would be counted for the presence of anger, just as it would if they had written "She hates me." In order to overcome this problem, the researchers searched the notes for each of the key words in the developed LIWC dictionary and replaced these words referring to the emotions of others with a specific code. In order to illustrate this, consider the word adoration. In instances when this word is used in reference to another person's experiencing it, it was recoded as XXXX. This allowed the computer program to filter this word out of the general love category that adoration falls into.

Though the raters were the main means of evaluating the notes for emotional content, given the vague nature of many of the notes and the LIWC's inability to interpret what the author is saying, the LIWC allowed for an analysis to be performed that was not be limited by interrater variability. Furthermore, if the findings of the LIWC analysis coincide with the ratings, stronger evidence would be found for testing the Distress versus Sadness Hypothesis. However, due to the rather vague nature of most suicide notes, we considered the ratings to be the more accurate of the two techniques. Merely

looking at the specific words in the notes limits us in our understanding of the notes, because meaning is derived in part from the world knowledge of those reading them. Take for example the following statement drawn from a suicide note: "[i]f I haven't the love that I want so bad there is nothing left" (Shneidman, 1996, *p*. 14). The LIWC program would indicate that the only emotion in this statement is love; however a human rater may indicate frustration, as this is implied by the statement. Therefore, the LIWC analysis is meant as a more conservative supplement to the ratings.

Measures

Distress. In an attempt to increase the accuracy of ratings for distress, several questions in different parts of the questionnaire given to raters were used to measure distress. Part 1, question 1 is "To what degree does the note imply that (at the time the author wrote the note) the author was feeling each of the following emotions?" Ratings on item Q of question 1 (i.e., "distress (emotional pain)") is the first distress rating on a 1 to 5 point Likert scale. Part 2, question 4 is "To what degree does the note imply that (at the time the author wrote the note) the author was experiencing each of the following wants?" Ratings on item B (i.e., "wanting to get rid of or avoid something painful") and item E (i.e., "wanting to escape from psychological pain") of this question each yielded an additional distress score on a 1 to 5 point Likert scale. As noted earlier, because of the unresolved controversy over whether emotions are coherent entities across instances, distress ratings were examined both individually and combined. A combined distress index was calculated by averaging the ratings on these three items, which yielded a score between 1and 5.

Sadness. Sadness was measured in a similar way to the measurement of distress. The first sadness rating was obtained in Part 1 of the rating scale on question 1, item B (i.e., "sadness"). In Part 2, question 4, items A (i.e., "wanting to be comforted") and C (i.e., "wanting to get or keep something pleasurable") yielded two additional sadness ratings. Each of these items was rated on a 1-5 Likert scale. As with distress, sadness ratings were examined individually and combined. A combined sadness index was calculated by averaging the ratings on these three items, which yielded a score between 1 and 5.

Burdensomeness and Thwarted Belonging. Part 4 of the rating scale measured thwarted belonging and perceived burdensomeness through questions 10 ("To what degree does the note imply that (at the time the author wrote the note) the author was experiencing a thwarted need to be in a relationship with someone"), 11 ("to what degree does the note imply that (at the time the author wrote the note) the author was experiencing a feeling of being disconnected from others"), 12 ("to what degree does the note imply that (at the time the author wrote the note) the author was experiencing a feeling of isolation from other people"), 13 ("to what degree does the note imply that (at the time the author wrote the note) the author was attributing his or her suicidal behavior to the recent loss of someone important"), 14 ("to what degree does the note imply that (at the time the author wrote the note) the author felt he or she was a burden on others") and 15 ("to what degree does the note imply that (at the time the author wrote the note) he or she felt that others would be better off without the author").These questions were rated on a 1-5 Likert Scale (1 = not at all, 2 = a little, 3 = moderately, 4 = quite a bit, 5 = extremely). These questions were based on the criteria used in Gunn, Lester, Haines, and

Williams (in press) to assess thwarted belonging and perceived burdensomeness in a large sample (*N*=261) of Australian suicide notes. A combined IPTS Index was calculated by taking the perceived burdensomeness index and multiplying it by the thwarted belonging index. By multiplying both averages together, an interaction score was created which was compared to the Shneidman needs. This was done, as Joiner's theory stipulates that both perceived burdensomeness and thwarted belonging must be present to create the motivation for suicide. However, the burdensomeness index and thwarted belonging index, as well as the individual items comprising these Indices, were also compared to the Shneidman needs.

Shneidman Needs. Part 3 of the rating scale was used to measure the Shneidman needs. Raters were asked "to what degree does the note imply that (at the time the author wrote the note) the author was experiencing each of the following needs as being thwarted (unfulfilled)?" For example, item A ("...to achieve difficult goals as thwarted") is used to measure achievement, item C ("...the need to belong or be affiliated as thwarted") measures affiliation, and item D ("...the need to overcome opposition as thwarted") measures aggression (See Figure 2 and the Appendix D). The Shneidman Needs Index was calculated by dividing the sum of these scores by the number answered by the raters. However, the Shneidman Needs Index was compared to the IPTS Indices and items both in their combined form and individually as well, as some needs may be more vital to understanding suicidal behavior than others.

Procedure

Due to the large number of notes (40), and ratings for each note (67) the rating process was done over the span of one school week (Monday-Friday). Raters were

compensated for their time with a $50 Gift Card. Each session was approximately two hours long. Monday's session was devoted to the training of the raters. Here raters were introduced to the rating scales and were given the opportunity to ask questions and comment on the rating process. In addition to this, raters also rated training notes in order to increase their accuracy. The training notes that were used were actual suicide notes from Leenaars (1988). The researcher's role in the training process was to walk the raters through the rating process and introduce them to the rating scales. The researcher was also expected to moderate the discussions; however discrepancies in the ratings were discussed and resolved by the raters themselves. The researcher only intervened in discussing these discrepancies when absolutely necessary (e.g., when no agreement could be reached). Tuesday's session moved on to the study's genuine notes where notes 01-10 were rated. Wednesday through Friday's sessions were dedicated to finishing the 30 notes remaining (notes 11-40).

During these sessions, raters were given copies of the forty non-lethal and lethal suicide notes along with forty copies of the rating instrument. The notes were presented in a randomized order (i.e., non-lethal and lethal notes were intermixed) that was the same for each rater. Each suicide note had a unique code ranging 01-40, so that the raters could indicate on the first page of the rating scale which note they rated. Raters were asked to read through the suicide notes carefully, and were also informed that they could look back at the notes at anytime throughout the rating process (see Appendix C for exact instructions). It was hoped that this would increase the accuracy of the ratings, as raters would not be forced to rely solely on their memory of what was read. Raters were told

that once they had read through a note, they were told to progress through the emotions, wants, needs, and other questions of the rating scale (Parts 1-5).

Following the rating sessions, inter-rater reliability was assessed using Krippendorf's alpha. While several methods were available for assessing inter-rater reliability, Krippendorf's alpha was determined to be the best, as it is effective for use with relatively small sample sizes and because, unlike correlational techniques, it looks at 1 to 1 agreement not simply relative agreement (e.g., ratings of 1, 1, 2, 4, 2 and 2, 2, 1, 3, 1 are of high agreement using correlational techniques, but not utilizing Krippendorf's alpha). The use of correlations to examine inter-rater reliability was explored briefly. This showed stronger agreement than the Krippendorf's alpha, as is to be expected. However the correlations, which ranged between -.10 and .82 (with a median of .41) were still not within acceptable ranges for the majority of the items. Table 1 shows the results of the Krippendorf's alpha analyses.

Table 1:
Results of Krippendorf's Alpha Assessment of Inter-Rater Agreement

Variable Name	α	95% C.I.	
		Lower	Upper
Joy	.41	-.05	.81
Sadness	.27	.01	.52
Regret	.71*	.51	.85
Relief	.07	-.23	.35
Fear	.58	.28	.84
Pride	.34	-.20	.80
Hope	-.01	-.40	.36
Anger	.39	.03	.74
Contempt	.50	.27	.71
Guilt	.42	.14	.68
Frustration	.47	.27	.65
Shame	.45	.12	.74
Disgust	.42	.02	.77
Affection	.63	.44	.79
Dislike	.48	.11	.80
Distress	.38	-.01	.67
Wanting to be comforted	.21	-.13	.51
Wanting to get rid of (or avoid) something painful	.10	-.24	.39
Wanting to get (or keep) something pleasurable	.06	-.30	.40
Wanting to be protected	.22	-.22	.62
Wanting to escape from psychological pain	.50	.23	.71
Wanting to be far away from someone	.25	-.14	.61
Wanting to get a repugnant object, quality, or person away from the self	.28	-.01	.54
Wanting to overcome some obstacle	.18	-.15	.45

Wanting to show that another person had undesirable qualities	.41	.02	.77
Wanting to be forgiven	.52	.30	.70
Wanting to hide something about himself or herself	.41	-.01	.76
Wanting to get back at someone	.33	-.16	.73
Wanting to get a second chance at something	.33	.01	.62
Wanting to keep the good times coming	.23	-.28	.68
Wanting to return to normal	.26	-.09	.56
Wanting to get recognition	.10	-.33	.49
Wanting what he or she was thinking of to happen	.37	.07	.62
Wanting to figure out something that was unexpected	-.10	-.82	.57
Wanting to be connected to someone	.51	.26	.72
The need to achieve difficult goals as thwarted	.15	-.19	.48
The need to be loved by another person as thwarted	.70*	.48	.89
The need to belong or to be affiliated as thwarted	.51	.21	.77
The need to overcome opposition as thwarted	.11	-.21	.39
The need to be free of social confinement as thwarted	-.02	-.51	.45
The need to make up for past failures as thwarted	.54	.32	.75
The need to defend the self against others as thwarted	-.11	-.46	.23
The need to influence and control others as thwarted	.36	-.03	.72
The need to receive attention from others as thwarted	.34	-.02	.65
The need to avoid pain or injury as thwarted	.29	-.01	.55
The need to avoid shame or humiliation as thwarted	.32	-.07	.68
The need to protect the author's psychological space as thwarted	.05	-.29	.37
The need to nurture or take care of another person as thwarted	.32	.03	.58
The need to keep things or ideas in good order as thwarted	.23	-.10	.54
The need to enjoy sensuous experiences as thwarted	-.02	-.53	.44
The need to be taken care of by another person as thwarted	.52	.22	.78
The need to understand certain hows and whys as thwarted	.41	.10	.68

The need to belittle the self as thwarted	-.21	-.74	.29
The need to admire, support, or emulate a superior as thwarted	.00	-1.00	.00
The need to act for fun as thwarted	.25	-.19	.66
The need to exclude, banish, jilt or expel another person as thwarted	.22	-.42	.75
The author was experiencing a thwarted need to be in a relationship with someone	.74*	.56	.90
The author was experiencing a feeling of being disconnected from others	.43	.14	.67
The author was experiencing a feeling of isolation from other people	.27	-.06	.59
The author was experiencing a feeling of isolation from other people	.57	.17	.90
The author felt he or she was a burden on others	.78*	.63	.91
He or she felt that others would be better off without the author	.54	.26	.79

*indicates acceptable levels of inter-rater agreement

As can be seen, across the whole of the questionnaire there was insufficient agreement (as measured against a criterion of alpha = .70 or higher). Due to this, it was necessary to meet again and resolve all discrepancies across the ratings. There were a total of 1,016 disagreements out of a total of 2,520 responses across all 40 notes. A large number of these disagreements were merely single number differences along the scale; however there were a surprising number of differences that exceeded one scale point. Of the 1,016 disagreements, 262 (25.7%) occurred in the emotions sub-scale, 311 (30.6%) occurred in the wants sub-scale, 335 (33.0%) occurred in the needs sub-scale, and 108 (10.7%) occurred in the IPTS sub-scale. Of those disagreements that occurred in the 17-item emotions sub-scale, 25 (9.5%) were related to sadness and 26 (9.9%) were related to distress. The mean correlation among the emotion items was .46 (*SD*=.20), among the want items was .37 (*SD*=.22), among the Shneidman need items was .42 (*SD*=.19), and among the IPTS need items was .64 (*SD*=.18). While observing the discrepancy session,

it became clear that Rater A was more conservative (i.e., based ratings on specific wording of the notes) in his/her ratings while Rater B was much more liberal (i.e., was willing to infer more). It was hoped that the training session would resolve this sort of issue, but the single day of training may not have been sufficient to deal with this problem. Both raters and the researcher met again, two weeks after the conclusion of the original rating session, and went through each rating scale and its corresponding note in the same order they had originally rated them in three two-hour sessions. As with the initial training session, raters were asked to discuss their discrepancies amongst themselves and resolve them. The researcher adjudicated disagreements only when no resolution could be reached between both raters. Of the 1,016 disagreements that were resolved, 620 (61.0%) of the ratings were changed in favor of Rater A, 314 (30.9%) in favor of Rater B, 74 (7.3%) changed by both raters, and 8 (0.79%) resolved by the researcher. The resolution process typically began with each rater (starting with the one with the highest rating) explaining the rationale for the rating he or she gave. The vast majority of the time, one rater would then concede to the argument of the other, but several times both decided their ratings were not justified. Only rarely was the researcher needed adjudicate disagreements.

In addition to the ratings obtained from the two graduate student raters, the Linguistic Inquiry and Word Count (LIWC) was used to further evaluate the notes in order to independently test the *Distress versus Sadness hypothesis*. For the purposes of this study, an emotions' dictionary was created using key words associated with each emotion (see Appendix E for specific words). As discussed earlier, the words used in this analysis were based on the cluster analysis of emotion terms in Shaver et al. (1987).

Shaver et al. (1987) was chosen as it represented the most comprehensive examination of emotion terms to date and was based on empirically clustering the terms. Once this was done, LIWC analyses examined the percentages of the emotions within the sample.

Statistical Analysis

Several statistical techniques were utilized to investigate the three aims of this study. However, prior to a discussion regarding the specific aims and the statistical techniques used to evaluate them, it is important to note that the internal consistency of the rating instrument was evaluated and the results of this evaluation will be further discussed in the results section. All analyses were done using IBM SPSS Statistics 19, including the investigation of inter-rater reliability. While SPSS does not have the option to run Krippendorf's alpha, macros were obtained for the purposes of assessing inter-rater reliability from an online source (http://www.afhayes.com/).

Several of the analyses involved the removal of predictors that had very high *p* values. In order to be consistent throughout, the cutoff for the removal of a predictor was if the *p* value exceeded .35. This cutoff allowed us to remove predictors from the models that were highly unrelated to suicide lethality, and thereby afforded us the clearest picture of what was predictive of suicide lethality. Additionally, the emotions were examined both in their combined indices and broken down into their individual components (e.g., emotion rating, motivational basis rating, emotivational goal rating). Justification for this can be seen in the literature review where the current debate in the field of emotions is outlined concerning the coherence vs. variability of emotions.

Aim 1: *Distress versus Sadness Hypothesis*

Rater Analyses. The first analyses performed were Pearson correlations which examined the relationships between the emotions and lethality, the wants (i.e., motivational states and emotivational goals of the emotions) and lethality, and finally between the wants and the emotions. Following this, several logistic regressions were run to test the *Distress versus Sadness hypothesis*.

The first logistic regression examined the ability of the sadness and distress indices to predict suicide lethality. These indices were calculated by averaging the responses on the three items measuring distress and the three items measuring sadness. In order to support the *Distress versus Sadness hypothesis*, the distress index would have to be predictive of suicide lethality and also be more predictive of suicide lethality than the sadness index. A finding that the sadness index was more predictive or equally predictive of suicide lethality would not support this hypothesis.

Following this, the individual distress and sadness items were entered into a logistic regression predicting lethality. In order to support the *Distress versus Sadness hypothesis*, the distress item would have to be predictive of suicide lethality, and be more predictive of suicide lethality than the sadness item. If the sadness item were found to be more, or equally, predictive of suicide lethality than distress, than the hypothesis would not be supported.

In the third logistic regression, the emotivational goals and motivational states of sadness and distress were entered into a logistic regression predicting lethality. In order to support the *Distress versus Sadness hypothesis*, the emotivational goal (i.e., wanting to escape from psychological pain) and/or the motivational state (i.e., wanting to get away from (or avoid) something painful) of distress would have to be predictive of suicide

lethality and would have to be more predictive of suicide lethality than sadness' emotivational goal (i.e., wanting to be comforted) and motivational state (i.e., wanting to get (or keep) something pleasurable). If either sadness' emotivational goal or motivational state were more predictive of either distress' emotivational goal or motivational state, than the hypothesis would not be supported.

In the fourth logistic regression, the motivational state and the emotivational goal of distress and the lethality of the method used were entered into a logistic regression predicting suicide lethality. Here we were assessing the potential influence of the pain associated with more lethal methods on the motivational state of distress (i.e., wanting to get away from (or avoid) something painful).

In the final logistic regression testing the *Distress versus Sadness hypothesis* from the ratings of the suicide notes, all distress and sadness items were entered into a logistic regression predicting suicide lethality. In order for the hypothesis to be supported, the distress items would have to be significant predictors of lethality and would have to be more predictive of suicide lethality than any of the sadness items.

LIWC Analyses. The first analyses performed were Pearson correlations among the emotion term categories and suicide lethality. Support for the hypothesis would be shown if distress' emotion term category (the total % of all terms representing distress, see Appendix E) was positively related to lethality and had a stronger relationship to lethality than sadness' emotion term category.

After this, distress' emotion term category and sadness' emotion term category were entered into a logistic regression predicting lethality. In order for support to be shown for the *Distress versus Sadness hypothesis*, distress' emotion term category would

have to be predictive of lethality and would have to be more predictive of lethality than sadness' emotion term category.

Finally, the single emotion term thought to represent distress in Roseman's 2011 theory (i.e., "suffering"; Roseman, personal correspondence, April, 2012) and the single emotion term that best represented sadness (i.e., "sadness") were entered into a logistic regression predicting lethality. If the term suffering was found to be predictive of lethality, and was found to be more predictive of lethality than sadness, than support would be shown for the *Distress versus Sadness hypothesis*.

Aim 2: *IPTS Hypothesis*

Rater analyses. The first analysis that examined the *IPTS hypothesis* were Pearson correlations between all the needs (both IPTS needs and Shneidman needs) and suicide lethality. Findings that would support the *IPTS hypothesis* would be if the IPTS needs were positively related to suicide lethality and were more strongly related to lethality than were the Shneidman needs. Following this analysis, a series of logistic regressions were run to test the *IPTS hypothesis* more precisely.

The first logistic regression compared the IPTS Needs Index (the interaction score obtained by multiplying the Perceived Burdensomeness index by the Thwarted Belonging index) with the average of all the Shneidman needs. Finding that the IPTS Needs Index was a significant predictor of lethality, and finding that it was a more predictive of lethality than the average of all the Shneidman needs would support the *IPTS hypothesis*.

The second logistic regression examined how predictive of lethality the Perceived Burdensomeness Index (the average of the perceived burdensomeness items) and the Thwarted Belonging Index (the average of the thwarted belonging index) were. This was

done in order to determine if some components of the IPTS are more predictive of lethality than others. The Perceived Burdensomeness Index and the Thwarted Belonging Index were entered into a logistic regression predicting lethality. If both indices were predictive of lethality, support would be shown for the *IPTS hypothesis,* if only one was found to be predictive of lethality, partial support would be shown for the hypothesis, and if neither was a significant predictor of lethality, no support would be shown.

The third logistic regression examined the ability of the individual IPTS items to predict suicide lethality. Here each individual item measuring thwarted belonging and perceived burdensomeness were entered into the logistic regression predicting suicide lethality. This was done in order to assess if particular items used to measure the IPTS needs were more predictive of lethality than others. If all the items were found to be predictive of lethality, support would be shown for the *IPTS hypothesis,* if some of the items, but not others, were shown to be predictive of lethality, partial support would be shown, and if none of the items were predictive of lethality, no support would be shown for the hypothesis.

The fourth logistic regression examined the ability of the (multiplicative) IPTS Needs Index to predict lethality when entered into the logistic regression alongside the Shneidman needs that were most commonly rated as being felt “most intensely” by the raters. This was done in order to assess if certain Shneidman needs, as opposed to the average, was helpful in predicting suicide lethality. If the IPTS Needs Index were found to be a significant predictor of lethality and were more predictive of lethality than the Shneidman needs, than support would be shown for the *IPTS hypothesis*.

The final logistic regression examining the *IPTS hypothesis* compared the predictive ability of the IPTS Needs Index and the *highest* Shneidman need rating. The highest Shneidman need rating was computed by using the compute variable option in IBM SPSS Statistics. This was done because Shneidman has stipulated that the deprivation of a single need is enough to cause suicidal behavior. This variable represented the highest rating across all the Shneidman needs for each note. Finding that the IPTS Needs Index is predictive of lethality and more predictive of lethality than the highest Shneidman needs computed variable would be supportive of the *IPTS hypothesis*.

Aim 3: *Other Emotions and Needs*

Ratings. The final aim was to investigate the role other emotions and needs might play in suicidal behavior. Several logistic regressions were run to test the ability of the other emotions to predict suicide lethality.

The first logistic regression examined the ability of the positive emotions to predict suicide lethality. No specific hypotheses were stated regarding the positive emotions. This logistic regression was meant to determine if specific positive emotions were predictive of suicide lethality. There was justification for examining positive emotions, as previous research has shown that positive emotions may increase as one gets closer in time to death by suicide (Lester, 2007; Lester, 2009).

The second logistic regression examined the ability of the negative emotions to predict suicide lethality. Again, no specific hypotheses were generated regarding these emotions, though, as previously stated, several theorists have discussed the potential role of these emotions in suicidal behavior (e.g., anger, guilt, shame).

The third logistic regression examined the ability of the emotivational goals of the positive emotions to predict suicide lethality. Here we wished to examine if the emotivational goals associated with positive emotions might play a role in predicting suicide lethality. No specific hypotheses were stated with regard to these emotivational goals.

The fourth logistic regression examined the predictive ability of the negative emotions' emotivational goals at predicting suicide lethality with the exclusion of the emotivational goals and motivational states of distress and sadness. Once more, no specific hypotheses were stated concerning these emotivational goals. However, we wanted to test which negative emotions' emotivational goals might be predictive of suicide lethality.

The fifth logistic regression examined the ability of the negative emotivational goals in predicting suicide lethality, but this time included the emotivational goals and motivational states of distress and sadness. This was done to assess if the emotivational goals of certain negative emotions might add to the predictive ability of the emotivational goals of sadness and distress.

The sixth logistic regression examined the ability of the Shneidman needs to predict suicide lethality, independent of the IPTS needs. Here the Shneidman needs were entered into a logistic regression predicting lethality. No specific hypotheses were stated concerning this analysis.

Results

As previously discussed, the first analyses that were run assessed inter-rater reliability and the results of that analysis can be seen in Table 1. Inter-rater reliability was generally poor but was resolved to 100% agreement following the rater disagreement resolution sessions.

Cronbach's Alpha

Cronbach's alpha was utilized to test the internal consistency of the rating scales. The emotions sub-scale consisted of 16 items (α=.77), the emotivational goal sub-scale consisted of 19 items (α=.72), the Shneidman needs sub-scale consisted of 18 items (α=.77), and the IPTS sub-scale consisted of 6 items (α=.53). This indicates that the emotions sub-scale, the emotivational goals/motivational states sub-scale, and Shneidman needs sub-scale had acceptable internal consistency, but that the IPTS sub-scale had poor internal consistency. However, the poor internal consistency is a product of the two separate elements of this scale (i.e., thwarted belonging and perceived burdensomeness). When this sub-scale is divided into a thwarted belonging sub-scale and a perceived burdensomeness sub-scale the internal consistency is acceptable for thwarted belonging (α=.75) and excellent for perceived burdensomeness (α=.94).

An additional concern was the finding that the emotions sub-scale had an alpha rating of .77. As this scale is used to measure both negative and positive emotions, one might expect relatively low internal consistency when both positive and negative emotions are included. In order to investigate this further, internal consistency was checked for the negative emotions and the positive emotions separately. The set of negative emotions had acceptable internal consistency (α=.79) and was a slight

improvement over the total emotions scale, even though it now had fewer items. The positive emotions had low internal consistency (α=.33). Upon inspection of the intercorrelations between the positive and negative emotions, this was determined to be a result of several differential correlations between particular positive emotions and particular negative emotions. For example, affection is significantly correlated to regret, shame, and guilt, $r(38)=.60$, $p<.01$, $r(38)=.35$, $p<.05$, $r(38)=.39$, $p<.05$, respectively. This makes intuitive sense, given that these emotions were being examined in the context of suicide notes and when affection was present, guilt, regret, and shame would co-occur due to either the fact that they were leaving the person they felt affection for.

Finally, Cronbach's alpha was calculated for the sadness and distress items separately. Here, sadness was at an unacceptable level of internal consistency (α=.35) while distress was at a good level of internal consistency (α=.84). Upon further inspection of the 3 items that make up the sadness scale, we found that the removal of "wanting to be comforted" was associated with an increase in the internal consistency to α=.58, but the sub-scale still did not reach acceptable levels of internal consistency. The low internal consistency for the sadness items but high internal consistency for the distress items echoes the debate about the coherence vs. variability of emotion components, cited in the introduction. It gave further reason for testing the hypotheses using both the indices (in case some variables are multidimensional) and separate components and items of the emotions and needs variables.

Aim 1: *Distress versus Sadness hypothesis*

The following results relate to the *Distress versus Sadness Hypothesis* and include the results from the analyses of the ratings and the LIWC.

Ratings

Pearson correlations were run first to examine the relationship between the rater-assessed emotions, wants (motivational states and emotivational goals), and suicide lethality. Although no specific hypotheses were developed regarding the other relationships between emotions and emotivational goals/motivational states in this study, they were also examined using Pearson correlations.

Table 2 shows the correlations among all the emotions in this sample, suicide lethality, and word count. As can be seen, in the bivariate data two emotions were significantly and positively related to suicide lethality and one was marginally significant. Regret and affection were both positively and significantly related to suicide lethality, $r(38) = .37$, $p<.05$, $r(38) = .33$, $p<.05$, respectively. Additionally, shame was marginally significant, $r(38) = .30$, $p<.10$ and guilt, while not significant, had a relatively large correlation with lethality, $r(38) =.25$, $p>.10$.

Table 2:
Correlations Among Emotions Ratings, Word Count, and Suicide Lethality from Raters

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Lethality	1																		
2. Word Count	.05	1																	
3. Joy	-.08	.67**	1																
4. Sadness	.01	.18	.04	1															
5. Regret	.37*	.43**	.34*	-.08	1														
6. Relief	-.03	.07	.13	.14	-.24	1													
7. Fear	.07	.49**	.30*	.15	.15	.06	1												
8. Pride	-.12	.19	-.07	.10	-.04	-.13	-.08	1											
9. Hope	-.05	.45**	.28†	-.04	.45**	-.03	.11	.28†	1										
10. Anger	.06	.21	-.09	.14	.06	.07	.05	.37*	.18	1									
11. Contempt	.14	.52**	.27	.24	.41**	.03	.41*	.27	.20	.57**	1								
12. Guilt	.25	.01	.29	-.14	.68**	.05	.26	-.09	.27†	.02	.52**	1							
13. Frustration	-.14	.32	-.01	.41**	-.05	.03	.38*	.17	.04	.53**	.40*	-.05	1						
14. Shame	.30†	.41*	.30†	-.02	.58**	.03	.34*	-.12	.21	-.12	.55**	.88**	-.01	1					
15. Disgust	.13	.13	-.15	.14	.18	.10	-.13	.13	.05	.70**	.47**	.27	.37*	.09	1				
16. Surprise	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1			
17. Affection	.33*	.38*	.24	-.01	.60**	-.10	-.08	.08	.38*	.05	.14	.39*	-.14	.35*	.01	---	1		
18. Dislike	.04	.42**	.01	.15	.08	.10	.07	.45**	.20	.87**	.62**	.13	.48**	.02	.72**	---	.13	1	
19. Distress	-.03	-.05	-.23	.53**	.03	.06	.23	.06	-.12	.31	.35*	.10	.52**	.17	.17	---	-.13	.23	1

† $p<.10$
*$p<.05$
** $p<.01$

Table 3 shows the correlations among the emotivational goals, motivational states, suicide lethality, and word count. As can be seen, none of the emotivational goals or motivational states were significantly related to suicide lethality. One motivational state of sadness (i.e., "wanting to get (or keep) something pleasurable") was marginally significant, $r(38) = .29$, $p<.10$. Additionally, while not significant, the correlation between wanting to be forgiven (the emotivational goal of guilt) and lethality was relatively strong, $r(38) =.28$, $p>.10$.

Table 3:
Correlations Between Motivational States, Emotivational Goal Ratings, Suicide Lethality, and Word Count. From Raters

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Lethality	1																				
2. Word Count	.51	1																			
3. be comforted	-.11	.23	1																		
4. get away from (or avoid) something painful	-.19	.21	.26	1																	
5. get (or keep) something pleasurable	.29†	.32*	.41*	.19	1																
6. be protected	.08	.02	.28†	.01	.42**	1															
7. escape from psychological pain	.07	.13	.06	.61**	-.01	.04	1														
8. be far away from someone	-.05	.24	.04	.39*	.14	.04	.24	1													
9. get a repugnant object, quality, or person away from the self	-.01	.06	-.12	.28†	-.24	.09	.49**	.40*	1												
10. overcome some obstacle	-.02	.38*	-.01	.45**	.04	.27†	.59**	.34*	.53**	1											
11. show that another person had undesirable qualities	.06	.38*	.06	.25	.27	.29†	.21	.65**	.33*	.25*	1										
12. be forgiven	.28	.37*	-.26	-.12	-.03	-.25	.07	-.01	-.04	.10	.11	1									
13. hide something about himself or herself	.10	.21	-.11	.02	-.02	-.11	.22	-.12	-.09	.13	.04	.36*	1								
14. get back at someone	.03	.19	.01	.29†	.22	.28†	.23	.80**	.38*	.30	.87**	-.03	-.09	1							
15. get a second chance at something	.13	.24	.52**	.09	.37*	.08	.03	-.18	-.24	-.03	-.12	.06	.02	-.13	1						
16. keep good times coming	.12	.28†	.49**	.16	.72**	.05	-.08	-.08	-.34*	-.16	-.13	-.09	-.16	-.10	.48**	1					
17. return to normal	.10	.09	.20	.12	.45**	.03	-.05	-.24	-.22	-.01	-.23	-.04	.04	-.17	.71**	.55**	1				
18. get recognition from others	.15	.01	.07	-.34*	-.06	-.10	-.09	-.11	-.02	-.25	-.05	.27	.07	-.08	-.08	.01	-.14	1			

19. what he or she was thinking of to happen	-.20	.36*	.42**	.21	.28†	-.02	.02	.15	.02	.16	.08	.05	.05	.13	.56**	.32*	.33*	-.08	1	
20. figure out something that was unexpected	.22	-.11	-.13	.05	.22	-.07	-.01	-.08	-.01	.04	-.10	-.07	-.09	-.05	-.13	.34*	.27†	-.08	-.06	1
21. be connected to someone	.12	.21	.53**	.02	.60**	.22	-.05	.02	-.21	-.08	.07	.08	-.15	.04	.72**	.53**	.38*	.05	.58**	-.17	1

*p<.05
** p <.01
† p<.10

Finally, Table 4 shows the correlations among all the emotions and the emotivational goals and motivational states.

In the first logistic regression the distress index (i.e., the average across the single item ratings of distress, the single item ratings of its motivational state, and the single item ratings of its emotivational goal) and the sadness index (i.e., the average across the single item ratings of distress, the single item ratings of its motivational state, and the single item ratings of its emotivational goal) were entered into the equation predicting suicide lethality. The results of this logistic regression are shown in Table 5. As can be seen, the model was not significant,

Table 4:
Correlations Among Emotions and Emotivational Goal Ratings from Raters

	Jy	Sd	Rg	Rl	Fe	Pr	Ho	An	Co	Gu	Fr	Sh	Dg	Su	Af	Dl	Ds
To be comforted	.02	-.12	-.05	-.22	.35*	.20	.12	.01	-.03	-.12	.26	-.08	-.14	---	.17	.08	-.19
Get away from (or avoid) something painful	.10	.41*	-.10	.26	.31†	.04	-.13	.26	.30†	-.01	.56**	-.02	.20	---	-.09	.43**	.46**
Get (or keep) something pleasurable	.21	.28†	.11	-.01	-.03	.12	-.03	.17	.09	-.04	.31†	-.03	.20	---	.48**	.27	-.15
Be protected	-.09	.11	-.06	-.19	-.01	.52**	.08	.18	.16	-.18	.29†	-.13	.15	---	.07	.21	.06
Escape from psychological pain	-.10	.54**	.11	.03	.38*	.04	-.11	.26	.48**	.19	.51**	.30†	.20	---	-.06	.33*	.83**
Be far away from someone	.07	.09	-.04	.23	-.01	.15	.15	.78**	.33*	-.08	.36*	-.19	.52**	---	.13	.76**	.17
Get a repugnant object, quality, or person away from the self	-.02	.18	.19	-.23	.19	.16	.05	.37*	.42**	.17	.31†	.21	.26	---	-.09	.30†	.43**
Overcome some obstacle	.12	.42**	.08	.10	.32*	.15	.15	.29†	.52**	.11	.54**	.30†	.16	---	-.02	.38*	.55**
Show that another person had undesirable qualities	.01	.22	.13	.02	.06	.62**	.25	.86**	.54**	.09	.51**	-.01	.60**	---	.16	.86**	.25
Be forgiven	.29†	-.13	.73**	.20	.09	-.11	.37*	.04	.42**	.84**	-.20	.74**	.19	---	.52**	.13	.02
Hide something about himself or herself	-.12	-.05	.22	-.02	.20	-.08	-.02	-.02	.12	.40*	.15	.31†	.27†	---	.03	.20	.20
Get back at someone	-.07	.17	-.01	.09	-.09	.50**	.20	.94**	.45**	-.08	.48**	-.21	.63**	---	.10	.86**	.27
Get a second chance at something	-.02	-.10	.37*	-.29†	.04	-.05	.18	-.11	-.01	.01	.04	.06	-.16	---	.49**	-.05	-.14
Keep good times coming	.34*	.27†	.06	-.03	.10	-.09	.02	-.13	-.03	-.07	.04	-.01	-.06	---	.37*	-.07	-.32†
Return to normal	.09	.09	.22	-.18	-.02	-.16	.09	-.17	-.16	-.11	.04	-.09	-.14	---	.26	-.16	-.15
Get recognition from others	.10	-.19	.34*	-.22	-.13	.10	.30†	-.10	-.05	.29†	-.13	.25	-.03	---	.19	-.15	-.17
What he or she was thinking of to happen	.11	.01	.19	-.16	.16	-.17	.27	.18	.20	.07	.43**	.10	.07	---	.33*	.18	-.06
Figure out something that was unexpected	-.08	.42**	-.05	.05	-.09	-.05	-.01	-.07	-.04	-.10	-.09	-06	.06	---	-.01	-.10	.01
Be connected to someone	.11	-.07	.25	-.13	-.09	.03	.15	-.02	.01	-.01	.10	.08	-.12	---	.58**	.04	-.20

† $p<.10$
*$p<.05$
** $p<.01$

Jy=Joy, Sd=Sadness, Rg=Regret, Rl=Relief, Fe=Fear, Pr=Pride, Ho=Hope, An=Anger, Co=Contempt, Gu=Guilt, Fr=Frustration, Sh=Shame, Dg=Disgust, Su=Surprise, Af=Affection, Dl=Dislike, Ds=Distress

Table 5:
Logistic Regression Predicting Suicide Lethality with Distress Index and Sadness Index from Raters

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Distress Index	-.20	.42	.22	1	.64	.82	.96	1.06
Sadness Index	.64	.77	.70	1	.41	1.90	.42	8.51

† $p<.10$
*$p<.05$
** $p<.01$

X^2 (2, N=38) = 3.50, $p>.05$, indicating that the model was unable to distinguish between notes written by non-lethal suicides and those written by lethal suicides. As previously stated, these indices were the byproduct of averaging across each rating for the emotion's single item emotions rating, single item motivational state rating, and the single item emotivational goal rating. However, while internal consistency was within acceptable means for distress (α=.84), the internal consistency of sadness was quite poor (α=.35) which calls into question the ability of these measures to accurately assess sadness.

In the second logistic regression, the raters' responses to the single items measuring sadness and distress, respectively, were entered into a logistic regression predicting suicide lethality. The results of this logistic regression can be seen in Table 6. The model was not significant, X^2 (2, N=38) = 2.82, $p>.05$, indicating that neither sadness nor distress were able

Table 6:
Logistic Regression Predicting Suicide Lethality with Raters' Sadness and Distress Ratings

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Sadness	.10	.41	.06	1	.80	1.1	.50	2.49
Distress	-.07	.41	.03	1	.87	.93	.42	2.1

† $p<.10$
*$p<.05$
** $p<.01$

to distinguish notes written by non-lethal suicides from those written by lethal suicides.

In the third logistic regression the wants (emotivational goals and motivational states) associated with sadness and distress were entered into the model predicting suicide lethality. The results of this logistic regression can be seen in Table 7. This model was significant,

Table 7:
Logistic Regression Predicting Suicide Lethality with Motivational State and Emotivational Goal Ratings of Distress and Sadness

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
Motivational States								
							Lower	Upper
get (or keep) something pleasurable	2.35	1.08	4.70	1	.03*	10.44	1.25	86.98
get away from (or avoid) something painful	-1.33	.63	4.44	1	.04*	.26	.08	.91
Emotivational Goals								
be comforted	-.75	.73	1.03	1	.31	.47	.11	2.00
escape from psychological pain	.99	.54	3.39	1	.07†	2.70	.94	7.77

† $p<.10$
*$p<.05$
** $p<.01$

X^2 (4, N=38) = 12.44, $p<.05$, indicating that the model was able to distinguish non-lethal suicide notes from lethal suicide notes. The model correctly classified 76.3% of the notes and explained between 27.9% (Cox & Snell) and 37.3% (Nagelkerke R) of the variance. Of the two emotivational goals and two motivational states entered into the model, two were significant, one was marginally significant, and one was not significant. The motivational state of sadness (i.e., wanting to get (or keep) something pleasurable) was predictive of lethal suicide, while the motivational state of distress (i.e. wanting to get away from (or avoid) something painful) was predictive of non-lethal suicide. Wanting to get (or keep) something pleasurable had an odds ratio of 10.44, indicating that higher ratings in this motivational state represented more than a 10 times increase in the likelihood of the note being written by a lethal suicide. Wanting to get rid of (or avoid) something painful had an odds ratio of .26, indicating that ratings in this motivational state was associated with a .26 times decrease in the likelihood of the note being written by a lethal suicide. This finding supports the opposite of the *Distress versus Sadness hypothesis.* Additionally, the emotivational goal of distress (i.e., wanting to escape from psychological pain) was marginally significant, and, in contrast to the motivational goal of distress, was predictive of lethal suicide. Wanting to escape from psychological pain had an odds ratio of 2.7, indicating that it was associated with a 2.7 times increase in the likelihood of the note being written by a lethal suicide. However, as previously stated this was only marginally significant. Finally, the emotivational goal of sadness (i.e., wanting to be comforted) was a non-significant predictor and was negatively associated to lethality. However, interpretations must be done cautiously, as the upper limit of the confidence interval was large, indicating instability and a lack of precision.

The fourth logistic regression the emotivational goal and motivational state of distress, alongside the lethality of the method used, were entered into the logistic regression predicting suicide lethality. This logistic regression was meant to assess the potential influence of the pain associated with the method on the motivational state of distress (i.e., wanting to get away from (or avoid) something painful). We felt that the negative relationship with lethality and wanting to get away from (or avoid) something painful, may be associated with the notes' authors wish to avoid the pain of the attempt. Hence, those with higher ratings of wanting to get away from (or avoid) something painful, would be non-lethal suicides because they were trying to avoid the pain of the attempt and therefore used less lethal means. Table 8 shows the results of this logistic

Table 8:
Logistic Regression Predicting Suicide Lethality with Raters Distress Emotivational and Motivational State Ratings and Lethality of Method

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Lethality of Method	7.76	3.01	6.65	1	.01**	2338.98	6.43	851083.97
Wanting to get away from (or avoid) something painful	-2.85	1.25	5.19	1	.02*	.06	.01	.67
Wanting to escape from psychological pain	2.89	1.35	4.55	1	.03*	17.91	1.26	253.96

† $p<.10$
*$p<.05$
** $p<.01$

regression. The model was significant, $X^2(3, N=38)=31.71$, $p<.001$, indicating that the model was able to distinguish between notes written by non-lethal and lethal suicides. The model correctly classified 93.9% of cases and explained between 61.7% (Cox & Snell) and 83.6% (Nagelkerke) of the variance. As can be seen, the motivational state of

distress, wanting to get away from (or avoid) something painful, was still a significant predictor of lethality and was still associated with non-lethal suicides, but the Odds Ratio dropped from .26 to .06, indicating that the lethality of the method had some influence over the relationship between this motivational state and suicide lethality. Wanting the escape from psychological pain, the emotivational goal of distress, was a positive predictor of lethality and was associated with a 17.91 increase in the likelihood of the note being written by a lethal suicide. However, we must urge caution in the interpretation of these results, as the upper limit of the confidence intervals for lethality of method was very large, indicating instability and a lack of precision.

The final logistic regression examining the *Distress versus Sadness hypothesis* examine the ability of all the distress and sadness items in predicting lethality. Table 9 shows the results

Table 9:
Logistic Regression Predicting Suicide Lethality with all Distress and Sadness Items

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Sadness	-1.39	.78	3.12	1	.08†	.25	.05	1.16
Distress	-1.54	1.18	1.68	1	.19	.22	.02	2.19
Wanting to get (or keep) something pleasurable	3.98	1.61	6.13	1	.01**	53.63	2.29	1254.70
Wanting to get away from (or avoid) something painful	-1.69	.77	4.78	1	.03*	.18	.04	.84
Wanting to be comforted	-2.23	1.20	3.46	1	.06†	.11	.01	1.13
Wanting to escape from psychological pain	3.17	1.45	4.78	1	.03*	23.76	1.39	406.90

† $p<.10$
*$p<.05$
** $p<.01$

of this logistic regressions. The model was significant, $X^2(6, N=38)=18.46$, $p<.01$, indicating that the model was able to distinguish between non-lethal and lethal suicide notes. The model correctly classified 76.3% of the cases and explained between 38.5% (Cox & Snell) and 51.3% (Nagelkerke) of the variance. Once more, there were divergent findings. Both sadness and distress were negatively associated with lethality, contrary to the *Distress versus Sadness hypothesis*, though sadness was the only significant predictor of the two and was only marginally significant, this time in a direction consistent with predictions. With regard to both distress and sadness' motivational states, once more wanting to get (or keep) something pleasurable (sadness' motivational state) was associated with lethal suicides (OR=53.63) while wanting to get away from (or avoid) something painful (distress' motivational state) was associated with non-lethal suicides (OR=.18). However, the emotivational goals of sadness and distress were supportive of the *Distress versus Sadness hypothesis*. Distress' emotivational goal, wanting to escape from psychological pain, was associated with lethal suicides (OR=23.76) and sadness' emotivational goal, wanting to be comforted, was associated with non-lethal suicides (OR=.11), though it was a non-significant predictor. However, we caution interpretation of these findings due to the high upper limits of the confidence intervals associated with sadness' motivational state and distress' emotivational goal. Due to the high correlation between sadness and distress, multicollinearity was assessed to determine if the model was influence by multicollinearity. Across all variables in the model, tolerance ratings ranged between .22 and .63 and VIF ranged between 1.58 and 4.53, all within the acceptable range (O'Brien, 2007). Across all tests, ratings for the emotion of distress, and its hypothesized motivational state (wanting to get away from or avoid something

painful) were most often contrary to hypotheses, associated more with non-lethal than with lethal suicides. However the hypothesized emotivational goal of distress, wanting to escape from psychological pain, was generally associated with lethal suicides, as predicted. The hypothesized motivational state for sadness (wanting to get or keep something pleasurable) was typically associated with lethal rather than non-lethal notes, contrary to hypotheses. But the emotivational goal of sadness (wanting to be comforted), was typically associated with non-lethal suicides, in the direction of hypotheses. Ratings for sadness itself were most often associated with lethal suicides. But in the most precise analysis (distinguishing between motivational states, emotions, and emotivational goals, shown in Table 9) sadness ratings were associated with non-lethal suicides as predicted, and marginally significant.

LIWC

In order to test the *Distress versus Sadness Hypothesis* in a way not potentially hampered by the biases that could exist among human raters, the LIWC was used to assess the degree to which various emotion categories, drawn from Shaver et al. (1987), were present. Both Pearson correlations and logistic regressions were used to examine these data. Pearson correlations are typically used to evaluate the results of the LIWC, however, we utilized logistic regressions as well in order to determine the predictive ability of the emotion term categories. Table 10 shows the mean percentages of the emotion term categories (which are an index of terms from Shaver et al. (1987), see Appendix E for the specific words included in each index) present in the full sample of notes (n=38). These percentages represent the percentage of these emotion term

Table 10:
Presence of Emotion Term Categories in Full Sample of Notes (n=38) as Determined by the LIWC

Emotion Terms Category	Mean % (*sd*)
Love	1.35 (1.82)
Lust	.01 (.06)
Longing	.00 (.00)
Joy	.18 (.49)
Excitement	.00 (.00)
Contentment	.00 (.00)
Pride	.01 (.05)
Hope	.08 (.19)
Enthrallment	.00 (.00)
Relief	.02 (.09)
Surprise	.00 (.00)
Irritation	.01 (.01)
Frustration	.00 (.00)
Anger	.14 (.59)
Disgust	.00 (.00)
Contempt	.00 (.00)
Envy	.00 (.00)
Torment	.00 (.00)
Suffering	.26 (.65)
Sadness	.12 (.30)
Disappointment	.00 (.00)
Shame	.00 (.00)
Guilt	.00 (.00)
Regret	.03 (.15)
Neglect	.01 (.05)

Sympathy	.00	(.00)
Fear	.07	(.22)
Anxiety	.01	(.04)

categories present in relation to all other words in the notes. As can be seen, the emotion term categories had a very small presence in the sample of notes, with the greatest presence being that of Love, *m*=1.35, *sd*=1.82. Love's relatively large presence in the notes can be explained by its use in the conclusion of notes, which were often ended with "Love Bill" or "Love Mary." The two emotion term categories used to assess the presence of distress and sadness were the emotion term categories of sadness and suffering. Sadness had a mean presence of only .12% and suffering had a mean presence of .26%. Table 11 shows the Pearson correlations for each of the emotion term categories with the lethality of the notes. As can be seen, the emotion term

Table 11:
Relationship between LIWC Emotion Term Categories and Suicide Lethality (n=38)

Emotion Term Categories	r	*p*
Love	.15	.36
Lust	-.17	.30
Longing	-	-
Joy	-.09	.59
Excitement	-	-
Contentment	-	-
Pride	.16	.35
Hope	.25	.13
Enthrallment	-	-
Relief	-.19	.26
Surprise	-	-

Irritation	-.17	.30
Frustration	-	-
Anger	-.11	.53
Disgust	-	-
Contempt	-	-
Envy	-	-
Torment	-	-
Suffering	-.06	.71
Sadness	.18	.27
Disappointment	-	-
Shame	-	-
Guilt	-	-
Regret	.09	.60
Neglect	.14	.40
Sympathy	-	-
Fear	.24	.15
Anxiety	.19	.27

categories of fear and hope had moderately large correlations with lethality, though neither was significant, $r(38) = .24$, $p > .05$, $r(38) = .25$, $p > .05$, respectively. The other emotion term categories, which had a much smaller presence in the notes, were all non-significant.

Table 12 shows the results of a logistic regression that was run in order to test the *Distress versus Sadness Hypothesis*, using the distress and sadness indices as predictors. The full model was not significant, X^2 (2, N=38) = 1.46, $p > .05$, indicating that the

Table 12:
Logistic Regression Predicting Suicide Lethality with Distress and Sadness LIWC Indices

	B	S.E.	Wald	df	*p*	**Odds Ratio**	**95% C.I. for Odds Ratio**	
							Lower	Upper
Distress Index	-.14	.52	.08	1	.78	.87	.31	2.39
Sadness Index	1.42	1.36	1.10	1	.29	4.15	.29	59.43

†p<.10
*p<.05
**p<.01

model was unable to distinguish notes written by non-lethal suicides from those written by lethal suicides.

The final logistic regression run to test the Distress versus Sadness hypothesis with the LIWC tested the ability of the single emotion term in each category that we felt were most representative of distress and sadness, respectively. For distress, the emotion term "suffering" was used and for sadness the emotion term "sadness". Table 13 shows the results of this logistic regression. The model was non-significant, X^2 (2, N=38) = 2.88, p>.05, indicating that the model

Table 13:
Logistic Regression Predicting Suicide Lethality with Suffering and Sadness terms from LIWC Analysis

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Suffering	-7.03	13265.01	.00	1	1.00	.00	.00	.
Sadness	-266.43	502412.13	.00	1	1.00	.00	.00	.

†p<.10
*p<.05
**p<.01

was unable to distinguish non-lethal suicide notes from lethal suicide notes.

Aim 2: *IPTS hypothesis*

With the exception of the needs associated with the *IPTS hypothesis*, no other needs were theorized about in this study. However, Pearson correlations were utilized to examine the relationship between all the needs, suicide lethality, and word count.

Table 14 shows the results of the Pearson correlations that examined the relationship between all needs (Shneidman and IPTS) and suicide lethality. As can be seen, none of the needs examined in this study were significantly related to suicide lethality.

Table 14:
Correlations Among Shneidman Needs, IPTS Needs, Lethality, and Word Count

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1.Lethality	1																												
2.Word Count	.05	1																											
3.achieve difficult goals	-.21	.46**	1																										
4.be loved by another person	.16	.10	-.11	1																									
5.belong or be affiliated	-.06	.15	-.03	.76**	1																								
6.overcome opposition	-.09	.15	.62**	.11	.14	1																							
7.free of social confinement	-.17	.74**	.48**	.08	.16	.21	1																						
8.make up for past failure	-.07	.27	.35*	-.03	.20	.33*	.16	1																					
9.defend the self against others	.08	.04	.15	.02	-.08	.19	-.06	-.12	1																				
10.influence and control others	.03	.56**	.29†	.54**	.42**	.28†	.59**	-.02	-.07	1																			
11.receive attention from others	.01	.24	.02	.91**	.70**	.04	.33*	-.06	.01	.60**	1																		
12.avoid pain or injury	-.12	.14	.05	.10	.01	.39*	.15	-.29†	.09	.34*	.07	1																	

13.avoid shame or humiliation	.18	-.02	.06	-.16	-.16	.18	-.05	.31†	.12	-.12	-.13	.01	1															
14.protect author's psychological space	.04	.16	.31†	.12	.18	.64**	.03	.26	.23	.27	.03	.34*	.31†	1														
15.nurture or take care of another person	.05	.06	.09	.58**	.56**	.01	-.10	.19	.20	.12	.51**	-.21	-.09	.05	1													
16.keep things or ideas in good order	.02	.11	.15	.54**	.39*	.05	-.08	.15	.04	.34*	.53**	-.19	-.05	.08	.70**	1												
17.enjoy sensuous experiences	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1											
18.taken care of by another person	.07	.11	-.07	.93**	.73**	.04	.11	-.08	.17	.49**	.93**	.12	-.15	.12	.60**	.48**	---	1										
19.understand certain hows and whys	.07	.17	.14	.29†	.29†	.20	.10	.21	-.22	.29†	.24	-.11	-.15	.26	.24	.23	---	.23	1									
20.belittle the self	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1								
21.admire, support, or emulate a superior	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1							
22.act for fun	-.31	.36*	.37*	-.05	-.01	.38*	.56**	.11	-.10	.28†	.11	.18	.15	.31†	-.17	-.14	---	-.02	.31†	---	---	1						
23.exclude, banish, jilt, or expel another person	.14	.07	-.02	.17	-.12	.14	-.04	-.21	-.03	.51**	.02	.37*	-.08	.18	-.07	.21	---	.01	.02	---	---	-.07	1					
24.Thwarted need to be in a relationship	.05	-.02	-.15	.89**	.68**	-.01	-.09	-.01	.13	.36*	.77**	.06	-.18	.03	.70**	.45**	---	.89**	.23	---	---	-.16	.14	1				
25.Feeling disconnected from others	.18	.26	.28†	.52**	.66**	.46**	.34*	.28†	.02	.33*	.51**	.05	.05	.36*	.47**	.27†	---	.48**	.42**	---	---	.20	-.11	.38*	1			
26.Feeling isolated from others	-.07	.24	.11	.65**	.65**	.20	.28†	.04	-.07	.37*	.69**	.07	-.05	.18	.41*	.41*	---	.62**	.52**	---	---	.27	-.04	.48**	.75**	1		
27.Recent loss of someone important	-.03	-.10	-.22	.56**	.25	-.13	-.07	-.22	-.04	.19	.48**	-.09	-.13	-.19	.40*	.28†	---	.47**	.50**	---	---	-.12	.23	.55**	.36*	.54**	1	
28.Burden on others	.26	.01	.29†	-.10	.03	.31†	.03	.40*	.16	-.08	-.10	-.16	.31†	.06	-.08	-.03	---	-.11	-.02	---	---	.06	-.19	-.05	.04	-,05	-.27	1

29.Felt others will be better off without them	.26	-.02	.29†	-.16	-.09	.20	.05	.21	.20	-.08	-.10	-.18	.28†	-.02	-.01	.03	---	-.14	-.06	---	---	.09	-.15	-.11	-.09	-.09	-.22	.88**	1

†p<.10
*p<.05
**p<.01

In order to test the *IPTS Hypothesis* several logistic regressions were run predicting suicide lethality. In the first logistic regression, the Average Shneidman Need Index (the average across all needs) and the IPTS Need Index (the interaction score, calculated by multiplying the thwarted belonging index by the perceived burdensomeness index) were entered into the logistic regression predicting suicide lethality. The results of this analysis can be seen in Table 15.

Table 15:
Logistic Regression Predicting Suicide Lethality with Average Shneidman Needs Index and IPTS Needs Index from Ratings

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Average Shneidman Needs Index	-1.27	1.38	.85	1	.36	.28	.02	4.19
IPTS Needs Index	.54	.31	3.00	1	.08†	1.72	.93	3.18

†p<.10
*p<.05
**p<.01

The model was not significant, X^2 (2, N=38) = 3.55, p>.05, indicating that the model was unable to distinguish non-lethal suicide notes from lethal suicide notes. However, as can be seen from Table 16, the IPTS Needs Index was marginally significant in predicting suicide lethality and was associated with a 1.72 times increase in the likelihood of the

note having been written by a lethal suicide, showing partial support for the *IPTS hypothesis*.

The second logistic regression examined the ability of thwarted belonging and perceived burdensomeness, two elements of the IPTS, to predict suicide lethality. In this logistic regression the Thwarted Belonging Index (the averaged score across all thwarted belonging items) and the Perceived Burdensomeness Index (the averaged score across all perceived burdensomeness items) were entered into the logistic regression predicting suicide lethality. The results of this logistic regression can be seen in Table 16. The model was not significant, X^2 (2, N=38) = 4.04,

Table 16:
Logistic Regression Predicting Suicide Lethality with Thwarted Belonging Index and Perceived Burdensomeness Index from Raters

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Thwarted Belonging Index	.64	.55	1.31	1	.25	1.89	.64	5.58
Perceived Burdensomeness Index	.61	.38	2.66	1	.10†	1.84	.88	3.84

†p<.10
*p<.05
**p<.01

p>.05, indicating that the model was not able to distinguish non-lethal suicide notes from lethal suicide notes. However, the Perceived Burdensomeness Index was marginally significant, indicating that perceived burdensomeness was associated a 1.84 times increase in the likelihood that the note was written by a lethal suicide.

Another logistic regression examined the IPTS items individually. Here the four items representing thwarted belonging and the two items representing perceived

burdensomeness were entered into the logistic regression predicting suicide lethality. The results of this logistic regression can be seen in Table 17. The model was not significant, X^2 (6, N=38) = 11.83, p>.05, indicating that the model was not able to distinguish notes

Table 17:
Logistic Regression Predicting Suicide Lethality with Individual Thwarted Belonging and Perceived Burdensomeness Items from Raters

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Thwarted need to be in a relationship	-.05	.62	.01	1	.94	.96	.29	3.21
Feeling disconnected from others	-.92	1.06	.74	1	.39	.40	.05	3.22
Feeling isolated from others	-.82	1.49	.30	1	.58	.44	.02	8.15
Recent loss of someone important	1.92	1.28	2.27	1	.13	6.85	.56	83.87
Felt they were a burden on others	1.58	1.22	1.68	1	.20	4.87	.44	53.28
Felt others would be better off without them	-.62	1.11	.31	1	.58	.54	.06	4.70

†p<.10
*p<.05
**p<.01

written by non-lethal suicides from those written by lethal suicides. Of all the items, however, recent loss of someone important was the largest *p* value but failed to reach statistical significance (p=.13).

Another logistic regression examined the ability of specific Shneidman Needs and the IPTS Needs Index in predicting lethality of the suicide notes. The Shneidman Needs that were most often indicated as being felt most intensely by the author were entered into the logistic regression alongside the IPTS Needs Index. Table 18 shows the results of this logistic regression. The model was non-significant, X^2 (6, N=38) = 6.76, p>.05, indicating that the model was unable to distinguish non-lethal suicides from lethal suicides. However, as can be seen in Table 19, in conjunction with the Shneidman needs,

Table 18:
Logistic Regression Predicting Suicide Lethality with IPTS Needs Index and Most Common Shneidman's Needs Ratings from Raters

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
IPTS Needs Index	.65	.33	3.89	1	.05*	1.92	1.00	3.66
Thwarted need to overcome opposition	-.75	.68	1.23	1	.27	.47	.12	1.78
Thwarted need to make up for past failures	-.43	.40	1.17	1	.28	.65	.30	1.42
Thwarted need to avoid pain or injury	-.28	.42	.43	1	.51	.76	.33	1.73
Thwarted need to understand certain hows and whys	-.06	.51	.01	1	.91	.94	.35	2.58
Thwarted need to protect his or her psychological space	.83	.64	1.67	1	.20	2.29	.65	8.01

†p<.10
*p<.05
**p<.01

the IPTS Needs Index was a significant predictor of lethality and associated with a 1.92 times increase in the likelihood of the notes being written by a lethal suicide. This provides partial support for the *IPTS hypothesis*.

The results of the final logistic regression used to test the *IPTS Hypothesis* can be seen in Table 19. This model used the IPTS Needs Index and the highest thwarted

Shneidman need rating to predict suicide lethality. This model was marginally significant, X^2 (2, N=38) = 4.92,

Table 19:
Logistic Regression Predicting Suicide Lethality with Highest Shneidman Ratings and IPTS Needs Index from Raters

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Computed Shneidman Score Indicating Highest Thwarted Need Rating	-.53	.37	2.03	1	.15	.59	.9	1.22
IPTS Index	.58	.31	3.50	1	.06†	1.78	.97	3.26

†p<.10
*p<.05
**p<.01

p<.10, indicating that the model was marginally able to distinguish non-lethal suicide notes from lethal suicide notes. As can be seen, the IPTS Index was marginally significant at predicting suicide lethality and was associated with a 1.78 times increase in the likelihood of the note being written by a lethal suicide. Once more showing partial support for the *IPTS hypothesis*.

Aim 3: *Other Emotions and Needs*

Ratings

In addition to the main analyses of this study, additional logistic regressions were run as exploratory analyses to examine the role of other emotions, motivational states, emotivational goals, and needs in the prediction of suicide lethality. The first two logistic regressions examined the predictive ability of the emotion ratings. Caution should be taken when interpreting the results of these analyses as they were run after the removal of variables with high *p* values. The standard for removing a predictor was if its *p* value

exceeded .35. Table 20 shows the results of a logistic regression testing the predictive ability of the positive emotions in

Table 20:
Logistic Regression Predicting Suicide Lethality with Positive Emotion Ratings

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Joy	-.88	.96	.83	1	.36	.42	.06	2.74
Relief	.01	.61	.00	1	.99	1.01	.31	3.31
Pride	-.59	.94	.39	1	.53	.56	.09	3.50
Hope	-.63	.78	.65	1	.42	.53	.12	2.45
Affection	.79	.34	5.29	1	.02*	2.20	1.12	4.31

†$p<.10$
*$p<.05$
**$p<.01$

predicting suicide lethality. The model with all predictors was non-significant, X^2 (5, N=38) = 7.24, $p>.05$, indicating that the model was unable to distinguish non-lethal suicide notes from lethal suicide notes. However, as can be seen by the *p* values in Table 20, affection was a significant predictor of lethality. Affection was associated with a 2.2 times increase in the likelihood that the note was written by a lethal suicide.

Another logistic regression examined the ability of the negative emotions at predicting suicide lethality. Several emotions were removed from the final model. Distress and sadness were removed, as were fear, contempt, disgust, and dislike, as after initial testing they were found to have very little relation to suicide lethality ($p>.20$). Table 21 shows the results of this logistic regression. The model was marginally significant, X^2 (5, N=38) = 10.36, $p<.10$, indicating that the model was marginally

Table 21:
Logistic Regression Predicting Suicide Lethality with Negative Emotion Ratings

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Regret	.83	.48	2.94	1	.09†	2.30	.89	5.94
Anger	1.05	.71	2.17	1	.14	2.85	.71	11.51
Guilt	-1.70	1.16	2.14	1	.14	.18	.02	1.79
Frustration	-1.05	.68	2.37	1	.12	.35	.09	1.33
Shame	2.28	1.35	2.84	1	.09†	9.75	.69	137.82

†$p<.10$
*$p<.05$
**$p<.01$

able to distinguish the non-lethal suicides from the lethal suicides. As can be seen in Table 21, regret and shame were marginally significant predictors of lethal suicide, with regret associated with a 2.30 times likelihood of the note being written by a lethal suicide and shame associated with a 9.75 times likelihood.

Additional logistic regressions were run examining the predictive abilities of the motivational states and emotivational goals. The emotivational goals and motivational states of distress and sadness were removed from these logistic regressions, as we wished to examine the predictive ability of the other emotivational goals independently of those of distress and sadness. Additionally, emotivational goals that were found to have high *p* values ($p>.40$) were also removed from the final logistic regressions. Table 22 shows the results of the logistic regression

Table 22:
Logistic Regression Predicting Suicide Lethality with Positive Emotivational Goal Ratings

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Wanting what he or she was thinking of to happen	-1.05	.54	3.84	1	.05*	.35	.12	1.00
Wanting to stay connected to someone	.69	.40	3.02	1	.08†	1.99	.92	4.34

†$p<.10$
*$p<.05$
**$p<.01$

testing the emotivational goals of the positive emotions. The emotivational goals of "wanting what you were thinking of to happen" and "wanting to stay connected to someone", the emotivational goals of hope and affection, respectively, were kept in the final model. The model was marginally significant, X^2 (2, N=38)= 4.93, $p<.10$, indicating that the model was marginally able to distinguish between non-lethal and lethal suicide notes. The emotivational goal of hope, wanting what he or she was thinking of to happen, was a significant predictor of suicide lethality and was associated with a .35 decrease in the likelihood of the note being that of a lethal suicide. The emotivational goal of affection, wanting to stay connected to someone, was marginally significant, and was associated with a 1.99 increase in the likelihood of the note being written by a lethal suicide.

Table 23 shows the results of the logistic regression of negative emotion emotivational goals predicting suicide lethality. Two emotivational goals were entered into this logistic

Table 23:
Logistic Regression Predicting Suicide Lethality with Negative Emotivational Goal Ratings

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Wanting to be protected	1.27	1.33	.91	1	.34	3.57	.26	48.56
Wanting to be forgiven	.58	.32	3.35	1	.07†	1.78	.96	3.29

†$p<.10$
*$p<.05$
**$p<.01$

regression, wanting to be protected and wanting to be forgiven, the emotivational goals of fear and guilt, respectively. These two emotivational goals were chosen as after initial testing they were found to have acceptable *p* values ($p>.40$). The model was non-significant, X^2 (2, N=38) = 3.95, $p>.05$, indicating that the model was unable to distinguish non-lethal notes from lethal notes. However, wanting to be forgiven was marginally significant and associated with a 1.78 times increase in the likelihood of the note being written by a lethal suicide.

The final logistic regression examining emotivational goals/motivational goals examined the impact of entering the emotivational goals/motivational states of distress and sadness into the equation with the other negative emotions' emotivational goals. All the emotivational goals of the negative emotions were entered into the logistic regression. Those with exceedingly high *p* values ($p>.30$) were removed from the equation and the logistic regression was re-run with only those emotivational goals that were not cut due to high *p* values. Table 24 shows the results of this logistic regression. The model was significant, X^2 (4, N=38) = 12.84, $p<.05$, indicating that

Table 24: Logistic Regression Predicting Suicide Lethality with Winnowed Down Emotivational Goals/Motivational State Ratings

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Wanting to get away from (or avoid) something painful	-1.34	.63	4.47	1	.03*	.26	.08	.91
Wanting to get (or keep) something pleasurable	1.93	.91	4.44	1	.04*	6.85	1.14	41.08
Wanting to escape from psychological pain	.96	.56	2.99	1	.08†	2.62	.88	7.83
Wanting to be forgiven	.45	.36	1.52	1	.22	1.56	.77	3.18

†$p<.10$
*$p<.05$
**$p<.01$

it was able to distinguish between non-lethal and lethal suicide notes. The model correctly classified 73.7% of the cases and explained 28.7% (Cox & Snell) and 38.3% (Nagelkerke) of the variance. As was found when the emotivational goals and motivational states of distress and sadness were examined, wanting to get away from (or avoid) something painful was associated with an increased likelihood of the note being written by a non-lethal suicide (OR=.26), wanting to get (or keep) something pleasurable was associated with an increased likelihood of the note being written by a lethal suicide (OR=6.85), and wanting to escape from psychological pain was marginally associated with an increased likelihood of the note being written by a lethal suicide (OR=2.62). As previously indicated, the finding regarding the motivational state of distress (i.e., wanting to get away from (or avoid) something painful) was contradictory to the hypothesis of this study. That is, distress' motivational state, which was hypothesized to be predictive of lethal suicide, was in fact predictive of non-lethal suicide. However, also as previously found, the emotivational goal of distress (i.e., wanting to escape from psychological pain)

was predictive of lethal suicide, but was only marginally significant. Caution is once more urged, howver, for any interpretation of these results, as once again the motivational state of sadness, wanting to get (or keep) something pleasurable, had a large upper limit to its confidence interval, indicating instability of the model.

The final exploratory analysis examined the ability of the individual Shneidman Needs to predict suicide lethality. The vast majority of the Shneidman Needs had very high *p* values ($p>.80$). The needs with the highest *p* values were removed and a logistic regression was run with only three of the Shneidman Needs, whose *p* values were lowest ($p<.50$). Table 25 shows the results of this logistic regression. The model was non-significant, X^2 (3, N=38) =3.18, $p>.05$,

Table 25:
Logistic Regression Predicting Suicide Lethality with Winnowed Down Shneidman Need Ratings

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Thwarted need to achieve difficult goals	-.70	.49	2.11	1	.15	.49	.19	1.28
Thwarted need to avoid pain or injury	-.33	.33	.98	1	.32	.72	.38	1.37
Thwarted need to protect his/her psychological space	.52	.51	1.02	1	.31	1.68	.61	4.59

†$p<.10$
*$p<.05$
**$p<.01$

indicating that the model was unable to distinguish non-lethal suicide notes from lethal suicide notes. The need to achieve difficult goals was nearing marginal significance ($p=.15$) and was associated with a decreased likelihood of the note being written by a lethal suicide (OR=.19).

LIWC

In addition to the logistic regression testing the *Distress versus Sadness* hypothesis, two additional logistic regressions were run using the other emotion term categories of the LIWC, the results of which can be seen in Tables 26 and 27. These logistic regressions tested the abilities

Table 26:
Logistic Regression Predicting Suicide Lethality with Positive Emotions from the LIWC Analysis

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Love	.16	.20	.66	1	.42	1.18	.79	1.75
Lust	-52.78	100482.43	.00	1	1.00	.00	.00	.
Joy	-.2	.71	.08	1	.78	.82	.21	3.26
Pride	64.13	121796.88	.00	1	1.00	7.08	.00	.
Hope	4.26	3.14	1.84	1	.17	70.60	.15	32890.33
Relief	-447.92	153563.09	.00	1	1.00	.00	.00	.

†$p<.10$
*$p<.05$
**$p<.01$

Table 27:
Logistic Regression Predicting Suicide Lethality with Negative Emotions from the LIWC Analysis

	B	S.E.	Wald	df	*p*	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Irritation	-527.56	470980.01	.00	1	.99	.00	.00	.
Anger	-.31	.65	.23	1	.63	.73	.21	2.61
Suffering	-.86	.93	.84	1	.36	.43	.07	2.64
Sadness	1.24	1.42	.76	1	.38	3.45	.21	55.80
Regret	-5.49	8.38	.43	1	.51	.00	.00	56161.55
Neglect	85.70	112349.81	.00	1	.99	1.65	.00	.
Fear	50.42	32112.33	.00	1	.99	7.88	.00	.
Anxiety	150.19	138704.83	.00	1	.99	1.68	.00	.

†$p<.10$
*$p<.05$
**$p<.01$

of the other emotion term categories to predict suicide lethality. In the first logistic regression all positive emotion term categories were entered into the equation predicting lethality, X^2 (6, N=38) = 9.69, $p > .05$. In the second logistic regression all the negative emotion term categories were entered into the equation predicting lethality, X^2 (8, N=38) = 11.53, $p > .05$. Neither full model was significant, indicating that neither positive nor negative emotion term categories were able to distinguish notes written by non-lethal suicides from those written by lethal suicides. However, it is worth noting that the emotion term category of Hope, while not significant, was close to significance (p=.17) and was highly predictive of lethal suicide notes. However, as the model was not significant and the upper limit of the item's confidence interval was high, any interpretation based on this model is cautioned against.

Relative Weight Analysis

Relative weight analysis was intended to be used to assess the relative contribution of each predictor in the logistic regressions to deal with the potential problem of multicollinearity. However the significant predictors of lethality (i.e., "wanting to get away from (or avoid) something painful" and "wanting to get (or keep) something pleasurable") were at an acceptable level of correlation, tolerance = .56, VIF = 1.79, tolerance = .82, VIF = 1.23, respectively (O'Brien, 2007) therefore making the use of Relative Weight Analysis unnecessary.

Discussion

The purpose of this study was to test several theories of suicidal behavior each positing that specific emotions or needs are vital to suicidal behavior. The three aims of this study will be discussed separately; however, there will be some overlap amongst the aims, as any interpretation of some findings may require interpretation of the others. Aim one was to determine if distress was more predictive of suicide lethality than sadness, aim two was to determine if the IPTS needs were more predictive of suicide lethality than the Shneidman needs, and aim three was to determine the relationship between the other emotions and needs and suicide lethality.

Aim 1: *Distress versus Sadness hypothesis*

The first aim was to test the theory of Roseman and Kaiser (2001), which indicated that distress was more related to suicidal behavior than was sadness. Based on this theory, we hypothesized that distress would be more predictive of lethal suicides than sadness. Contrary to this hypothesis, we found that the majority of the distress ratings and indices were associated, though most non-significantly, with non-lethal suicides. The majority of the logistic regression findings testing the ability of distress and sadness' indices and individual items failed to support the *Distress versus Sadness hypothesis*.

In addition to using the emotions ratings and indices of distress and sadness to predict lethality, we also utilized the hypothesized motivational state determinants and emotivational goal response components of both emotions. Here similar patterns arose among the motivational states but not among the emotivational goals. For wanting to get (or keep) something pleasurable and wanting to get rid of (or avoid) something painful, the motivational states hypothesized to underlie sadness and distress, respectively, the

pattern held true. Wanting to get (or keep) something pleasurable was related in the Pearson correlations to lethality, though non-significantly, and was significantly predictive of lethal suicide notes in the logistic regression. Wanting to get away from (or avoid) something painful was associated with non-lethal suicide notes in the Pearson correlations, though again non-significantly, and significantly predictive of non-lethal suicide notes in the logistic regression. Wanting to be comforted, the emotivational goal of sadness was negatively related to lethality and predictive of non-lethal suicides notes. While not significant, this finding was consistent with the hypothesized prediction. Contradictory to what was found with the motivational state of wanting to get away from (or avoid) something painful, distress' emotivational goal, wanting to escape from psychological pain, was positively related to lethality, though non-significantly, and marginally predictive of lethal suicide notes. This is supportive of the *Distress versus Sadness Hypothesis*.

How should one interpret these divergent findings? As previously stated, there is an ongoing debate in the emotions literature which stipulates that emotions may have variability in their components and in the antecedent motivational states that contribute to the development of the emotions (e.g., Barrett, 2009; Lewis & Liu, 2011; Roseman, 2011; Russell, 2003). The potential variability in the antecedents and components associated with emotions could be one potential explanation for this divergence in the relationship between the motivational states and emotivational goals of sadness and distress in relation to lethality.

Another potential explanation is the nature of motivational states and emotivational goals in relation to the emotions they are associated with. Motivational

states are associated with the development of the emotion. For example, wanting to get away from (or avoid) something painful occurs and this leads to the development of distress. Emotivational goals are associated with the emotions themselves and are present at the same time the emotions are. For example, wanting to escape from psychological pain occurs at the same time as distress. Due to this, the emotivational goals are more closely linked to the emotions themselves than are the motivational states. If this is considered the case, then stronger support is shown for the *Distress versus Sadness hypothesis*, as the emotivational goal of sadness (i.e., wanting to be comforted) was associated with non-lethal suicide, while the emotivational goal of distress (i.e., wanting to escape from psychological pain) was associated with lethal suicide.

However, how should we interpret the findings regarding the motivational states? Why was the motivational state of distress (i.e., wanting to get away from [or avoid] something painful) associated with non-lethal suicide, while the motivational state of sadness (i.e., wanting to get [or keep] something pleasurable) was associated with lethal suicide? One potential explanation for the finding regarding wanting to get away from (or avoid) something painful was investigated by taking into account the role of lethality of method. When lethality of method was entered into the logistic regression alongside wanting to get away from (or avoid) something painful the relationship between wanting to get away from (or avoid) something painful and suicide lethality was lessened. This could be an indication that the aspect of avoidance of pain that is associated with this motivational state is also associated with the lethality of the notes. Those who wish to avoid pain use less lethal means, and those who use less lethal means are less likely to die. A potential explanation regarding wanting to get (or keep) something pleasurable, the

motivational state of sadness, is the relationship it has to the interpersonal nature of the notes. While not significant, attributing the suicide to the recent loss of someone important (one of the thwarted belonging items) was close to significance (p=.13) and associated with lethal suicide. When the relationship between wanting to get (or keep) something pleasurable and this thwarted belonging item is examined there is a strong, positive relationships, $r(38)=.72$, $p<.001$. Additionally, when compared to the thwarted belonging index (the average of all the thwarted belonging items), there is a strong, positive relationship, $r(38)=.70$, $p<.001$. This could be an indication that the relationship between lethality and this motivational state is tied into the longing to keep their interpersonal relationships, get ones they had never obtained, or regain those they had lost.

Keeping those relationships in mind, it is also prudent to discuss the relationships between the emotivational goals and suicide lethality further. The finding that wanting to escape from psychological pain is associated with lethal suicide makes sense when suicide is examined from the perspectives of the theories previously mentioned. Shneidman (1996), Baumeister (1990), O'Connor (2003), and Baechler (1979) all viewed suicide as being motivated, at least in part, by the need to escape from psychological pain. Why, however, would it be more predictive of the lethal notes and not equally present in both? The findings regarding wanting to be comforted may shed more light on this question. Wanting to be comforted, while only marginally significant, was predictive of non-lethal suicide. One potential explanation for this may be tied into the idea of a cry for help, or suicidal gestures. Those who were making suicide attempts, but non-lethal ones, may have been making a cry for help. Perhaps their motive to be comforted was

why their attempt was non-lethal. Given these two potential explanations, the patterns shown with the emotivational goals of sadness and distress make sense. Those who made a non-lethal attempt were less motivated to die and more motivated to be comforted (i.e., the cry for help) while those who made lethal attempts were more motivated to escape from psychological pain they deemed unbearable. These interpretations are important to keep in mind throughout the remainder of the discussion, and especially when we discuss the findings regarding hope.

Aim 2: *IPTS hypothesis*

The second aim of this study was to test the Interpersonal-Psychological Theory of Suicide (IPTS). The results for the *IPTS Hypothesis* are somewhat clearer though not conclusive. None of the needs, neither Shneidman's nor Joiner's, were found to be related to lethality based solely on the Pearson correlations. However, the results of the more precise and informative logistic regressions were more promising. The IPTS Needs Index was marginally significant and associated with an increased likelihood of the note being written by a lethal suicide. When the IPTS needs were examined individually, it was found that the Perceived Burdensomeness Index was marginally significant in predicting lethality and was associated with an increased likelihood of the note being written by a lethal suicide. However, at the individual level, where the individual items that comprise the IPTS Needs Index were examined, they were not able to distinguish non-lethal from lethal suicides. This finding is in line with the IPTS, which stipulates that all are necessary for suicidal behavior to occur. However the finding that perceived burdensomeness predicted suicide when thwarted belonging did not contradicts this.

Additionally, given that none of the models were significant, but that the predictors were, we caution interpretations based solely on these results.

What is a potential explanation for why perceived burdensomeness was found to be predictive while thwarted belonging was not? This finding may be a byproduct of using suicide notes to investigate this theory. Suicide notes, written typically to another person, may make the presence of certain themes more common than others. For example, because the notes are typically written to another person, the authors may be more motivated to write about how the other person will be "better off without them." In contrast, explaining to the person they are writing to that they do not feel as though they belong, or that they are lonely may not be as present, because they are in fact writing to another person and not necessarily expressing how they feel in this regard. In a recent essay, Yang and Lester (2011) argued that suicide notes, while potentially giving insight into suicidal behavior, may also represent a way of presenting the self to significant others. Given this argument, perhaps the authors of suicide notes are more prone to portray themselves as doing something beneficial to their significant others rather than portraying themselves as being lonely, or as having poor relationships.

Of particular concern is the finding that one of the perceived burdensomeness items, feeling that others would be better off without them, was not significantly related to lethality, though it was in the predicted direction. This finding contradicts that of Joiner et al. (2002). Joiner et al. (2002) measured perceived burdensomeness with "to what degree does the passage imply the idea 'my loved ones will be better off when I'm gone'" while one of the perceived burdensomeness items of this study was "to what degree does the note imply that (at the time the author wrote the note) he or she felt that others would

be better off without the author." Both items are very similar, however there are several differences. While Joiner et al. focused on "loved ones" our wording focused instead on "others." Additionally, while Joiner et al. focused on the idea being implied we focused on specifically at the time the author had written the note. These differences may explain the non-significant relationship of this item and lethality in this study. If we had focused on whether they were a burden solely on their loved ones, and allowed for interpretation about a time other than when the note was being written, perhaps our raters would have replicated the results of Joiner et al. (2002). However, as the IPTS does not stipulate that the perceived burden has to be on a loved one, the wording we used is still a valid, and previously used, means of testing this theory (Gunn, Lester, Haines, & Williams, in press). It is also important to note, that while ours was not significant, both correlations, that of this study and of Joiner et al., were similar, p=.26, p=.33, respectively. Regardless of these explanations however, it may be beneficial for these findings to be reexamined in future research.

Aim 3: *Other Emotions and Needs*

The final aim of this study was to examine the other emotions and needs and their associations with suicide lethality. No specific hypotheses had been developed prior to these analyses.

Emotions.

The first series of analyses explored the role of the other emotions in Roseman's (2011) model. Pearson correlations revealed a positive relationship between regret, affection, and shame (though shame was only marginally significant) and lethality. Additionally, logistic regressions revealed that affection was a significant predictor of

lethal suicide notes and shame and regret were marginal predictors. The significant positive relationship between affection and suicide lethality may be attributed to the materials used to investigate these relationships (i.e., suicide notes). If one views suicide notes as the final message to those being left behind, it is not surprising that affection would often be present and in light of Yang and Lester (2011), it may be especially present in order to present the self more favorably to those left behind or to connect with them.

However, the finding that affection is more common in the lethal suicide notes is of interest. Could it be that those who die by suicide know that they are making a more lethal attempt and therefore wish to convey their affection more than those who are making a less lethal attempt? While this question is an interesting one, it is also one that is unable to be answered by this study. Future research could investigate this question further. However, previous research may be able to shed some light on this relationship. Lester (2007) and Lester (2009) found, in an analysis of the diaries of two fatal suicides, that positive emotions increased as the authors neared their deaths, indicating that after the decision to die has been made their may be an increase in positive emotions. Those who are making a non-lethal attempt may not be motivated to die, but rather motivated to be comforted and therefore those who are making a lethal attempt may have more positive emotions present. In this study, however, of the positive emotions only affection was found to be predictive of lethality. Additionally, given that Yang and Lester (2011) theorized that some suicide notes are motivated to portray the self favorable to others, perhaps affection is expressed more often in lethal notes to portray the self more favorably to their loved ones. However, this explanation may be too cynical. There is the

possibility that the increased presence of affection in lethal notes is not a manipulative act, but rather simply the expression of love to those who are being left behind. Those who are writing a lethal note are, typically, making a more lethal attempt (as determined by the lethality of the method discussed previously). Due to this, they are probably aware that their attempt is going to be lethal, and may simply wish to convey their love to those they are leaving behind.

The relationships between regret and suicide lethality is also of interest, especially when considering that shame was also marginally, and positively, related to suicide lethality. Previous theories have discussed the role of shame and guilt in suicidal behavior, both of which are closely related to regret. This finding lends some support for these theories; however, regret was more common among the notes (Table 10) and makes an independent contribution in predicting suicide lethality (Table 21). Additionally, the logistic regression also found that regret and shame were predictive of lethal suicide notes, though this was only marginally significant. Future research could focus on the roles of these emotions in suicidal behavior as well.

Regret's role in suicide lethality may be tied to the findings regarding the recent loss of someone important. The authors of lethal suicide notes may regret the loss of an important relationship and express this in the note. This is supported by the fact that affection and regret are positively related (r=.60). However, regret's presence may also be a byproduct of using suicide notes to study suicide emotions. It could be that regret is present, not because it played a role in the suicidal behavior, but rather because the notes' authors regret the decision to commit suicide, or that they see themselves as having no other option. Shame has been discussed in relation to suicidal behavior previously, as

shame is focused on the whole self as bad, while guilt focuses on a bad action (Kalafat & Lester, 2000).

A final notable finding was that the emotivational goal of hope (i.e., wanting what he or she was thinking of to happen) was associated with a decreased likelihood of the note being written by a lethal suicide. This indicates that less hope was associated with more lethality, though this was only supported by hope's hypothesized emotivational goal, not the rating of hope itself. Aaron Beck and his colleagues have theorized that hopelessness is the driving force behind suicidal behavior and hopelessness has been shown to be a good predictor of attempted suicide (Beck, Steer, Kovacs, & Garrison, 1985; Beck, Brown, Berchick, Stewart, & Steer, 1990). The LIWC results contradict this finding, as the emotion term category for hope was associated with an increased likelihood of the note being written by a lethal suicide. However, this finding was non-significant (p=.17) and, as the LIWC is unable to determine if the presence of hope terms was in relation to hopelessness or hopefulness, the raters' results may be more definitive. The finding that hope was negatively related to suicide lethality can shed further light on the relationship between wanting to escape from psychological pain and wanting to be comforted and suicide lethality. The non-lethal notes contain more of hope's emotivational goal. This could be seen as support for the notion that they are hopeful that their cry for help will be meet. The lethal notes contain less hope and could indicate that they not only wanted to escape from psychological pain, but were less hopeful that there were other options (e.g., reaching out to others).

Needs

The examination of the Shneidman needs found no relationship between any of them and suicide lethality. Additionally, the logistic regressions, even when eliminating the needs with the highest p value, were unable to predict suicide lethality. From these logistic regressions the thwarted need to achieve difficult goals was the closest to significance (p=.15) and was associated with lower lethality. While this may be considered to show a lack of support for Shneidman's theory, there are methodological concerns that must be considered and which will be discussed in the next section, on limitations.

Limitations

There are several limitations that must taken into consideration when examining the results of this study. Perhaps the most obvious limitation was the decision to use lethality as our dependent variable. While previous research has examined some of the variables with lethality as the outcome variable (e.g., Joiner et al., 2002), this may have affected the results of this study. For example, the lack of support shown for the *Distress Versus Sadness Hypothesis* may be a byproduct of this decision. Distress' role in the suicidal behavior may not be limited solely to lethal behavior and therefore the hypothesis was not supported. In fact those who do not die by suicide may do so because of distress and a fear of pain related to the method used. This fear of the painful methods may cause the individual to feel more distress and may motivate them to use less lethal means and therefore, subsequently survive the attempt.

Additionally, when lethality is used as the dependent variable, there is always the problem of suicidal intent. It is possible that some of those who survived their attempt were in fact highly suicidal, while those who died by theirs were less so. Consider the

case of a woman A, who takes an overdose of medication at 4:45pm to teach her husband a lesson, fully expecting him to return home at 5:00pm and save her. However, what if traffic delays his return and she dies as a result? Now consider the case of a woman B who jumps off the Golden Gate Bridge (a suicide hotspot in the US and a highly fatal drop) but survives, but with significant trauma and damage to her body. Woman A is a lethal suicide, while woman B is a non-lethal; however the intent to die was much more present in woman B. Due to this, the use of lethality as a dependent variable is often a limitation. However, by assessing lethality of the method used we were able to determine that lethality of method was a significant predictor of lethality, indicating that those who died did so because they used more lethal means. This could indicate that the lethal suicides from this sample did in fact have high levels of suicidal intent. Regardless of this though, future research should utilize different means of investigating the role of distress, sadness, and thwarted needs in suicidal behavior (e.g., comparing genuine suicide notes with simulated notes).

Another limitation of this study was the use of suicide notes. Depending upon which study is cited, between 10-30% of those who commit suicide leave a note, with most estimates indicating around 20% (Ho, Yip, & Chiu, 1998). However, regardless of the small percentages of those who leave notes, previous research has shown that those who leave notes are similar to those who do not (Callanan & Davis, 2009) and others have shown some differences in note leaving by sex and age (Heim & Lester, 1990). Suicide notes are often one of the few windows into the suicidal mind that are left to us; however they are subject to several limitations. Prior to discussing these limitations

however, consider the two examples of notes reproduced below (reproduced with spelling errors intact but with names and locations changed):

> **Note 1**: "Sunday Morning. PS You know if I didn't feel so strongly about this that I wouldn't be risking my life by writing this. Good Lord, A, I've never been in trouble with the police in my life. All I'm asking from you is some good old fashioned friendship and moral support. Can't you come down off from "star complex" long enough to show a bit of human caring. How are you really going to feel if you reject me again because this is my last chance. A, I'm too young to die. There are too many things I still want to accomplish. And my kids need their "old" mother back. The honest truth is that only you hold the key to my survival. Now I know you don't want that responsibility - but, A, that's the way it is. The future for me is truly in your hands. Please don't let me down. If you help me now, I promise you'll never be sorry. This can be a mutually beneficial relationship if you just relax a bit and let it develop - in any form. Just sort of whatever will be, will be - okay?!!? No pressure, just 2 caring human beings getting to know each other. Think about it, A, What do you really have to lose? You might be able to build your own self-esteem as well as help me regain mine. Merry Christmas! Happy Honukkah! Happy New Year! Whatever. Just know that whatever happens, you'll never be able to stop me from truly caring about you and your happiness. (Yes, it's very true I happen to really believe that I'm a key to that happiness). Love - again, Me. A, I've been extremely honest with you about my feelings - maybe more so than with anyone in my life - but I've barely scratched the surface. Please don't betray my trust in you again. More than anything in this life, I need to trust you!"

> **Note 2:** "My darlings, I thought I was OK but I can not lead a normal life. You have both been perfect it is no one's fault. It is a desease like cancer which won't let go. I love you both very much. I'm sorry. Please make up with A, it was all my fault. I want you to marry someone who will be good to B."

These notes were randomly drawn from the full sample of notes examined in this study. Several things can be seen by examining these notes. First, they are often very concrete and sometimes rather short, making interpretation of meaning difficult (as seen by note 2).

Furthermore, finding that certain emotions and thwarted needs are present does not necessarily mean that the others are not. It could be the case that certain emotions and thwarted needs are often themes in suicide notes (e.g., perceived burdensomeness), while the other emotions or thwarted needs (e.g., thwarted belonging) are present in the development of suicidal behavior, but are simply not written about in the suicide note, especially if the notes are in fact written to portray the self in a favorable way (Yang &

Lester, 2011). Take into consideration the finding regarding affection. The suicide notes in this sample, which were often written to loved ones, found affection to be very present throughout the notes. This finding could be an indication that by using suicide notes, certain emotions and needs will be overestimated in their importance. Another potential example is the finding that perceived burdensomeness has been found to be present in suicide notes, both in this study, and in past research (Joiner et al., 2002). It could be, given the fact that the notes are addressed to others, that this theme is more often found and that the Shneidman needs, which are more oriented to the individual and less oriented to other people, are less often observed. Future research should utilize different, more in-depth examinations of texts left behind by those who die by suicide (e.g., journals, diaries, letters) to investigate this further. Such texts may yield information regarding the suicidal act that the author of a suicide note may not want to reveal to those they are leaving behind.

Finally, by examining suicide notes, we lack a control with which to compare them. Future research may be able to utilize such controls to determine if the emotions and thwarted needs are a product of suicidal behavior or an accompanying psychopathology. For example, a comparison of the letters of someone who died by suicide with someone who had depression with the absence of suicidal intent would allow us to theorize about what emotions and thwarted needs are associated with the suicidal behavior and which are a product of the psychopathology. Given the fact that suicidal behavior is rare, even among those with a diagnosed mental illness, it would be beneficial to learn more about what specific predictors are relevant to suicidal behavior among those with a diagnosed mental illness, so that assessment and prevention can be

implemented more effectively. Prospective studies could compare depressed patients with high suicide risk (e.g., determined by psychological assessment of risk factors or physiological measures such as serotonin metabolites in cerebrospinal fluid) with those with low suicide risk, (Asberg, Traskman, & Thoren, 1976; Mann, Malone, Sweeney, Brown, Linnoila, Stanley, & Stanley, 1996).

Also the relatively small sample of notes is a limitation that should be taken into consideration. While previous research (e.g., Joiner et al., 2002) has utilized this same sample of notes, the small number of notes (n=38) may be affecting the results. In fact, given the number of marginal findings, a larger sample of notes may lead to more robust findings.

Inter-rater reliability was also generally poor. After the initial rating sessions, raters had to undergo another three sessions of disagreement resolution. However, while this may be considered a limitation, it may also be viewed as beneficial to this study. By having both raters meet again and go over the rating scales and the notes in more detail, they were able to reach 100% agreement. Due to this, the dataset that was utilized for the final analyses was the product of a lot of deliberation and discussion on the part of both raters.

Also, while not investigated by previous work with suicide notes, no account is taken of the mood of the raters. Given that we were examining emotions in the notes, there is the potential that the raters' mood affected their ratings. Additionally, the gender of those who wrote the notes was not taken into account in the analyses. As men are more likely to die by suicide than women, men make up a disproportionate number of the notes

from those who have died of suicide. Future research should examine the role of gender on the themes examined by this study.

Finally, Cronbach's alpha revealed the internal consistencies of the various sub-scales. Sadness and its accompanying items had poor internal consistency. Even with the removal of "wanting to be comforted" the Cronbach's alpha only reached .53. This finding calls into question the ability of this sub-scale to measure sadness effectively. Additionally, Table 4, which shows the correlations among the motivational states, emotivational goals, and the various emotions, indicates that there may be some difficulty in interpreting the results regarding several of the motivational states hypothesized to be antecedents of distress and sadness.

Of particular interest is the finding that wanting to get (or keep) something pleasurable, which was predictive of lethal suicides, was only marginally related to sadness and significantly related to affection. This finding indicates that the predictive ability of this hypothesized emotivational goal of sadness may be tied more to the predictive ability of affection, which was discussed earlier. Wanting to get away from (or avoid) something painful was more associated with frustration than distress, indicating that this result may be the result of frustration instead of distress. While this is a limitation in the interpretation of these results, it may help to explain the confusion surrounding the motivational state of distress. Interestingly, the emotivational goal of distress, wanting to escape from psychological pain, was highly correlated with distress ($p=.83$) and was associated with lethal suicide, as our hypothesis had predicted. In contrast, the hypothesized emotivational goal of sadness, wanting to be comforted, was more related to fear than to sadness ($p=.35$).

Implications

While the results of this study have left us with more questions that need to be answered, several findings can be discussed in terms of their implications. First, while there is confusion surrounding their relationships to lethal suicidal behavior, sadness and distress' emotivational goals and motivational states were implicated in suicidal behavior. While the hypothesis regarding distress and sadness was mostly unsupported (though it was supported by the emotivational goals of these emotions), the motivational states and emotivational goals were still found to be predictive of suicidal behavior, both non-lethal and lethal. The motivational states of distress and sadness were predictive of non-lethal suicide and lethal suicide, respectively, while the emotivational goal of distress (wanting to escape from psychological pain) was marginally predictive of lethal suicides. Knowing this may increase our ability to assess suicide risk among clinical populations. Additionally, shame and regret were also implicated in suicidal behavior, indicating that these are important emotions to focus on in assessment and treatment. Finally, hopelessness was once more implicated in suicidal behavior, stressing the importance of monitoring it in clinical settings.

Also of importance are the findings regarding the *IPTS hypothesis*. While the majority of the results regarding the IPTS were only marginally significant, they did implicate the role of these needs in suicidal behavior over those of Shneidman's theory. However, an important caveat of this is that Shneidman's PPAS was developed to assess thwarted needs among suicidal persons and was given to them directly. The raters in the present study described having difficulties getting from the notes whether or not the needs were thwarted. As the scale was developed to be administered to suicidal persons

and was adapted to be used by raters, this may not have been an adequate means of testing this theory.

The IPTS results do suggest implications for assessment and treatment. If a clinician is working with a patient who perceives the self to be a burden on those around them (especially loved ones), this may be a sign that that individual is at increased risk of suicide and in need of more immediate treatment or intervention.

Summary

This study examined the role of particular emotions (especially distress and sadness), motivational states, emotivational goals, and thwarted needs in suicidal behavior. The *Distress versus Sadness hypothesis*, which posited that distress would be more predictive of lethal suicide than sadness, was unsupported in measures of distress and sadness and their hypothesized antecedent motivational states, finding instead that sadness' motivational state (wanting to get or keep something pleasurable) rather than that of distress (wanting to get away from or avoid something painful) was predictive of lethal suicide. However, the results are unclear if this is a product of inter-correlation with other emotions or a product of using lethality as our outcome variable. Additionally, this finding could be the due to wanting to avoid the pain of the suicide attempt and wanting to keep interpersonal relationships that were pleasurable to the authors of the suicide notes.

In contrast, the findings regarding emotivational goals of distress and sadness were in line with our predictions. Sadness' emotivational goal (i.e., wanting to be comforted) was negatively associated with lethality, though non-significant, while distress' emotivational goal (i.e., wanting to escape from psychological pain) was

positively associated with lethality. The finding regarding wanting to be comforted could be linked to the non-lethal suicides' making a cry for help, while the finding regarding wanting to escape from psychological pain could be the result of the authors' perceiving their only option to escape from unbearable pain as suicide.

The *IPTS hypothesis*, which posited that the needs of the IPTS would be more predictive of lethal suicide than the Shneidman needs was marginally supported, particularly with perceived burdensomeness predicting lethal suicide.

In addition to these specific hypotheses, regret, shame, affection, and hopelessness were all found to be related, at least marginally, to lethal suicidal behavior. As discussed above, these findings have several potential implications for the prediction, prevention, and treatment of suicidal behavior.

Appendices

Appendix A: Variable Chart

		Construct	Manipulation/Measure	Item #s / Scoring
Independent Variables	Emotions	Distress: low...high	Distress? Wanting to get rid of or avoid something painful? Wanting to escape from psychological pain? not at all (1) ... extremely (5)	∑(1Q, 4B, 4E)/# of variables answered
		Sadness: low...high	Sadness? Wanting to be comforted? Wanting to get or keep something pleasurable? not at all (1) ... extremely (5)	∑(1B, 4A, 4C)/# of variables answered
		Joy: low…high	Joy? not at all (1)…extremely (5) Wanting to keep good times coming? not at all (1)…extremely (5)	∑(1A, 4N)/# of variables answered
		Regret: low…high	Regret? not at all (1)…extremely (5) Wanting to get a second chance at something? not at all (1)...extremely (5)	∑(1C, 4M)/# of variables answered
		Relief: low…high	Relief? not at all (1)…extremely (5) Wanting to return to normal? not at all (1)…extremely (5)	∑(1D, 4O)/# of variables answered
		Fear: low…high	Fear? not at all (1)…extremely (5) Wanting to be protected? not at all (1)…extremely (5)	∑(1E, 4D)/# of variables answered
		Pride: low…high	Pride? not at all (1)…extremely (5) Wanting to get recognition from others? not at all (1)…extremely (5)	∑(1F, 4P)/# of variables answered
		Hope: low…high	Hope? not at all (1)…extremely (5) Wanting what he or she was thinking of to happen? not at all (1)…extremely (5)	∑(1G, 4Q)/# of variables answered

		Anger: low…high	Anger? not at all (1)…extremely (5) Wanting to get back at someone? not at all (1). . .extremely (5)	∑(1H, 4L)/# of variables answered
		Contempt: low...high	Contempt? not at all (1)...extremely (5) Wanting to show that another person had undesirable qualities? not at all (1)...extremely (5)	∑(1I, 4I)/# of variables answered
		Guilt: low...high	Guilt? not at all (1)...extremely (5) Wanting to be forgiven? not at all (1)...extremely (5)	∑(1J, 4J)/# of variables answered
		Frustration: low...high	Frustration? not at all (1)...extremely (5) Wanting to overcome some obstacle? not at all (1)...extremely (5)	∑(1K, 4H)/# of variables answered
		Shame: low...high	Shame? not at all (1)...extremely (5) Wanting to hide something about himself or herself? not at all (1)...extremely (5)	∑(1L, 4K)/# of variables answered
		Disgust: low...high	Disgust? not at all (1)...extremely (5) Wanting to get something repugnant away from himself or herself? not at all (1)...extremely (5)	∑(1M, 4G)/# of variables answered
		Surprise: low...high	Surprise? not at all (1)...extremely (5) Wanting to figure out something unexpected? not at all (1)...extremely (5)	∑(1N, 4R)/# of variables answered
		Affection toward someone: low...high	Affection toward someone? not at all (1)...extremely (5) Wanting to be connected to someone? not at all (1)...extremely (5)	∑(1O, 4S)/# of variables answered
		Dislike: low...high	Dislike (but not anger or contempt) toward someone? not at all (1)...extremely (5) Wanting to be far away from someone? not at all (1)...extremely (5)	∑(1P, 4F)/# of variables answered

	Needs	Interpersonal-Psychological Theory of Suicide (IPTS) needs: low...high	To what degree does the note imply that (at the time the author wrote the note) the author was experiencing a thwarted need to be in a relationship with someone? not at all (1)...extremely (5) To what degree does the note imply that (at the time the author wrote the note) the author was experiencing a feeling of being disconnected from others? not at all (1)...extremely (5) To what degree does the note imply that (at the time the author wrote the note) the author was experiencing a feeling of isolation from other people? not at all (1)...extremely (5) To what degree does the note imply that (at the time the author wrote the note) the author was attributing his or her suicidal behavior to the recent loss of someone important? not at all (1)...extremely (5) To what degree does the note imply that (at the time the author wrote the note) the author felt he or she was a burden on others? not at all (1)...extremely (5) To what degree does the note imply that (at the time the author wrote the note) the author felt that others would be better off without them? not at all (1)...extremely (5)	∑(10, 11, 12, 13)/# of variables answered * ∑(14, 15)/# of variables answered
		Abasement: low…high	The need to belittle the self? not at all (1)...extremely (5)	7R
		Achievement: low...high	The need to achieve difficult goals? not at all (1)...extremely (5)	7A
		Affiliation: low...high	The need to belong or to be affiliated? (1)...extremely (5)	7C
		Aggression: low...high	The need to overcome opposition? (1)...extremely (5)	7D

		Autonomy: low...high	The need to be free of social confinement? not at all (1)...extremely (5)	7E
		Counteraction: low...high	The need to make up for past failure? not at all (1)...extremely (5)	7F
		Defendance: low...high	The need to defend the self against others? not at all (1)...extremely (5)	7G
		Deference: low…high	The need to admire, support, or emulate a superior? not at all (1)...extremely (5)	7S
		Dominance: low...high	The need to influence and control others? not at all (1)...extremely (5)	7H
		Exhibition: low...high	The need to receive attention from others? not at all (1)...extremely (5)	7I
		Harmavoidance: low...high	The need to avoid pain or injury? not at all (1)...extremely (5)	7J
		Inviolacy: low...high	The need to protect the author's psychological space? not at all (1)...extremely (5)	7L
		Nurturance: low...high	The need to nurture or take care of another person? not at all (1)...extremely (5)	7M
		Order: low...high	The need to keep things or ideas in good order? not at all (1)...extremely (5)	7N
		Play: low...high	The need to act for fun; to participate in pleasurable activities for its own sake? not at all (1)...extremely (5)	7T
		Rejection: low...high	The need to exclude, banish, jilt, or expel another person? not at all (1)...extremely (5)	7U
		Sentience: low…high	The need to enjoy sensuous experiences? not at all (1)...extremely (5)	7O
		Shame-Avoidance: low...high	The need to avoid shame or humiliation? not at all (1)...extremely (5)	7K

		Succorance: low...high	The need to be loved by another person? not at all (1)...extremely (5) The need to be taken care of by another person? not at all (1)...extremely (5)	∑(7B, 7P)/# of variables answered
		Understanding: low…high	The need to understand certain hows and whys? not at all (1)...extremely (5)	7Q
Dependent Variable		Lethality: low/high	Note Type: attempted/completed	

Appendix B: Literature Review Chart

THEORETICAL LITERATURE REVIEW					
AUTHORS	TARGET GROUP*	COMPARISON GROUP(S)	EMOTION(S)/ VARIABLE(S) INCLUDED	EMOTION(S)/ VARIABLE(S) PROPOSED AS HIGHER IN SUICIDE GROUP	COMMENTS/ NOTES
Roseman & Kaiser (2001)	suicides	non-suicide	distress, sadness	distress	Does not compare these to other emotions that might be involved in suicide
Baechler (1979)	escapist suicides	Aggressive...?	Anger...?	need to escape from intolerable state	Proposes several types of suicides, one of which is escapist suicides which are characterized by the need to escape from a situation that the suicide deems intolerable The need to escape from something intolerable is similar to the notion described by Roseman & Kaiser (2001) in defining distress as being motivated by a need to escape from emotional pain

Menninger (1938)	suicides	[non-suicides?]	--	wish to kill (anger) wish to be killed (guilt) wish to die	The wish to kill is inward directed anger, the individual is angry (typically at a parent) and instead of directing the hostility and murderous intent toward that person, turns it inward on the self The wish to be killed is linked to the emotion of guilt, the individual sees themselves as having done something wrong and must be punished
Lansky (1991)	suicides	non-suicides	shame depression guilt anger psychic pain	shame	Proposes that shame, and shame alone, is the emotion most linked to suicidal behavior, and all other emotions play a small part in the decision to die by suicide
Shreve & Kunkel (1991)	suicides	non-suicides	shame	shame	Suicide is a means of escape from pervasive shame
Mokros (1995)	suicides	non-suicides	shame	shame	Suicide is the result of pathological shame and the "despair" over the loss of a sense of social place

Lester (1997)	shame suicides	non-shame suicides	shame guilt	shame	Some suicides are the result of shame, not guilt
Kalafat & Lester (2000)	shame suicides	non-shame suicides	shame	shame	Gives a case study of a shame suicide
Trumbull (2003)	suicides	--	shame	--	Claims suicide is the result of prolonged exposure to shame
Diedrich & Warelow (2002)	suicides	non-suicides	fear isolation guilt failure shame sadness hopelessness loss anger despair	fear isolation guilt failure shame sadness hopelessness loss anger despair	Claims that each of the variables are associated with suicidal behavior, but offers no empirical support
Shneidman (1996)	suicides	non-suicides	abasement achievement affiliation aggression autonomy counteraction defendance deference dominance exhibition harmavoidance inviolacy nurturance order play rejection sentience shame-avoidance succorance understanding	abasement achievement affiliation aggression autonomy counteraction defendance deference dominance exhibition harmavoidance inviolacy nurturance order play rejection sentience shame-avoidance succorance understanding	Claimed that suicidal behavior was the result of the deprivation of vital needs.
Joiner (2005)	suicides	non-suicides	thwarted belonging perceived burdensomeness acquired capacity for self-injury	thwarted belonging perceived burdensomeness acquired capacity for self-injury	According to this theory the combination of these three variables cause suicidal behavior.

AUTHORS	TARGET GROUP*	COMPARISON GROUP(S)	EMOTION(S)/ VARIABLE(S) TESTED	EMOTION(S)/ VARIABLE(S) FOUND SIGNIFICANTLY HIGHER IN TARGET GROUP	COMMENTS/ NOTES
Maiuro, O'Sullivan, Michael, & Vitaliano (1989)	male psychiatric patients exhibiting suicidal behavior n= 20 M	male psychiatric patients exhibiting assaultive behavior n= 40 M nonviolent male control group n= 22 M, - F	guilt depression hostility anger	guilt depression	Anger was also significantly higher in the suicidal group than in the control group, but did not differentiate suicidal from assaultive patients
Stein, Apter, Ratzoni, Har-Even, & Avidan (1998)	single suicide attempt group n= 32 multiple suicide attempt group n= 19	nonsuicidal psychiatric patients n= 109 community controls n= 85	anxiety depression aggression impulsivity	anxiety depression aggression impulsivity	Multiple attempters were differentiated from single attempters greater aggression than single attempters
Lehnert, Overholser, & Spirito (1994)	adolescent suicide attempt group n= 20 M, 84 F	high school student control n= 215 M, 108 F	externalized anger internalized anger	externalized anger internalized anger	In addition to anger, the suicide attempt group was also measured on depression and hopelessness scales Both hopelessness and depression were related to internalized, but not externalized, anger
Horesh, Rolnick, Iancu, Dannon, Lepkifker, Apter, & Kotler (1997)	suicidal psychiatric group n= 30	nonsuicidal psychiatric group n= 30 healthy control n= 32	impulsivity anger	impulsivity	Anger was also found to be high in the nonsuicidal psychiatric group Impulsivity was exclusive to the suicidal psychiatric group

Hamdi, Amin, & Mattar (1991)	high suicide intent n= 24	medium suicide intent n= 25 low suicide intent n= 13	hopelessness isolation anger feelings of loss helplessness frustration shatter self-esteem incompetence/inadequacy self-hatred guilt	hopelessness isolation anger	Hopelessness and isolation were higher in the high intent group Anger was higher in the medium and low intent group
Barnes, Lawal-Solarin, & Lester (2007)	Letters written by a young man who committed suicide n= 23 (1st letter written 24-months prior to his death, last letter written 15 days before his death)	**No Groups**	negative emotions (e.g., “angry, “sad”)	**No Groups**	Found a decrease in negative emotions and an increase in words referring to death The types of negative emotions were not examined
Negron, Piacentini, Graae, Davies, & Shaffer (1997)	suicide attempters n= 28 M, 7 F	suicide ideators n= 28 M, 4 F	hopelessness anger depression crying overall distress	hopelessness anger	Attempters had higher levels of hopelessness than did the ideators Ideators had higher levels of anger than did attempters

Leenaars, Balance, Wenckstern, & Rudzinski (1985)	genuine suicide notes n= 33	simulated suicide notes n= 33	50 protocol sentences derived from Shneidman (1967, 1980, 1981, 1982)	experience of adult trauma such as loss of a relationship rejection despair associated with the loss of a significant person perceiving another as "dooming one to suicide" expressions of ambivalence feelings of love, hate, and other emotions helplessness pessimism emotional confusion constricted perceptions	Of interest to this study was the protocol sentences examining the role of hostility, despair, shame, guilt, dependency, and hopelessness Findings suggest the co-occurrence of contradictory emotions, such as love and hate
Slee, Garnefski, Spinhoven, & Arensman (2008)	women who engaged in deliberate self-harm (DSH) n= 85	women who did not engage in DSH n= 93	poor distress tolerance self-blame perceived burdensomeness helplessness	poor distress tolerance self-blame	Poor distress tolerance was measured with the statement "when I get this upset it is unbearable" this definition of distress is very similar to the one proposed by Roseman (2001) in which the motivation of distress is to avoid an aversive state
Kienhorst, DeWilde, Diekstra, & Wolters (1995)	adolescents who had attempted suicide n= 7 M, 41 F	adolescents who were depressed but not suicidal n= 14 M, 52 F adolescent school control n= 12 M, 31 F	answers to open ended questions analyzed by two psychologists concern motives, thoughts, and feelings associated with suicidal behavior	appeal stopping of consciousness escape/lose self-control revenge did not know what else to do/make things easier for others	the most heavily endorsed factor was factor 2, which was characterized by elements of wanting to escape from a painful state or the cessation of a certain state of mind

O'Connor & Leenaars (2004)	North American suicide notes n= 30	Northern Irish suicide notes n= 30	identification-egression unbearable psychological pain cognitive constriction indirect expressions inability to adjust ego interpersonal relations rejection-aggression	identification-egression	Of the 8 clusters found in the suicide notes, of particular interest to this study is the rejection-aggression cluster and the unbearable psychological pain cluster. Unbearable psychological pain can be seen to be similar to distress (i.e., emotional pain) The rejection-aggression cluster is closely linked to the emotion of anger, another variable tested in this study
Hendin & Haas (1991)	veterans' with PTSD who made a suicide attempt n= 19	veterans' with PTSD who had suicidal ideation n= 15 veterans' with PTSD but no suicidal ideation or behavior n= 66	Revised Combat Scale items DSM-III PTSD Criteria	guilt about combat actions survivor guilt depression anxiety severe PTSD	shows support for the role of guilt (guilt about combat actions, survivor guilt) and the role of sadness (depression) in suicidal behavior

Kotler, Finkelstein, Molcho, Botsis, Plutchik, Brown, & van Praag (1993)	suicidal psychiatric inpatients n= 46	nonsuicidal psychiatric inpatients n= 44	suicide risk violence risk impulsivity feelings of anger social support eight coping styles (minimization, suppression, seeking help, replacement, blame, substitution, mapping, reversal)	suicide risk violence risk impulsivity feelings of anger	of interest is the finding that anger and violence are associated with suicidal risk also of interest is the finding that social support was negatively correlated with suicide risk, indicating support for the role of thwarted belongingness in suicidal behavior
Goldney, Winefield, Saebel, Winefield, & Tiggeman (1997)	adolescent students with suicidal ideation	adolescent students without suicidal ideation	anger with oneself anger with society	anger with oneself (only in males)	
Apter, Kotler, Sevy, Plutchik, Brown, Foster, Hillbrand, Korn, & van Praag (1991)	psychiatric inpatients with a history of violent behavior n= 28	psychiatric inpatients without a history of violent behavior n= 28	sadness risk of suicide risk of violence impulsivity anger anxiety various mood states fear state and trait anxiety lack of impulse control	sadness	In psychiatric patients with no history of violence there was a significant correlation between sadness and suicide risk, however in patients with a history of violence there was no significant relationship

Platman, Plutchik, & Weinstein (1971)	Manic-Depressive patient n= 1	n/a	emotional expression speech socialization day sleep night sleep	emotional expression	Nurses found that up until the time of the patient's suicide attempt, there was an increase in her level of sadness
Hastings, Northman, & Tangney (2000)	?	?	shame guilt	shame	
Lester (2004)	diary of a young woman who died by suicide	n/a	negative emotions (e.g., "angry, "sad") positive emotions (e.g., "love", "happy")	negative emotions positive emotions	Up until the time of her death, there was an increase in the use of positive emotion terms and a decrease in the use of negative emotion terms The LIWC program used in this study did not examine the individual negative emotion and positive emotion terms, as the proposed study will
Lester (2009)	diary of Cesare Pavese who died by suicide	n/a	negative emotions (e.g., "angry, "sad") positive emotions (e.g., "love", "happy")	negative emotions positive emotions	As with Lester (2004), this study found an increase in positive emotions and a decrease in negative emotions up until the time of Cesare Pavese's death

Shneidman (1996)	n/a	n/a	psychache abasement achievement affiliation aggression autonomy counteraction defendance deference dominance exhibition harmavoidance inviolacy nurturance order play rejection sentience shame-avoidance succorance understanding	n/a	Theorizes that suicide occurs because of the deprivation of vital needs (needs from Murray, 1938)
Joiner (2005)	n/a	n/a	perceived burdensomeness thwarted belonging acquired capacity for self-injury	n/a	Theorizes that suicide occurs when these three elements are present.
Joiner, Pettit, Walker, Voelz, Cruz, Rudd, & Lester (2002)	completed suicide notes n= 13 M, 7 F	attempted suicide notes n= 8 M, 12 F	perceived burdensomeness	perceived burdensomeness	Perceived burdensomeness was also higher in high lethality notes than in low lethality notes

Pettit, Lam, Voelz, Walker, Perez, Joiner, Lester, & He (2002)	high lethality notes n= 8 M, 9 F	low lethality notes	perceived burdensomeness	perceived burdensomeness	Contradictory to Joiner et al. (2002), perceived burdensomeness was negatively associated with suicidal behavior
Joiner, Hollar, & Van Orden (2006)	suicide rates of days in which major sport victories occurred	suicide rates of the same days in prior and following years	suicide rates	suicide rates	Found that suicide rates were lower on the days of sport team victories than on those same dates in the years prior and the years following One limitation is this study treated the "pulling together" effect of sport team victories and a sense of belonging as the same thing

Appendix C: Rating Instructions

GENERAL INSTRUCTIONS

Today you will be reading through several notes. Each note was written by a person just prior to exhibiting suicidal behavior. Your task is to read each note and then rate the degree to which the author of each note was experiencing particular emotions, wants, or needs. Each note will be printed on the front page of a booklet of questions.

1. To begin, please tear the note from the questionnaire booklet (so that you may look back over it at any time while you are answering the questions) and read it from beginning to end
2. Please read through each note completely before answering the questions in that note's booklet. Feel free to write, underline, or make other marks on the note if it will help you with your ratings.
3. If you are not sure how to answer a question, answer it as best you can. You can write comments in the margin if you want to explain your answer.
4. When answering the questions, try to stick as closely as possible to what the note indicates the author feels, needs, and wants.
5. Please do your best to give some response to every question, even if some of the questions appear similar. Answer the questions in the order they are presented in this booklet.
6. There are no right or wrong answers to these questions. Only your answers are of value to this research. So, please fill out the questionnaires on your own. Please do not talk to other raters about it or look at other raters' answers except if asked to do so by the researcher.
7. If none of the answers to a question is exactly right, pick the answer that is best.
8. You will have several sessions to fill out the booklets for the complete set of notes. A full explanation of the study will be given to you at the end of the final session.
9. If you have any questions while filling out the questionnaires, please come to the desk where the researcher is sitting and let him know.

WHEN INSTRUCTED TO DO SO, PLEASE OPEN THE FIRST FOLDER AND BEGIN

Appendix D: Rating Scale

Note #_____

IN ANSWERING THE QUESTIONS IN *ANY PART* OF THIS QUESTIONNAIRE, **PLEASE FEEL FREE TO LOOK AT THE NOTE AT ANY TIME.** IF YOU HAVEN'T DONE SO ALREADY, PLEASE TEAR OFF THE NOTE FROM THE FRONT OF THIS QUESTIONNAIRE TO MAKE IT EASIER TO SEE IT WHILE MAKING YOUR RATINGS. PLEASE CIRCLE ONLY ONE NUMBER FOR EACH QUESTIONS.

Part 1

1. To what degree does the note imply that (at the time the author wrote the note) the author was feeling each of the following emotions?

A.	Joy:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
B.	Sadness:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
C.	Regret:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
D.	Relief:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
E.	Fear:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
F.	Pride:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
G.	Hope:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
H.	Anger:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
I.	Contempt (feeling that someone else is unworthy of respect):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
J.	Guilt:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
K.	Frustration:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
L.	Shame:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
M.	Disgust:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
N.	Surprise:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
O.	Affection toward someone:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
P.	Dislike (different from anger or contempt) toward someone else:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
Q.	Distress (emotional pain):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely

2. Please read through the entire list of emotions on this page and then answer question 3.

Joy

Sadness

Regret

Relief

Fear

Pride

Hope

Anger

Contempt (feeling that someone else is unworthy of respect)

Guilt

Frustration

Shame

Disgust

Surprise

Affection toward someone

Dislike (rather than anger or contempt) toward someone else

Distress (emotional pain)

3. Which one word or phrase from the list above best describes the emotion that the author was feeling most intensely (at the time he or she wrote the note)? Write the one word or phrase here:

_____

Part 2

4. To what degree does the note imply that (at the time the author wrote the note) the author was experiencing each of the following wants?

A.	wanting to be comforted:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
B.	wanting to get rid of (or avoid) something painful:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
C.	wanting to get (or keep) something pleasurable:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
D.	wanting to be protected:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
E.	wanting to escape from psychological pain:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
F.	wanting to be far away from someone:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
G.	wanting to get a repugnant*object, quality, or person away from the self:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
H.	wanting to overcome some obstacle:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
I.	wanting to show that another person had undesirable qualities:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
J.	wanting to be forgiven:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
K.	wanting to hide something about himself or herself:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
L.	wanting to get back at someone:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
M.	wanting to get a second chance at something:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
N.	wanting to keep good times coming:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
O.	wanting to return to normal:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
P.	wanting to get recognition from others:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
Q.	wanting what he or she was thinking of to happen:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
R.	wanting to figure out something that was unexpected:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
S.	wanting to be connected to someone:		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely

*repugnant: offensive or repulsive

5. Please read through the entire list of wants on this page and then answer question 6.

Wanting to be comforted

Wanting to get rid of (or avoid) something painful

Wanting to get (or keep) something pleasurable

Wanting to be protected

Wanting to escape from psychological pain

Wanting to be far away from someone

Wanting to a repugnant object, quality, or person away from the self

Wanting to overcome some obstacle

Wanting to show that another person had undesirable qualities

Wanting to be forgiven

Wanting to hide something about himself or herself

Wanting to get back at someone

Wanting to get a second chance at something

Wanting to return to normal

Wanting to get recognition from others

Wanting what he or she was thinking of to happen

Wanting to figure out something that was unexpected

Wanting to be connected to someone

6. Which one word or phrase from the list above best describes the want that the author was experiencing most intensely (at the time he or she wrote the note)? Write the one word or phrase here:

_____

Part 3

7. To what degree does the note imply that (at the time the author wrote the note) the author was experiencing each of the following needs as being THWARTED (unfulfilled)? (*indicates that definitions are available at the bottom of this page)

A.	The author was experiencing the need to achieve difficult goals as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
B.	The author was experiencing the need to be loved by another person as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
C.	The author was experiencing the need to belong or to be affiliated* as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
D.	The author was experiencing the need to overcome opposition as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
E.	The author was experiencing the need to be free of social confinement as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
F.	The author was experiencing the need to make up for past failure as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
G.	The author was experiencing the need to defend the self against others as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
H.	The author was experiencing the need to influence and control others as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
I.	The author was experiencing the need to receive attention from others as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
J.	The author was experiencing the need to avoid pain or injury as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
K.	The author was experiencing the need to avoid shame or humiliation as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
L.	The author was experiencing the need to protect the author's psychological space as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
M.	The author was experiencing the need to nurture or take care of another person as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
N.	The author was experiencing the need to keep things or ideas in good order as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
O.	The author was experiencing the need to enjoy sensuous* experiences as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
P.	The author was experiencing the need to be taken care of by another personas thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
Q.	The author was experiencing the need to understand certain hows and whys as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
R.	The author was experiencing the need to belittle the self as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
S.	The author was experiencing the need to admire, support, or emulate* a superior as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
T.	The author was experiencing the need to act for fun; to participate in pleasurable activities for its own sake as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
U.	The author was experiencing the need to exclude, banish, jilt*, or expel another person as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
V.	Other (if so, please specify below)as thwarted (unfulfilled):		1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely
	_____						

*affiliated: to be closely connected to someone or associated with someone.
*emulate: to strive to equal excellence, especially through imitation.

*jilt: to cast off suddenly or reject (a lover).
*sensuous: including creature comfort involving taste, touch, and the other senses.

8. Please read through the entire list of needs on this page and then answer question 9.

The author was experiencing the need to achieve difficult goals as thwarted (unfulfilled)

The author was experiencing the need to be loved by another person as thwarted (unfulfilled)

The author was experiencing the need to belong or to be affiliated as thwarted (unfulfilled)

The author was experiencing the need to overcome opposition as thwarted (unfulfilled)

The author was experiencing the need to be free of social confinement as thwarted (unfulfilled)

The author was experiencing the need to make up for past failure as thwarted (unfulfilled)

The author was experiencing the need to defend the self against others as thwarted (unfulfilled)

The author was experiencing the need to influence and control others as thwarted (unfulfilled)

The author was experiencing the need to receive attention from others as thwarted (unfulfilled)

The author was experiencing the need to avoid pain or injury as thwarted (unfulfilled)

The author was experiencing the need to avoid shame or humiliation as thwarted (unfulfilled)

The author was experiencing the need to protect the author's psychological space as thwarted (unfulfilled)

The author was experiencing the need to nurture or take care of another person as thwarted (unfulfilled)

The author was experiencing the need to keep things or ideas in good order as thwarted (unfulfilled)

The author was experiencing the need to enjoy sensuous experiences as thwarted (unfulfilled)

The author was experiencing the need to be taken care of by another person as thwarted (unfulfilled)

The author was experiencing the need to understand certain hows and whys as thwarted (unfulfilled)

The author was experiencing the need to belittle the self as thwarted (unfulfilled)

The author was experiencing the need to admire, support, or emulate a superior as thwarted (unfulfilled)

The author was experiencing the need to act for fun; to participate in pleasurable activities for its own sake as thwarted (unfulfilled)

The author was experiencing the need to exclude, banish, jilt, or expel another person as thwarted (unfulfilled)

Other (if so, please specify here):

9. Which one word or phrase from the list above best describes the need that the author was experiencing as THWARTED (unfulfilled) most intensely (at the time he or she wrote the note)? Write the one word or phrase here:

_____

PART 4

10. To what degree does the note imply that (at the time the author wrote the note) the author was experiencing a THWARTED need to be in a relationship with someone?

1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely

11. To what degree does the note imply that (at the time the author wrote the note) the author was experiencing a feeling of being disconnected from others?

1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely

12. To what degree does the note imply that (at the time the author wrote the note) the author was experiencing a feeling of isolation from other people?

1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely

13. To what degree does the note imply that (at the time the author wrote the note) the author was attributing his or her suicidal behavior to the recent loss of someone important?

1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely

14. To what degree does the note imply that (at the time the author wrote the note) the author felt he or she was a burden on others?

1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely

15. To what degree does the note imply that (at the time the author wrote the note) he or she felt that others would be better off without the author?

1 not at all	2 a little	3 moderately	4 quite a bit	5 extremely

Part 5

Please write down the first three words in this suicide note: _____

Please write down the last three words in this suicide note: _____

YOU HAVE NOW COMPLETED THE QUESTIONNAIRE FOR THIS NOTE. PLEASE PUT IT BACK IN ITS FOLDER AND MOVE ON TO THE NEXT NOTE. IF NO OTHER NOTES ARE LEFT FOR YOU TO RATE TODAY, PLEASE PUT ALL YOUR FOLDERS IN A PILE AND WAIT QUIETLY FOR FURTHER INSTRUCTIONS.

Appendix E: LIWC Word List

Emotions	Terms
LOVE	adoration adoring adorable affection love** loving loved fondness liking liked attraction attractive caring cared tenderness compassion compassionate compassionately sentimentality sentimental
LUST	arousal aroused arousing desire lust** lusting lusted passion passionate infatuation infatuated
LONGING	longing** longed

JOY	amusement bliss blissful cheerfulness cheerful gaiety glee jolliness joviality joy** delight delighted delighting enjoyment enjoyed enjoying gladness happiness happy jubilation elation elated satisfaction ecstasy euphoria
EXCITEMENT	enthusiasm enthused zeal excitement** excited exciting thrill thrilled thrilling exhilaration exhilarated exhilarating
CONTENTMENT	contentment** contented content pleasure pleasuring pleasured
PRIDE	pride** proud triumph triumphant
HOPE	eagerness eager hope** hopeful hoped optimism optimistic
ENTHRALLMENT	enthrallment** enthralled enthralling rapture

RELIEF	relief** relieving relieved
SURPRISE	amazement amazed amazing surprise** surprising surprised astonishment astonished astonishing
IRRITATION	aggravation aggravated aggravating irritation** irritated irritating agitation agitated agitating annoyance annoying annoyed grouchiness grouchy grumpiness grumpy
FRUSTRATION	exasperation exasperated exasperating frustration** frustrated frustrating

ANGER	anger** angered angering rage enraged outrage fury wrath hostility ferocity bitterness hate hating hated loathing loathed scorn spite spited spiting vengefulness vengeful dislike disliked disliking resentment resented resenting
DISGUST	disgust** disgusted disgusting revulsion revolting revolted
CONTEMPT	contempt**
ENVY	envy** envious envied envying jealousy jealous
TORMENT	torment** tormented tormenting
DISTRESS/SUFFERING	agony suffering** suffer suffered hurt hurting anguish misery miserable

SADNESS	depression depressed depressing despair despairing despaired hopelessness hopeless gloom gloomy glumness sadness** unhappiness unhappy grief grieving grieved sorrow sorrowful woe woeful melancholy
DISAPPOINTMENT	dismay dismayed dismaying disappointment** disappointed disappointing displeasure displeased displeasing
SHAME	shame** shameful shamed shaming
GUILT	guilt** guilty
REGRET	regret** regretting regretted remorse remorseful

NEGLECT	alienation alienated alienating isolation isolated isolating neglect** neglectful neglected neglecting loneliness lonely rejection rejected rejecting homesickness defeat defeated defeating dejection dejected dejecting insecurity insecure embarrassment embarrassed embarrassing humiliation humiliated humiliating insult insulted insulting
SYMPATHY	pity pitiable pitying pitied sympathy**

FEAR	alarm alarming alarmed shock shocking shocked fear** fearful fearing afraid fright frightful frightened frightening horror horrified horrifying terror terrifying terrified panic panicked panicking hysteria mortification mortified mortifying
ANXIETY	anxiety** anxious nervousness nervous tension tense uneasiness uneasy apprehension apprehensive worry worrying worried distress distressing distressed dread dreadful dreading dreaded

Appendix F: Words to be added for the Exploratory Analysis

Edginess	Dolefulness	Power
Awe	Wonderment	Vibrance
Despondency	Calmness	Sheepishness
Gratitude	Respect	Jitteriness
Mellowness	Somberness	Virtue
Vexation	Vehemence	Mirth
Enchantment	Sulkiness	Demoralization
Exultation	Encouragement	Fierceness
Sullenness	Frenzy	Effervescence
Surprise	Obsession	Fervor
Discontentment	Success	Complacency
Boredom	Forgiveness	Nostalgia
Exuberance	Indignation	Modesty
Forlornness	Discomfort	Disgruntlement
Lividness	Vindictiveness	Inconsolableness
Moroseness	Aversion	Belligerence
Disconsolateness	Vanity acceptance	Craving
Determination	Abandonment	Inclination
Doubt	Carefreeness	Approval
Superiority	Exhaustion	Distraction
startle	Indecision	Freedom

References

Asberg, M., Traskman, L., & Thoren, P. (1976). 5-HIAA in the cerebrospinal fluid: A biochemical suicide predictor? *Archives of General Psychiatry, 33(10)*, 1193-1197.

Baechler, J. (1979). Suicides. New York: Basic Books, Inc.

Baumeister, R. F. (1990). Suicide as escape from self. *Psychological Review, 97(1),* 90-113. doi.10.1037/0033-295X.97.1.90

Barrett, L. F. (2009). Variety is the spice of life: A psychological construction approach to understanding variability in emotion. *Cognition & Emotion, 23(7),* 1284-1306.

Beck, A. T., Brown, G., Berchick, R. J., Stewart, B. L., & Steer, R. A. (1990). Relationship between hopelessness and ultimate suicide: A replication with psychiatric outcomes. *American Journal of Psychiatry, 147(2),* 190-195.

Beck, A. T., Steer, R. A., Kovacs, M., & Garrison, B. (1985). Hopelessness and eventual suicide: A 10-year prospective study of patients hospitalized with suicidal ideation. *American Journal of Psychiatry, 142,* 559-563.

Callanan, V. J., & Davis, M. S. (2009). A comparison of suicide note writers with suicides who did not leave notes. *Suicide and Life-Threatening Behavior, 39(5),* 558-568.

Diedrich, C., & Warelow, P. (2002). Suicide: a personal reflection. Journal of Psychiatric and Mental Health Nursing, 9, 169-173.

Frijda, N. H. (1988). The laws of emotion. *American Psychologist, 43(5),* 349-358.

Goldney, R., Winefield, A., Saebel, J., Winefield, H., & Tiggeman, M. (1997). Anger, suicidal ideation, and attempted suicide: a prospective study. *Comprehensive Psychiatry, 38(5),* 264-268.

Gunn, J. F., III, Lester, D., Haines, J., & Williams, C. L. (in press). Thwarted belonging and perceived burdensomeness in suicide notes. *Crisis: The Journal of Crisis Intervention and Suicide Prevention.*

Handelman, L. D., & Lester, D. (2007). The content of suicide notes from attempters and completers. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 28(2),* 102-104.

Heim, N., & Lester, D. (1990). Do suicides who write notes differ from those who do not? A study of suicides in West Berlin. *Acta Psychiatrica Scandinavica, 82(5),* 372-373.

Hendin, H. & Haas, A. P. (1991). Suicide and guilt as manifestations of PTSD in Vietnam combat veterans. *American Journal of Psychiatry, 148(5),* 586-591.

Hendin, H., Jurdi, R. K. A., Houck, P. R., Hughes, S., & Turner, J. B. (2010). Role of intense affects in predicting short-term risk for suicidal behavior: a prospective study. *The Journal of Nervous and Mental Disease, 198(3),* 220-225.

Ho, T. P., Yip, P. S. F., & Chiu, C. W. F. (1998). Suicide notes: What do they tell us? *Acta Scandinavica Psychiatrica, 98(6),* 467-473.

Joiner, T. E. Jr. (2005). Why people die by suicide. Harvard University Press: Cambridge, MA.

Joiner, T. E. Jr., Pettit, J. W., Walker, R. L., Voelz, Z. R., Cruz, J., Rudd, M. D., & Lester, D. (2002). Perceived burdensomeness and suicidality: two studies on the suicide notes of those attempting and those completing suicide. *Journal of Social and Clinical Psychology, 21(5),* 531-545.

Joiner, T. E., Jr., Hollar, D., & Van Orden, K. (2006). On Buckeyes, Gators, Super Bowl Sundays, and the Miracle on Ice: "pulling together" is associated with lower suicide rates. *Journal of Social and Clinical Psychology, 25(2),* 179-195.

Kalafat, J., & Lester, D. (2000). Shame and suicide: a case study. *Death Studies, 24,* 157-162.

Kienhorst, I. C. W. M., De Wilde, E. J., Diekstra, R. F. W., & Wolters, W. H. G. (1995). Adolescents' image of their suicide attempt. *Journal of the American Academy for Child and Adolescent Psychiatry, 34(5),* 623-628.

Kotler, M., Finkelstein, G., Molcho A., Botsis, A. J., Plutchik, R., Brown, S., & van Praag, H. M. (1993). Correlates of suicide and violence risk in an inpatient population: coping styles and social support. *Psychiatry Research, 47,* 281-290.

Lansky, M. (1991). Shame and the problem of suicide: a family systems perspective. *British Journal of Psychotherapy, 7(3),* 230-242.

Leenaars, A. A. (1988). Suicide notes: Predictive clues and patterns. New York, NY: Human Sciences Press, Inc.

Leenaars, A. A., De Wilde, E. J., Wenckstern, S. & Kral, M. (2001). Suicide notes of adolescents. A life-span comparison. *Canadian Journal of Behavioral Science/Revue canadienne des sciences du comportement, 33(1),* 47-57.

Leenaars, A. A., & Lester, D. (2004/2005). A note on Shneidman's Psychological Pain Assessment Scale. *Omega, 50(4),* 301-307.

Lehnert, K. L., Overholser, J. C., & Spirito, A. (1994). Internalized and externalized anger in adolescent suicide attempters. *Journal of Adolescent Research, 9(1),* 105-119.

Lester, D. (Ed). (2004). Katie's diary. Brunner-Routledge: New York, NY.

Lester, D. (2009). Understanding suicide through studies of diaries: the case of Cesare Pavese. *Archives of Suicide Research, 10(3),* 295-302.

Lester, D. (1997). The role of shame in suicide. *Suicide and Life-Threatening Behavior, 27(4),* 352-361.

Lewis, M. D. & Liu, Z. (2011). Three times scales of neural self-organization underlying basic and nonbasic emotions. *Emotion Review, 3(4),* 416-423.

Maiuro, R. D., O'Sullivan M. J., Michael, M. C., & Vitaliano, P. P. (1989). Anger, hostility, and depression in assaultive vs suicide-attempting males. *Journal of Clinical Psychology, 45(4),* 531-541.

Mann, J. J., Malone, K. M., Sweeney, J. A., Brown, R. P., Linnoila, M., Stanley, B., & Stanley, M. (1996). Attempted suicide characteristics and cerebrospinal fluid amine metabolites in depressed inpatients. *Neuropsychopharmacology, 15(6),* 576-586.

McIntosh, J. L (for the American Association of Suicidology). (2011). U.S.A. suicide 2008: Official final data. Washington, DC: American Association of Suicidology, dated September 13, 2011, downloaded from www.suicidology.org.

Menninger, K. A. (1938). Man Against Himself. New York: Harcourt, Brace and Company.

Mokros, H. B. (1995). Suicide and shame. *American Behavioral Scientist, 38(8),* 1091-1103.

Murray, H. A. (1938). Explorations in Personality. New York: Oxford University Press.

O'Brien, R. M. (2007). A caution regarding rule of thumb for variance inflation factors. *Quality and Quantity, 41(5),* 673-690.

O'Connor, R. C. (2003). Suicidal behavior as a cry of pain: Test of a psychological model. *Archives of Suicide Research, 7(4),* 297-308.

Paulson, B. L., & Worth, M. (2002). Counseling for suicide: client perspectives. *Journal of Counseling and Development, 80,* 86-93.

Pennebaker, J.W., Francis, M.E., & Booth, R.J. (2001). Linguistic inquiry and word count. Mahwah, NJ: Erlbaum.

Pettit, J. W., Lam, A. G., Voelz, Z. R., Walker, R. L., Perez, M., Joiner, T. E., Jr., Lester, D., & He, Z. (2002). Perceived burdensomeness and lethality of suicide method among suicide completers in the People's Republic of China. *Omega: The Journal of Death and Dying, 45(1),* 57-67.

Roseman, I. J. A model of appraisal in the emotion system. In K. R. Scherer, A. Schorr, & T. Johnstone (Eds.) (2001). Appraisal processes in emotion: Theory, methods, research (pp. 68-91). New York: Oxford.

Roseman, I. J. (July, 2002). Distancing, attack, & exclusion responses: A summary of progress in differentiating negative emotions. Paper presented at the 12th Conference of the International Society for Research on Emotions, Cuenca, Spain.

Roseman, I. J. (2008). Motivations and emotivations: Approach, avoidance, and other tendencies in motivated and emotional behavior. In A. J. Elliot (Ed.) Handbook of approach and avoidance motivation. (pp. 343-366). New York: Psychology Press.

Roseman, I. J. (2011). Emotional behaviors, emotivational goals, emotion strategies: Multiple levels of organization integrate variable and consistent responses. *Emotion Review, 3(4),* 434-443.

Roseman, I. J., & Kaiser, S. (2001). Applications of appraisal theory to understanding, diagnosing, and treating emotional pathology. In K. R. Scherer, A. Schnorr, & T.Johnstone (Eds.), Appraisal processes in emotion: Theory, methods, research (pp. 249-267). New York: Oxford.

Russell, J. A. (2003). Core affect and the psychological construction of emotion. *Psychological Review, 110,* 145-172.

Shaver, P., Schwartz, J., Kirson, D., & O'Connor, C. (1987). Emotion knowledge: further expoloration of a prototype approach. *Journal of Personality and Social Psychology, 52(6),* 1061-1086.

Shneidman, E. S., & Farberow, N. L. (1956). Clues to suicide. *Public Health Reports, 71(2),* 109-114.

Shneidman, E. S. (1993). Suicide as Psychache: A Clinical Approach to Self-Destructive Behavior. Northvale, New Jersey: Jason Aronson Inc.

Shneidman, E. S. (1996). The Suicidal Mind. New York: Oxford University Press.

Shneidman, E. S. (1999). The psychological pain assessment scale. *Suicide and Life-Threatening Behavior, 29(4),* 287-294.

Shneidman, E. S. (2005). Anodyne psychotherapy for suicide: a psychological view of suicide. *Clinical Neuropsychiatry, 2(1),* 7-12.

Shreve B. W. & Kunkel M. A. (1991). Self-psychology, shame, and adolescent suicide: theoretical and practical considerations. *Journal of Counseling & Development, 69,* 305-311.

Slee, N., Garnefski, N., Spinhoven, P., & Arensman, E. (2008). The influence of cognitive emotion regulation strategies and depression severity on deliberate self-harm. *Suicide and Life-Threatening Behavior, 38(3),* 274-286.

Smith, C. A., & Kirby, L. D. (2009). Putting appraisal in context: toward a relational model of appraisal and emotion. *Cognition and Emotion, 23(7),* 1352-1372.

Smith, C. A., & Lazarus, R. S. (1990). In L. A. Pervin (Ed.), Handbook of Personality: Theory and Research (pp. 609-637). New York: Guilford.

Stellrecht, N. E., Gordon, K. H., Van Orden, K., Witte, T. K., Wingae, L. R., Cukrowicz, K. C., Butler, M. Schmidt, N. B., Fitzpatrick, K. K., & Joiner, T. E., Jr. (2006). Clinical applications of the Interpersonal-Psychological Theory of attempted and completed suicide. *Journal of Clinical Psychology, 62(2),* 211-222.

Sulik, M J., Roseman, I. J., & Jose, P. E. (2009, August). Instrumental vs intrinsic problem type distinguishes attack emotions from rejection emotions. Poster presented at the 18th Conference of The International Society for Research on Emotions, Leuven, Belgium.

Trumbull, D. (2003). Shame: an acute stress response to interpersonal traumatization. *Psychiatry, 66(1),* 53-64.

Yang, B., & Lester, D. (2011). The presentation of the self: An hypothesis about suicide notes. *Suicidology Online, 2,* 75-79.