COGNITION AND SUICIDE: THE RELATIONSHIP BETWEEN SOCIAL PROBLEM-SOLVING AND SUICIDAL BEHAVIOR

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DEDICATION

For Mom and Dad

“Treat people as if they were what they ought to be and you help them to become what they are capable of being.” – Goethe

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Suicidal behavior impacts thousands of individuals worldwide each year and exacts an incalculable toll on the victims' family members and loved ones. Past research has examined the role of demographic variables associated with suicidality yielding important information about individuals who engage in suicidal behavior. Despite the significance of these findings, limited data exists linking demographic factors and clinically useful risk assessment. More recently,

researchers began examining the role of cognition and suicidal behavior in an effort to elucidate the underpinnings of the suicide mode. Early evidence suggests that study of the time period immediately surrounding the suicide attempt may yield important evidence for risk assessment. The current study examined cognitive variables during the time period immediately following a suicide attempt. Specifically, the primary goal of the study was to explore the relationship between depression, hopelessness, problem-solving skills and suicidality.

The study sample included 76 patients presenting for treatment in the Parkland Health and Hospital System: 41 individuals who attempted suicide and required inpatient medical treatment, and 35 suicidal psychiatry emergency room patients. Problem-solving skills, levels of depression and hopelessness, and negative self-cognitions were assessed for each participant in a cross-sectional study design.

Results indicated that suicide attempters and suicide ideators did not differ with regard to measures of depression or hopelessness. A relationship between depression and hopelessness and social problem-solving was found, but did not predict study group status. Resistance to premature closure, a measure of an individual's ability to remain open to potential solutions for problems, was found to be significantly different between the two study groups. However, resistance to premature closure did not correlate with depression or hopelessness. In summary,

evidence in support of problem-solving as a mediator between hopelessness/depression and suicide was not found. Preliminary evidence suggests that resistance to premature closure measures an aspect of problem-solving that effectively differentiates between suicide ideators and attempters.

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LIST OF ABBREVIATIONS

ANOVA: Analysis of Variance

BHS: Beck Hopelessness Scale

CDC: Centers for Disease Control and Prevention

CL: Parkland Hospital Consultation-Liaison Service

DSM: Diagnostic and Statistical Manual of Mental Disorders

ED: Emergency Department

ICD: International Statistical Classification of Diseases and Related Health Problems

ICU: Intensive Care Unit

LR: Low Risk

MSSI: Modified Scale for Suicidal Ideation

NSSP: National Strategy for Suicide Prevention

PES: Psychiatric Emergency Services

PET: Positron Emission Tomography

PHHS: Parkland Health and Hospital System

QIDS-SR-SR: Quick Inventory of Depressive Symptomatology – Self-Report

RPC: Resistance to Premature Closure Subscale – TTCT

RRR: Risk-Rescue Rating Scale

SA: Suicide Attempters

SCS: Suicide Cognitions Scale

SEPI-A: Subjective Experience of Problem Irresolvability-Adult Version

SIS: Suicide Intent Scale

SPSI-R:S: Social Problem-Solving Inventory-Revised, Short Version

TTCT: Torrance Test of Creative Thinking

USPSTF: United States Preventative Services Task Force

WHO: World Health Organization

CHAPTER ONE

Introduction

SCOPE AND SIGNIFICANCE

Overview

According to the National Center for Injury Prevention and Control, suicide was the eleventh leading cause of death in the United States in 2004, accounting for more than 32,000 deaths (Centers for Disease Control and Prevention, 2007). The most recent data suggest that the suicide rate in Texas is 10.24 per 100,000, compared to the overall rate of 11.05 for the country (Centers for Disease Control and Prevention, 2007). Each year more than one million individuals die worldwide as a result of suicide and there are approximately twenty suicide attempts for every completed suicide (American Foundation for Suicide Prevention, 2007). The global suicide mortality rate is estimated to exceed sixteen individuals per 100,000 (American Foundation for Suicide Prevention, 2007).

In 1996 the World Health Organization (WHO) encouraged its member countries to initiate a concerted effort addressing the worldwide problem of suicide (World Health Organization, 1996). In response to the WHO guidelines the United States Surgeon General issued a call to action to prevent suicide (United States Public Health Service, 1999). The initial goals of the Surgeon General's Call to Action focused on increasing awareness of suicide, enhancing

intervention strategies, and extending the research in order to better inform suicide prevention strategies. The 1999 Call to Action led to the compilation of the National Strategy for Suicide Prevention (NSSP) (U.S. Department of Health and Human Services, 2001).

> A national strategy to prevent suicide is a comprehensive and integrated approach to reducing the loss and suffering from suicide and suicidal behaviors across the life course. It encompasses the promotion, coordination, and support of activities that will be implemented across the country as culturally appropriate, integrated programs for suicide prevention among Americans at national, regional, tribal, and community levels (p.21)

Clearly the impact of suicide is immense. Although estimates of the financial burden of suicide in the United States vary significantly as a result of uncertain rates and incomplete data, Miller, Covington, and Jensen (1999) approximated a total economic burden of $111.3 billion in 1995. This dollar amount includes money lost through a combination of medical expenses, quality of life costs, and work-related losses. The impact of suicide on family, friends, and colleagues is impossible to quantify.

Despite the initiatives offered by the WHO, and the directives included in the Surgeon General's Call to Action and NSSP, limited data exists supporting the implementation of specific screening and prevention tools in primary care settings, a key site for suicide intervention. In a 2004 publication the U.S. Preventive Services Task Force was unable to make specific recommendations regarding primary care intervention for suicidality, citing a paucity of data with regard to morbidity and mortality reduction (Gaynes, et al., 2004; U.S. Preventive Services Task Force, 2004).

Although there is a recent history of advancing suicide research initiatives, it is apparent that extensive research is necessary to further elucidate the underpinnings of accurate prediction and effective prevention. The following manuscript will examine approaches to risk assessment and treatment/prevention efforts.

CHAPTER TWO

Review of the Literature

> Suicide is a particularly awful way to die: the mental suffering leading up to it is usually prolonged, intense, and unpalliated. There is no morphine equivalent to ease the acute pain, and death not uncommonly is violent and grisly. The suffering of the suicidal is private and inexpressible, leaving family members, friends, and colleagues to deal with an almost unfathomable kind of loss, as well as guilt. Suicide carries in its aftermath a level of confusion and devastation that is, for the most part, beyond description (Redfield Jamison, 2000).

TERMINOLOGY

Suicidal Behavior

In 1996 O'Carroll and colleagues published a nomenclature for the study of suicide in an effort to standardize risk assessment and research (O'Carroll, et al., 1996). In the years that followed, suicidologists conferred and debated in an effort to update the terminology and expound upon the original scope of the publication (De Leo, Burgis, Bertolote, Kerkhof, & Bille-Brahe, 2006). By 2007

a working group led by Silverman proposed a revised system of terminology for the study of suicide (Silverman, Berman, Sanddal, O'Carroll P, & Joiner, 2007a, 2007b).

Silverman and colleagues (2007a) discussed numerous benefits of revising the previously developed nomenclature, first and foremost that improved terminology is essential for effective prediction. They also highlighted the importance of effectively defining behavior and cognitions related to suicide in an effort to accurately recognize their presence in a clinical setting. Silverman and his associates recognized several areas for improvement to be targeted in their revised nomenclature. Specifically, the working group advocated for an unambiguous definition of intent and concluded the term "connotes a conscious desire or wish to leave (or escape from) life" (p.254). They further clarified, "Our position is that intent refers to the aim, purpose, or goal of the behavior…although it implies an action, the action itself is not a given" (p.254). However, the authors noted that the term intent does imply a resolve to act.

In examining the concept of lethality in relation to suicide, Silverman and colleagues (2007a) posited that intent supersedes the medical seriousness of suicidal behavior. Clinically this idea is supported by the observation that many individuals have limited understanding of the biological consequences of certain behaviors, but may have equivalent levels of intent (e.g. ingesting 100 acetaminophen tablets compared to ingesting 100 penicillin tablets).

Additionally, Andriessen (2006) argued that future research should attempt to differentiate between retrospective "motives" and prospective "intent." He proposed that motives are distinctly different from intent in that a person who commits suicide as a result of motivation is acting in a specific manner in order to achieve a goal other than death. Conversely, Andriessen claimed that intent indicates that the individual's goal is to die.

Silverman and associates (2007b) arrived at a schematic for suicide terminology that focuses on three distinct areas: suicide-related ideations, communications, and behavior. Within this system, suicide-related communication includes suicide threats and suicide plans, while suicide-related behavior includes self-harm, suicide attempts, and suicide. 'Self-harm' was defined as "self-inflicted, potentially injurious behavior for which there is evidence (either implicit or explicit) that the person did not intend to kill himself/herself" (p. 272). Stemming from this definition was the term 'self-inflicted unintentional death,' describing death that resulted from self-injury without intent to die. 'Suicide attempt' was defined as "self-inflicted, potentially injurious behavior with a nonfatal outcome for which there is evidence (either explicit or implicit) of intent to die" (p. 273). It follows that 'suicide' is a suicide attempt that results in death.

Imminent Suicidality

In an effort to further elucidate suicide nomenclature, researchers have examined the concept of imminent risk. However, there is minimal data to indicate that scientists have successfully identified what constitutes this imminent risk state. Simon (2006) pointed out that the paradigm of imminent risk is steeped in both mental health and legal literature. Additionally, Simon uncovered that the temporal aspects defining imminent risk varied significantly in past research, anywhere from 24/48 hours to one month.

DEMOGRAPHIC CHARACTERISTICS

Gender

Suicide is the eight leading cause of death among men in the United States, and the sixteenth leading cause of death among women (Centers for Disease Control and Prevention, 2007). Suicide rates for both genders exceed those for homicide and HIV. While women report attempting suicide three times as often as men, approximately four times as many men as women die as a result of suicide (A. M. Minino, Arias, E., Kochanek, K.D., Murphy, S.L., & Smith, B.L., 2002). In a study of US emergency departments trends between 1992 and 2001, Larkin and colleagues (2008) found that females presented for suicide attempts significantly more frequently than males. Researchers posited that the

higher rate of suicide attempts in females may best be explained by increased risk of depression. Additional explanations of the gender discrepancy include the hypotheses that men are likely to engage in more lethal and irreversible forms of self-harm (i.e. gunshot wounds), physicians may be more hesitant to label a female's death as suicide, and women tend to place more importance on interdependence and relatedness than men thereby reducing the likelihood that women would resort to suicide (A.L. Beautrais, 2006; Doshi, Boudreaux, Wang, Pelletier, & Camargo, 2005; Goldsmith, Pellmar, Kleinman, & Bunney, 2002; Murphy, 1998; C.L. Rich, J.E. Ricketts, R.C. Fowler, & D. Young, 1988).

Durkheim (1951) postulated that suicide rates increase as a result of deteriorating social integration across the lifespan. However, this theory does not appear consistent with the peak in female suicidal behavior that occurs at midlife followed by a sharp decline with advancing age (Girard, 1993). Linehan (1973) examined the relationship between social attitudes and suicidality in the context of suicidal behavior (attempted vs. completed) and gender. Results indicated that suicide is generally perceived to be a more masculine act and social expectations of suicidal behavior vary based on the gender of the suicidal person.

In almost every country reporting suicide statistics, including the United States, men are more likely than women to kill themselves (American Foundation for Suicide Prevention, 2007; Canetto & Lester, 1995). Variability in this finding occurs when examining the suicide rates in some Asian countries (particularly in

rural areas), where the ratio of female to male suicide is much higher. In the United States, suicide rates are higher for men regardless of age, ethnicity, and relationship status (Lester, 1988). Data indicates that the suicide rates for men peak in late life and in midlife for women, particularly in economically developed countries (Girard, 1993). A consistent finding across cultures is that unemployment is significantly related to suicide risk for both men and women.

Qin and colleagues (2003) found that psychiatric disorders were more likely to increase suicide risk in females than males. In this Danish cohort, unemployment and low income had a stronger relationship with suicide risk for men than women. Overall, the majority of the socioeconomic, relational, and psychiatric factors examined by Qin and colleagues differ significantly between males and females with respect to suicide risk.

In their study, Rich, Ricketts, Fowler, and Young (1988) examined differences between male and female participants who committed suicide. Results indicated that men were more likely to employ violent, immediately lethal methods of suicide. Rich and colleagues found that men used drugs and poison significantly less frequently than women, and firearms significantly more frequently than women. It should be noted that personal loss, a category that included separation, rejection, and death, was equally endorsed by both genders. Both male and female suicide completers received frequent substance abuse and affective disorder diagnoses. However, women were diagnosed with major

depressive disorder more often than men. Murphy (1998) suggested that men were more likely to complete suicide due to the decreased likelihood that major depression will be recognized and treated in later life. Suominen and colleagues (2004) confirmed several of Rich et al's findings including the high prevalence of substance abuse disorders and greater risk for suicidal male patients as opposed to female patients. Additionally, Suominen et al reiterated the high risk associated with past deliberate self-harm acts.

Motto and Bolstrom (1997) prospectively examined the characteristics of approximately 2,800 depressed and suicidal patients, of which 171 later died as a result of suicide. They found that women who indicated feelings of guilt, shame, or remorse were two to three times more likely to commit suicide than men with similar feelings. Analyses also showed that the only variable unique to suicidal outcome was the perception, within the non-white male subgroup, of their health as not "good." Similar findings related to health and physical well-being were not found within any of the female subgroups.

A recent study conducted in Denmark demonstrated that suicide risk is significantly increased when a partner has a history of psychiatric illness, both for males and for females (Agerbo, 2005). Risk of suicide also increases for both males and females if a child or spouse has died, particularly if the partner died by suicide. Additionally, Agerbo found that being a parent is only a protective factor against suicide for women. Individuals, both male and female, who are separated,

divorced, never married, and cohabitating are at similar risk for suicide. This finding confirmed previous research regarding marital status and its protective relationship with regard to suicide, and seemed to indicate that marital status is more protective for men than women (Gove, 1979; Qin, Agerbo, & Mortensen, 2003).

Theories regarding the discrepancy between male and female suicide rates have been proposed throughout the history of suicidology. Many explanatory models have been proposed to elucidate the relationship between gender and self-harm, but few, if any, have demonstrated consistent predictive power.

Ethnicity

In the United States in 2004, over 32,000 deaths were attributed to suicide. Nearly 30,000 of those suicides were committed by Caucasians (Centers for Disease Control and Prevention, 2007). CDC statistics indicated that 2,019 African-Americans, 404 American Indian/American Natives, and 765 Asian/Pacific Islanders committed suicide during the same year.

The data regarding suicide and ethnicity are largely descriptive and little research has been conducted to examine the underlying dynamics associated with discrepant ethnic suicide rates. Oquendo and colleagues (2001) investigated ethnic and gender differences in suicide rates in comparison to major depression in the United States. Male suicide rates were consistently higher than female

suicide rates across ethnicities. White, Cuban American, and black males had the highest suicide rates relative to depression rates, while Puerto Rican males had a relatively low rate of suicide compared to prevalence of major depression. White females had the highest relative suicide rate compared to the other ethnic groups studied. The lowest female suicide to depression rates occurred in the Mexican American and Puerto Rican groups.

Hypotheses regarding the discrepancies of suicide rates among ethnic groups have been proposed in the past (Goldsmith, et al., 2002). Level of acculturation and social disorganization are dynamics that were used to explain the suicide rates of American Indians (Goldsmith, et al., 2002). In the African-American community, suicide rates are low compared to the prevalence of mental illness in the population. Researchers have hypothesized that perception of mental health issues as a "personal weakness" is common among African-Americans and may contribute to the trends in suicidal behavior (Goldsmith, et al., 2002).

Socioeconomic Status

In the past authors examined the relationship between socioeconomic status and suicidal behavior as a method of informing social policy and prevention initiatives (Hawton, Harriss, Hodder, Simkin, & Gunnell, 2001). Results indicated that self-harm behavior rates increase among the unemployed and

manual laborers (Lewis & Sloggett, 1998; S. Platt & Kreitman, 1984). Hawton and colleagues (2001) examined economic and social variables in relation self-harm behavior and suicide in a British sample. Data indicated that there was a significant relationship between low socioeconomic status and self-harm behavior. Additionally, findings demonstrated an association between social fragmentation and increased self-harm behavior in the study sample.

In contrast, Agerbo et al. (2001) found that people with a history of mental illness and high income were at increased suicide risk compared to those of lower income in a Danish population. A Finnish study found similar results in a sample of more than 1,400 suicides (Timonen, et al., 2001). Researchers hypothesized that patients with high income may experience greater stigmatization and sense of vulnerability compared to lower income mental health patients. In a commentary on Agerbo et al.'s findings, Gunnell (2001) offered further explanations including the possibility that greater resources are available to wealthy patients and they are subsequently able to postpone hospitalization and seek treatment in private settings, possibly leading to a failure to receive inpatient treatment that could prevent suicide.

Overall, the results regarding socioeconomic status and suicide are unclear. It is generally accepted that unemployment and social disintegration are related to increased suicide rates; however, the correlation between income and suicide is poorly understood.

Psychiatric Comorbidity

It is estimated that at least 90% of suicide victims have a psychiatric disorder at the time of their death (Appleby, Cooper, Amos, & Faragher, 1999; Bertolote, Fleischmann, De Leo, & Wasserman, 2004; Strakowski, 1996). However, the majority of patients diagnosed with a psychiatric illness do not go on to commit suicide. Therefore, presence of psychiatric illness alone is not a sufficient predictor of future suicidality.

Mann and colleagues (1999) examined suicide risk factors in patients with psychiatric diagnoses including mood disorders, psychoses, and personality disorders. Results indicated that objective severity of depression or psychosis was not significantly different between suicide attempters and non-attempters. However, subjective ratings of depression, suicidal ideation, and decreased reasons for living were significantly increased in suicide attempters. Additionally, the trait "aggression/impulsivity" distinguished between attempters and non-attempters. The authors posit that the patient's psychiatric diagnosis is not the most important determinant of future suicidal behavior. Instead, a strong history of overt impulsiveness and aggressiveness more accurately differentiated between attempters and non-attempters, regardless of diagnosis. However, it should be noted that the impulsive/aggressive trait was associated with a diagnosis of borderline personality disorder. Overall, Mann and colleagues found that severity of psychiatric illness is unlikely to be a useful tool to predict suicidal

behavior, but personality traits such as impulsiveness and aggressiveness may prove to be components of self-harm behavior.

Mood Disorders

Researchers have long assumed a lifetime suicide risk of 15% for patients diagnosed with affective illness (Guze & Robins, 1970). Bostwick & Pankgratz, in their 2000 meta-analysis, argued that this figure was misleading and failed to take into account extraneous variables, particularly history of psychiatric hospitalization (Bostwick & Pankratz, 2000). In a 2001 publication, researchers reviewed the epidemiological literature regarding mood disorders and suicide (Nierenberg, Gray, & Grandin, 2001). They hypothesized that the frequently cited 15% suicide rate in patients diagnosed with bipolar and unipolar depression was inflated due to sampling procedures utilized in early studies and changes in the pharmacologic treatment of mood disorders. Additionally, Nierenberg and colleagues claimed that national suicide rates should be significantly higher if the 15% suicide rate was accurate based on the prevalence of mood disorders in the United States. The authors' model indicated that a more accurate estimate of suicide rates for people with major depression was 3.4%, men having a 7% risk and women having a 1% risk. With further analysis, the authors concluded that lifetime suicide risk for affective disorder outpatients was approximately 2.2%, and 4.5% for affective disorder inpatients. With regard to bipolar disorder,

Nierenberg and colleagues stated that past research estimated suicide attempt risk to fall between 25 and 50% depending on the individual's mood state. Researchers attributed the substantially increased risk to comorbid factors such as substance abuse and evidence of manic symptoms during depressive episodes (i.e. irritability and tension). Similar findings were reported in a study of suicidal children and adolescents with mood disorders (Sanchez & Le, 2001).

In their 2000 study, Cheng et al. explored the relationship between various psychosocial factors and ICD-10 psychiatric diagnoses including major depressive episodes, substance dependence, and emotionally unstable personality disorder (Cheng, Chen, Chen, & Jenkins, 2000). Results indicated that the frequency of major depressive episode (87.1%), substance dependence (27.6%), and emotionally unstable personality disorder (61.9%) was significantly increased in individuals who committed suicide. Major depressive episode was shown to have the strongest relationship to suicide risk of the ICD-10 codes.

In a meta-analysis of existing literature, Bertolote and colleagues found that mood disorders had the strongest relationship to suicide (Bertolote, et al., 2004). However, a diagnosis of a mood disorder was only present in 38.1% of more than 15,000 cases of suicide studied. As a result of their findings, Bertolote et al. advocated for a suicide prevention model that does not solely focus on patients with a diagnosis of major depression, but instead examines the impact of comorbidity. In an earlier study, Blair-West and colleagues demonstrated that

suicide risk in major depression was more serious for males than females and subsequently advocated for consideration of comorbidity and increasing support for men with mental illness (Blair-West, Cantor, Mellsop, & Eyeson-Annan, 1999).

Fawcett et al (1987; 1990) conducted a 10-year longitudinal study of patients with major affective disorders and found that 3.6% of participants committed suicide. Data indicated nine clinical features associated with suicide. Six of the nine features were related to suicide within the first year – panic attacks, severe anxiety, decreased concentration, insomnia, alcohol abuse, and anhedonia. In contrast, severe hopelessness, suicidal ideation, and history of previous suicide attempts were associated with long-term suicide risk. These findings support the conclusion that the diagnosis of an affective disorder alone does not predict imminent suicide risk. In a comparison among patients with major affective illnesses who committed suicide, Coryell et al (2002) found that the only variable that consistently differentiated between the groups was a history of suicidal behavior itself.

Impulsivity is often observed in patients with Cluster B personality disorders, a category of diagnosis that is commonly comorbid with affective disorders (Swann, et al., 2005). Garno et al. found that 30% of bipolar I participants included in their study met diagnostic criteria for a cluster B personality diagnosis (Garno, Goldberg, Ramirez, & Ritzler, 2005). Authors

hypothesized that this combination of mood symptoms and personality characteristics "may contribute to an elevated suicide risk among bipolar patients independently from other suicide risk factors (p. 344)."

Schizophrenia

It is estimated that suicide rates for individuals diagnosed with schizophrenia are 50 times that of the general population (Caldwell & Gottesman, 1990). Past research suggests that 40% of schizophrenic individuals will attempt suicide throughout their life and 10% will eventually go on to commit suicide (Caldwell & Gottesman, 1990). Even more alarming is the finding that the majority of suicide deaths in schizophrenic patients occur during inpatient hospital care (James, 2005). Pompili and colleagues (2005) reviewed the literature regarding suicide of schizophrenic inpatients in an effort to suggest strategies for prevention. The authors reported that the demographic factors most commonly associated with suicide risk in schizophrenia were chronic psychosis despite neuroleptic treatment, multiple hospital admissions, social isolation, being unmarried and young age. Several studies cited in the literature noted that the prevalence of suicide in young, high-achieving schizophrenic patients might be related to their awareness of cognitive decline and diminished social functioning, an awareness that frequently declines as the illness causes neuroanatomical changes (Palmer, Pankratz, & Bostwick, 2005). Palmer et al. (2005) estimated a

4.9% lifetime suicide risk for schizophrenics and noted that suicide most typically occurs near illness onset. Kuo and colleagues (2005) confirmed this finding in a Taiwanese sample and recommended intervention focusing on patients with comorbid depressive symptoms in the residual phase, high suicidal ideation, and late onset psychotic symptoms.

Several studies included in the Pompili and colleagues review article acknowledged the high prevalence of depressive symptomatology in schizophrenic patients and its connection to suicidality. Interestingly, negative symptoms such as flat or blunt affect, alogia, avolition, and anhedonia were related to significantly decreased long-term risk of suicide. In contrast, positive symptoms such as delusions and suspiciousness were associated with increased risk of suicidal behavior in schizophrenic patients. In fact, the paranoid subtype of schizophrenia was highly correlated to increased risk for suicide within the schizophrenia subtypes. Additional studies included in the analysis found that patients who committed suicide had either sporadic suicidal ideation or were consistently nonsuicidal, a finding that highlights the difficulty in accurately predicting self-harm based on objective indications of suicidality. Finally, Pompili et al.'s analysis of the literature indicated that the majority of schizophrenic patients who later commit suicide were often planning their discharge or recently released from the hospital. Clearly, this finding emphasizes the importance of effective post-hospitalization follow-up.

In their meta-analysis Hawton and colleagues (2005) found that suicide risk factors were often similar between studies and included previous diagnosis of depressive disorders, previous suicide attempts, agitation or motor restlessness, drug abuse, fear of further cognitive decline, and reduced treatment adherence. Overall, the authors suggested that special attention be paid to affective symptoms treatment adherence in an effort to reduce suicide attempts in schizophrenic patients.

Borderline Personality Disorder

Suicidality in patients diagnosed with borderline personality disorder is frequently studied due to the high prevalence of self-harm behavior in this population. In fact, Borderline Personality Disorder is one of only two diagnoses in the DSM-IV-TR to include suicidal behavior as one of the diagnostic criteria, the other being a Major Depressive Episode (*Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision*, 2000). Approximately 4 to 8% of patients with a personality disorder eventually complete suicide (M.M. Linehan, Rizvi, Welch, & Page, 2000). Past studies have shown that patients diagnosed with borderline personality disorder comorbid with a mood disorder or substance abuse disorder were more likely to make highly lethal suicide attempts (Fyer, Frances, Sullivan, Hurt, & Clarkin, 1988). Although borderline personality disorder frequently co-occurs with depressive symptomatology, researchers

hypothesize that impulsivity is one of the underlying traits common to borderline patients who engage in self-harm behavior (B.S. Brodsky, Malone, Ellis, Dulit, & Mann, 1997).

In a 2002 study, Welch and Linehan reported on the high-risk situations associated with self-harm behavior and substance abuse in patients diagnosed with borderline personality disorder (Welch & Linehan, 2002). The primary finding of the study was the strong interpersonal component of parasuicidal behavior. The authors hypothesized that the relationship between interpersonal dynamics and parasuicide might be related to desire to communicate feelings of distress to others.

Alcohol and Substance Abuse

Past studies have established that alcoholism is a risk factor for completed suicide (Harris & Barraclough, 1997). However, limited information exists about what specific risk factors within this population increase the chance of suicide. Conner and colleagues (2003) examined risk factors within a subgroup of alcoholic individuals who exhibited suicidal behavior. Results indicated that patients who made a medically serious suicide attempt were more likely to endorse symptoms consistent with a mood disorder and frequently acknowledged experiencing financial difficulties. These findings were generally consistent with research regarding risk factors for the general population. Suominen and

collaborators (2004) found that substance use and male gender were potent predictors of future suicidal behavior in participants with a documented history of self-harm behavior.

Neurobiology

Recent efforts at understanding the etiology of suicidal behavior have begun to focus on the neurological underpinnings related to self-harm (Joiner, Brown, & Wingate, 2005; Kamali, Oquendo, & Mann, 2001; J. J. Mann, 2005; J.J. Mann, Oquendo, Underwood, & Arango, 1999). Joiner and colleagues (2005) concluded that two primary areas of risk for suicide can be identified based on genetic and neurological findings, dysregulated impulse control and propensity for intense psychological pain. Furthermore, they hypothesized that each of these risk variables was related to diminished function within the serotonergic system. This finding was consistent with previous work undertaken by Mann et al. using PET scans (J.J. Mann, Oquendo, Underwood, & Arango, 1999). Joiner et al. also noted early findings indicating involvement of the hypothalamic-pituitary-adrenal axis in suicidal behavior. Kamali and associates (2001) highlighted the role of serotonergic activity in suicidal behavior, particularly serotonergic hypofunction leading to dysfunction in the prefrontal cortex, a key area with regard to impulse control and affect regulation.

SUICIDE RISK ASSESSMENT

Screening

Screening as a practice within psychology is best described as the process by which an attempt is made to identify members of a population who are more likely to benefit from additional assessment to determine their individual risk status. Screening for suicide risk is clearly warranted for patients with a history of psychiatric disorders. However, recent literature reviews indicate that contact with both primary care and mental health care providers is common in the months leading up to a suicide attempt (Luoma, Martin, & Pearson, 2002). Researchers noted that 19% of suicide victims across studies had contact with a mental health professional within one month of suicide and 24% within one year. Across the studies examined, researchers found that 45% of suicide victims had contact with a primary care provider in the month prior to the suicide, and 77% had contact within the year leading to the suicide. Deisenhammer and colleagues found that 16.4% of suicide victims in an Austrian sample were hospitalized for psychiatric reasons during the year prior to suicide (Deisenhammer, Huber, Kemmler, Weiss, & Hinterhuber, 2007). Of those hospitalized, 12.8% of the patients committed suicide on the day of discharge, 4.7% during the week after discharge, and 7.8% within one month of discharge. Appleby and associates (1999) found that, within a large British sample, the highest number of suicide post-hospital release occurred within one week of discharge. In 2004, the U.S. Preventative Services

Task Force (USPSTF) conducted a literature review to form a basis for screening recommendations to general practitioners (Gaynes, et al., 2004; U.S. Preventive Services Task Force, 2004). Analyses indicated that no data was available to suggest that a reliable and valid intervention existed for primary care practitioners. Clearly the existing data regarding effective suicide risk screening is limited. Further exploration is necessary to develop adequate understanding of appropriate screening measures in a variety of clinical settings.

Risk Assessment

Once an individual is identified through the screening process how is his or her risk status assessed? Before we can begin to examine this we question, we must clarify what is meant by "risk." Kraemer and colleagues (2001) provided the following definitions for use in risk research: risk is "the probability of an outcome," a correlate is "a measure somehow associated with the outcome," a risk factor is "a correlate shown to precede the outcome," and a casual risk factor is "a risk factor that, when changed, is shown to change the outcome." Kraemer and associates (2001) also noted that risk researchers must view they study of risk factors as only a preliminary step in understanding the causes of certain events.

A long history of research and theoretical postulations predate current suicide risk assessment. Durkheim (1951) articulated a theory of suicide based heavily on sociology and the role of interpersonal relationships and social

integration. Shneidman (1985) proposed a theory of suicide comprised an individual's feelings of intense psychological pain and cognitive restriction resulting in impaired coping ability. Stillion and McDowell (1991) formulated a life-span perspective theory of suicide whereby they advocated for a developmental underpinning for risk assessment. Although these, and similar conceptualizations, are informative from a theoretical perspective, they have not been translated into meaningful risk assessment paradigms.

The 2006 American Psychiatric Association Practice Guidelines illustrated specific steps to be taken by clinicians in order to fully assess and treat patients with suicidal behavior (Jacobs & Brewer, 2006). The steps included: a full psychiatric evaluation including information about risk/protective factors, explicit questions about suicide, estimation of suicide risk, and treatment planning based on risk factors. While this approach to suicide assessment is clearly quite thorough with regard to current knowledge about suicide, it is important to note that the overall assessment hinges on the importance of examining risk factors; an approach that is lacking in light of the predictive limitations of both risk and protective factors discussed previously.

Self-report and clinician-rated instruments are an expedient way to elicit information about suicidal ideation/behavior in a clinical context. However, instrument validation is understandably difficult when researching a behavioral phenomenon with a low base rate. Extremely large samples and a prospective

design are essential for establishing the predictive validity of instruments created to assess suicidality (Brown, 2002). Unfortunately, many studies are forced to exclude the very population they seek to observe secondary to concerns about working with high risk, suicidal patients (Pearson, Stanley, King, & Fisher, 2001).

Brown (2002) examined suicide assessment measures in the context of intervention research with adult population. Overall, he concluded that limited evidence exists supporting the use of suicide measures for prediction of future suicidal behavior. The Beck Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974) and the Scale for Suicidal Ideation (Beck & Steer, 1991) have demonstrated some utility in predicting risk factors for suicide. Brown (2002) cited several limitations in the field of suicide instrument development; most notably the heterogeneity of the instrument development process and the limitations produced by unclear definitions of suicidal behavior. Gaynes and colleagues (2004) reported similar inadequacies in the screening measures designed for a primary care setting.

Recently, suicide assessment initiatives have begun to focus on interpersonal processes underlying suicidal behavior (Joiner, Hollar, & Van Orden, 2006; Joiner, et al., 2002; Stellrecht, et al., 2006). Social integration and interpersonal theory underlie numerous historical theories of suicide including those described by Emile Durkheim and Israel Orbach (Durkheim, 1951; Orbach, 1986). Problem irresolvability is described as “a phenomenological state of mind

which reflects...experience of being trapped and incapacitated" (Orbach, 1986). Specifically, the concept includes the idea that the individual feels pressured to solve a problem, typically in a social milieu, which is beyond their ability to solve. Orbach's reflections on the insolvable problem led to the creation of a measure designed to distinguish between suicidal individuals, psychiatric patients, and normal patients in an adolescent population (Orbach, Mikulincer, Blumenson, Mester, & Stein, 1999). Subsequent development included the compilation of an adult version of the instrument, the Subjective Experience of Problem Irresolvability-Adult Version (SEPI-A), with incorporation of the concepts of perceived burdensomeness and role captivity (Roaten, 2005). Perceived burdensomeness, the idea that an individual feels as though he/she encumbers those close to them, is present throughout suicidology literature (Brown, 2002; DeCatanzaro, 1991; Durkheim, 1951). Joiner et al. compared the notes of individuals who attempted suicide and those that completed suicide and found that perceived burdensomeness was correlated with suicide, even when controlling for other variables (Joiner, et al., 2002). A similar construct was discussed in studies examining suicide in police officers (Danto, 1978; Janik & Kravitz, 1994; McCafferty, McCafferty, & McCafferty, 1992) and adult caregivers of elderly relatives (Aneshensel, Pearlin, & Schuler, 1993).

Risk Factors

Past efforts to predict suicidal behavior relied primarily on risk inferred from demographic factors such as gender, ethnicity, age, and psychiatric comorbidity. Recently researchers began to analyze additional risk factors associated with suicide such as personality characteristics and chronicity of mental illness. Numerous studies confirm that impulsivity, defined as action without planning or forethought, has a strong correlation with both suicide and suicide attempts (Lambert, 2003; Swann, et al., 2005; Wingate, Joiner, Walker, Rudd, & Jobes, 2004). Impulsivity is strongly associated with both Axis I and Axis II disorders, specifically Bipolar Disorder and Cluster B Personality Disorders. Each of these disorders, as discussed previously, is commonly diagnosed in individuals engaging in suicidal behavior. Psychiatric comorbidity, specifically chronic, debilitating mental illness, is also considered a risk factor for suicide (Holmstrand, Nimeus, & Traskman-Bendz, 2006; Lambert, 2003). Additionally, escalating substance and/or alcohol abuse is frequently associated with suicide (Appleby, Shaw, et al., 1999; Conner, et al., 2003; Harris & Barraclough, 1997).

Building upon Durkheim and Shneidman's work regarding social/interpersonal theories of suicidal behavior, Conner and colleagues (2003) found that relationship and negative interpersonal life events were more common in medically serious suicide attempters compared to other suicide attempters.

Cassells et al. confirmed these findings in a meta-analysis of inpatient suicide (Cassells, Paterson, Dowding, & Morrison, 2005). Additionally, Wingate and associates include negative life events in their interpersonal model of suicide risk (Wingate, et al., 2004).

An additional risk factor frequently cited in suicidology literature is a history of past suicide attempts (Wingate, et al., 2004). In their 2004 study, Zahl and Hawton found that repeated self-harm was associated with increased risk for suicide, particularly in young females (Zahl & Hawton, 2004). Joiner et al. found that repetitive suicidal behavior played a role in the relationship between past and current suicidal ideation, even when controlling for other strong risk factors such as hopelessness and psychiatric comorbidity (Joiner, Conwell, et al., 2005). Interestingly, Lambert (2002) found that a history of contingent suicidality (defined as suicide threats designed to gain hospital admission) were less predictive of future suicide and even deaths unrelated to suicide. Forman and colleagues (2004) found that multiple past suicide attempts significantly related to psychiatric comorbidity (depression, substance/alcohol abuse), hopelessness, and decreased global functioning. However, multiple attempters did not appear to have increased suicidal intent or increased medical lethality of attempts.

With regard to mood disorders, multiple researchers found that depressive symptoms were more severe in those individuals who went on to complete suicide (Holmstrand, Nimeus, & Traskman-Bendz, 2006; Michel, 1987). One mediator

frequently cited as an explanation of the relationship between depression and suicide is hopelessness (Beck, Brown, Berchick, Stewart, & Steer, 1990; Beck, Brown, & Steer, 1989; Beck & Weishaar, 1990; Beck, Weissman, et al., 1974; Yip & Cheung, 2006). However, studies examining the role of hopelessness in elderly and adolescent suicide yield mixed results. Specifically, hopelessness appears to be predictive of suicidal ideation in depressed elderly subjects (Hill, Gallagher, Thompson, & Ishida, 1988), but the construct does not have predictive value in an adolescent population (Cole, 1989).

Cassells and colleagues (2005) examined long and short-term risk factors for inpatient suicide in their 2005 study. Long-term risk factors were consistent with past research focusing on demographic variables and psychiatric comorbidity. In contrast, short-term risk factors included medication non-compliance and substance abuse. Interestingly, analyses revealed a curvilinear relationship with regard to insight and also demonstrated that patient improvement is not always indicative of decreased suicide risk.

Denney et al. (1996) reported a case-control study of patients who committed suicide within five years of a psychiatric hospital admission and found that the only factor that differed significantly between suicide and control groups was continued communication of suicidal ideation at follow-up visits. McKenzie and Wurr (2001) conducted a similar study of recently discharged psychiatric patients who later went on to suicide and found that a history of deliberate self-

harm, diagnosis of depression, and longer case-notes were associated with early suicide following discharge. Pokorny (1983) attempted to prospectively identify first admission psychiatric patients who would subsequently commit suicide using numerous rating instruments and stated "identification of particular persons who will commit suicide is not currently feasible, because of the low sensitivity and specificity of available identification procedures and the low base rate of this behavior."

Joiner and associates (2003) found that worst point suicidal plans, consisting of "a sense of courage to make the attempt; a sense of competence to make the attempt; availability of means to and opportunity for attempt; specificity of plan for attempt; and preparations for attempt," were related to history of past attempt and eventual suicide. Allebeck and colleagues (1988) examined personality factors associated with suicide in a sample of young men. Data indicated that personality characteristics such as poor emotional control and limited social interaction may be predictive of future suicide. However, the authors concluded that their model of risk was only useful in a setting where "the associated risk factors are frequent."

Murphy (1984) underscored the importance of the difference between identification of individuals who may later go on to suicide and identification of individuals at imminent, short-term risk for suicide. He discussed the frustration of excessive false-positives in clinical suicide prediction and advocated for

effective treatment of psychiatric illness as a preventive measure. A 2003 study examined therapists' perceptions of precipitating events leading to suicide (Maltsberger, Hendin, Haas, & Lipschitz, 2003). Authors concluded that precipitating events were evident, and recognized by therapists, in most cases of suicide highlighting the importance of negative life events in the prediction of suicide.

The primary limitation of the aforementioned risk factors is their inadequate predictive powers. While risk factors are retrospectively associated with suicide, they are minimally useful as clinical indicators of imminent suicidal behavior (Cassells, et al., 2005). As discussed previously, the limitations of suicide prediction are primarily a result of statistical and methodological constraints. The majority of the current prediction data is extrapolated from retrospective examination of suicide and suicide attempts, and limited data is available from prospective studies. Pokorny (1983) concluded that no measure or individual test item accurately predicted long-range (five year) suicide risk. With regard to predicting suicide, Bryan and Rudd stated, "The notion of suicide prediction is problematic...because predicting low base-rate phenomena such as suicide with reliability is not possible" (Bryan & Rudd, 2006). Goldstein and colleagues (1991) attempted to create a statistical model for suicide prediction using previously researched risk factors (e.g. medical illness, substance abuse, and personality disorder) and failed to identify individuals who committed suicide.

Medically Serious Suicide Attempts

The definition of "highly lethal" or "medically serious" suicide attempts varies across studies. Beautrais (2003) defined medically serious suicide attempts (SA) as "those that required hospital admission for at least 24 hours." Douglas and colleagues (2004) defined "near fatal deliberate self harm" using the following criteria: an act of self harm using a method that would usually lead to death, self injury to a "vital" body area, and self-poisoning that requires admission to the intensive care unit (ICU). Brown et al (2004) used scores on the Lethality Scale (Beck, Beck, & Kovacs, 1975) to assess medical lethality. Clearly significant variability exists in defining what constitutes a medically serious suicide attempt.

Medically serious suicide attempts are of particular concern in clinical and hospital settings because of the obvious relationship between this form of self-harm and death. Beautrais (2003) suggested that the well-known relationship between gender and suicide is mitigated in a sample of SA. Analyses indicated that men and women make medically serious suicide attempts at similar rates in a sample of patients presenting to a hospital ED. Beautrais hypothesized that the high suicide rate at 5-year follow-up in the study sample was likely explained by the fact that the individuals made a medically serious suicide attempt at the index visit. In a follow-up study, Beautrais (2004) found that 44.5% of the original

sample available at the 60-month assessment made a subsequent suicide attempt. Furthermore, "1 in every 15 patients admitted for a medically serious suicide attempt had died by suicide within 5 years, with the majority of (60%) dying within 18 months of the index attempt" (p. 9).

Douglas et al (2004) found that individuals who made medically serious suicide attempts varied across several variables including: severity of mental illness, increased social adversity, history of self-harm, and greater suicidal intent. Brown and colleagues (2004) examined suicide intent, medical lethality, and accurate expectation of lethality in a sample of ED patients presenting to the hospital following a suicide attempt. Results indicated that medical lethality increased as the participant's understanding of lethality and intent increased, even when controlling for variables such as hopelessness and depression. These findings plainly highlight the importance of assessing intent, plan, and understanding of lethality in populations at high risk for suicide.

CURRENT RISK ASSESSMENT INITIATIVES

Imminent Risk Appraisal

In an effort to better predict suicide numerous researchers have developed theoretical models describing the time leading up to an attempt. One early effort focused on understanding suicide from a developmental, Eriksonian model

(Kaplan & Worth, 1993). Kaplan and Worth hypothesized that, as an individual progresses along the developmental continuum, he/she must confront and resolve fundamental ego conflicts. Authors hypothesized that failure to successfully resolve the developmental conflicts could result in substantial stress and subsequent suicidal crisis.

Mann and colleagues (1999) proposed a diathesis-stress model of suicidality. In this model, it is theorized that an individual is especially vulnerable to later attempting suicide if he or she has a history (diathesis) of impulsive/aggressive behavior and propensity to experience significant suicidal ideation. In the context of this vulnerability, psychiatric illness may act as the stressor that potentiates a suicidal crisis. Mann later expounded on his theory and discussed the neurobiological substrates of impulsivity and aggressivity, namely, impairment of the serotonergic system (J. J. Mann, 2002). Mann went on to reiterate the importance of managing the associated psychiatric disorder effectively.

Joiner (2002) proposed a model of the trajectory of suicidal behavior with two primary underpinnings – cognitive sensitization and opponent processes. The primary supposition underlying the model is that past suicidal behavior is intrinsically, and even causally, related to the potential for future suicidal behavior. Joiner described cognitive sensitization in the following manner: "previous suicidal behavior increases the activity and accessibility of suicide-

related cognitive structures, which in turn increase the chances of future suicidal behavior" (p. 37). Joiner proposed that repetitive self-harm and suicide attempts invoke opponent processes whereby the individual becomes less sensitive to the anxiety and fear associated with the attempt and may in fact engage in more dangerous behavior to achieve the same effects, a sort of psychological tolerance. In a 2000 study Joiner and Rudd found that negative life events and severity of suicidality were not related for participants with a history of multiple suicide attempts (Joiner & Rudd, 2000). In contrast, Joiner and Rudd hypothesized and confirmed that negative life events were associated with increased suicidality for never- and first-attempters. Results of a 2004 study indicated that recurrent attempts were associated with greater levels of anxiety and stress which appeared to contradict the opponent process portion of Joiner's theory (Pettit, Joiner, & Rudd, 2004). Joiner further elaborated on his proposed theory of attempted and completed suicide in his 2005 text and subsequent publications (Joiner, 2005; Stellrecht, et al., 2006). The Interpersonal-Psychological Theory has as its core three primary components: the acquired capability to enact lethal self-injury, a sense of interpersonal burdensomeness, and a sense that one does not belong to a social group.

Warning Signs

In 2004 Rudd and associates published a document describing a recently developed list of suicide warning signs identified by the American Association of Suicidology working group (M. D. Rudd, 2004). As discussed in previous sections, risk factors typically include demographic factors that correlate with increased suicidality or suicide attempts. In contrast, warning signs are temporally related to increased suicide risk and imply imminent risk rather than ambiguous future risk. Many of the commonly known risk factors are chronic and persist throughout a person's lifetime (e.g. psychiatric diagnosis, personality characteristics such as impulsivity/aggressivity), making it difficult to approximate imminent risk. Rudd and colleagues stated:

> A suicide warning sign is the earliest detectable sign that indicates heightened risk for suicide in the near-term (i.e. within minutes, hours, or days). A warning sign refers to some feature of the developing outcome of interest (suicide) rather than to a distinct construct (e.g. risk factor) that predicts or may be causally related to suicide.

Warnings signs for suicide, as described by Rudd and colleagues include overt expressions of imminent suicidality, hopelessness, rage/anger, reckless/risky

behavior, feeling trapped, increasing alcohol and/or drug use, social withdrawal, anxiety/agitation, insomnia/hypersomnia, mood lability, and no expressed reason for living.

Cognitive Processes in Suicidal Behavior

In 2000, Rudd proposed a cognitive behavioral model of suicidality and discussed its theoretical and clinical implications (M. D. Rudd, 2000). Rudd's theory of suicide focused on the 'suicidal mode.' Beck (1996) defined modes as "specific suborganizations within the personality organization that incorporate the relevant components of the basic systems of personality: cognitive (information processing), affective, behavioral, and motivational" (p. 4). The cognitive system incorporates the cognitive triad and associated beliefs about the self, future, and others; while the affective system involves management of emotion. The motivational and behavioral systems play a role in autonomic activation for action. In the context of suicide, each of these systems plays a vital role in the propagation of the final act. Cognitions of individuals who become suicidal have two primary themes: hopelessness/helplessness and unlovability. Negative emotions, particularly dysphoria and depression typify the affective system in the suicidal mode. In addition, the behavioral/motivational system incorporates intent and the individual's desire to die. Rudd hypothesized that, without the activation

of these systems, the suicidal mode is not present and a suicidal act is not imminent.

Rudd (2000) further elaborated on his theory when he noted that individuals with a history of multiple suicide attempts require minimal stimuli to activate the suicidal mode. He postulated that all of the previously discussed factors must co-occur in the context of a trigger or increased stress. Rudd described the period of imminent risk for suicide in the following way:

> During active phases of suicidality, the cognitive system or the suicidal belief system is consumed with thoughts of death by suicide, with hopelessness pervading every component of the triad. The behavioral systems are characterized by an impulse to die, with related behaviors evident, such as preparatory behaviors, planning and practice or rehearsal for suicide (p. 29)

Despite the obvious clinical and empirical support for such a model, Rudd noted that a serious limitation exists with regard to the understanding of the temporal relationship between the suicidal mode and the timing of the suicide or suicide attempt (M. D. Rudd, 2000).

Restriction/Narrowing of Focus

It is a commonly held belief that acutely suicidal individuals display thinking characteristic of cognitive rigidity (A. T. Patsiokas, G. A. Clum, & R. L. Luscomb, 1979). Furthermore, suicidal individuals tend to display dichotomous thinking, leading to maladaptive problem-solving skills (A. T. Patsiokas, et al., 1979). Marzuk et al. (2005) found that suicidal individuals exhibited impaired executive function, suggesting impaired decision-making ability and impulse control. Heisel and colleagues (2002) noted a relationship between impaired cognitive functioning and hopelessness, depression, and suicidality in an elderly population.

Perfectionism is a personality characteristic, typified by high achievement and social standards, involved in numerous forms of psychopathology (e.g. eating disorders, anxiety, etc.) and is a specific form of cognitive restriction/narrowing. In a 1998 study, Hewitt and colleagues found that inpatients with a history of medically serious suicide attempts scored higher on ratings of socially prescribed perfectionism (Hewitt, Norton, Flett, Callander, & Cowan, 1998). Beevers and Miller (2004) hypothesized that an information processing style characterized by unrealistic, negative associations, may be associated with future suicide risk in a depressed inpatient population. Additionally, these researchers found that negative cognitive bias and measures of perfectionism prospectively predicted

increased suicidal ideation, without the hypothesized mediational role of hopelessness.

Researchers in the field of education have also explored the construct of narrowing of focus as it relates to creativity and giftedness. Education research has typically focused on the multidimensional nature of problem-solving including exploration of the constructs of fluency, flexibility, divergent thinking, and resistance to premature closure (Guilford, 1962; Torrance, 1966). "Resistance to premature closure" is defined as "resistance of an individual to conclusions prematurely without considering the available information" (Pritzker & Runco, 1999). The construct of resistance to premature closure has not been applied in the context of suicidal behavior, but seems to encapsulate the importance of an individual's ability to consider multiple alternatives when confronted with a conflict. Within the realm of suicidology, this concept seems particularly important given the data indicating that individuals who engage in suicidal behavior frequently endorse significant psychosocial stressors and negative life events (Dieserud, Roysamb, Ekeberg, & Kraft, 2001).

Social/Interpersonal Hopelessness

Social integration was first formally discussed as a factor in suicide by Emile Durkheim in his seminal work, *Suicide: A Study in Sociology* (Durkheim, 1951). Breault (1986) examined county and state suicide rates using church

membership and divorce as proxies for social integration. Even when controlling for economic and social changes variables, analyses indicated that social integration was inversely related to suicide rates. Joiner, Hollar, and Van Orden (2006) investigated suicide rates during times of an increased sense of community/national camaraderie. Analyses indicated that suicide rates are inversely related to local college football team rankings, were lower on the day of the "Miracle on Ice," and decrease on each Super Bowl Sunday compared to other Sundays. Joiner and associates hypothesized that this sense of "pulling together," or membership in a greater social network, and subsequent decrease in suicide rates was explained by the sense of belonging elicited from the various sporting events/rankings.

Numerous past studies examined the relationship between social hopelessness and suicidality. Heisel and colleagues (2003) noted, "Social hopelessness is characterized by negative perceptions and beliefs about one's impending social or interpersonal relationships with socially hopeless individuals anticipating that they will be unlikely to experience positive interpersonal relationships, to ''fit in'' in social situations, and to be comfortable in the presence of others (p.223)." Heisel et al. (2003) found that the combination of depression and social hopelessness was associated with increased suicidal ideation. Heisel and colleagues (2004) later reported that purpose in life and satisfaction with life protected against suicidal ideation. In an adolescent sample,

analyses indicated that female perceptions of family support bore an inverse relationship to hopelessness, depression, and suicidal ideation (Kerr, Preuss, & King, 2006).

Findings regarding social hopelessness and suicide are consistent across culture and age group. Multiple publications discussed the relationship between social hopelessness and suicide in Asian nations (Ben Park & Lester, 2006; Cheung, Law, Chan, Liu, & Yip, 2006). Each study found that social support/integration had a positive impact on suicide rates. Additionally, several past research efforts discovered that social integration and a sense of belonging are highly related to decreased suicidal behavior in elderly populations (Dennis, Wakefield, Molloy, Andrews, & Friedman, 2005; Kissane & McLaren, 2006; Lawrence, et al., 2006).

Impaired Social Problem-Solving

In 1971, D'Zurilla and Goldfried outlined a model of problem-solving that applied to "real-life" situations (T. J. D'Zurilla & Goldfried, 1971). This focus on everyday problem-solving led the transition within the field of psychology from a focus on "problem-solving" as it was traditionally conceptualized to "social problem-solving." D'Zurilla and Nezu (1990) later elaborated that the term social problem-solving refers to "the cognitive-affective-behavioral process by which a

person attempts to identify, discover, or invent effective or adaptive coping responses for specific problematic situations encountered in everyday living (p.156)." As the basis for constructing their model D'Zurilla and Goldfried stated,

> "…much of what we view clinically as "abnormal behavior" or "emotional disturbance" may be viewed as *ineffective* behavior and its consequences, in which the individual is unable to resolve certain situational problems in his life and his inadequate attempts to do so are having undesirable effects, such as anxiety, depression, and the creation of additional problems (p.107)."

D'Zurilla and Goldfried (1971) put forth the following five general stages in the problem-solving process: (1) general orientation, (2) problem definition and formulation, (3) generation of alternatives, (4) decision making, and (5) verification. They postulated that the social problem-solving process consists of a motivational component called "problem orientation" and four specific problem-solving skills.

Within the general orientation domain, D'Zurilla and Goldfried described the importance of an individual's ability to "cope with most of these situations effectively." In an early study of problem-solving ability in a psychiatric

population Platt and Spivack (J. J. Platt & Spivack, 1972) found that the ability to address hypothetical problematic situations and provide means to solve such problems were correlated with higher levels of social competence. Levenson and Neuringer (1971) noted impaired problem-solving ability in a sample of suicidal adolescents compared to psychiatric, but non-suicidal adolescents. Also included in D'Zurilla and Goldfried's conceptualization of problem-solving general orientation was the concept of impulse control. As discussed previously, impulse control is commonly identified as a trait associated with individuals prone to suicidal behavior (B. S. Brodsky, Groves, Oquendo, Mann, & Stanley, 2006).

In 1987, Schotte and Clum proposed a diathesis-stress-hopelessness model of suicidal behavior that incorporated the paradigm of impaired problem-solving ability as the diathesis portion of the theory (Schotte & Clum, 1987). This theory of suicidality was based largely on Neuringer's work indicating that individuals become hopeless in the face of maladaptive problem-solving (Neuringer, 1974). Schotte and Clum (Schotte & Clum, 1987) found that cognitive rigidity was more common in individuals who acknowledged suicidal ideation. Furthermore, these authors noted that this rigidity seemed to be associated with failed interpersonal problem-solving attempts. In fact, "suicide ideators were able to generate fewer than half as many potential solutions to interpersonal problems selected from their own lives as similarly depressed control subject" (p. 52-53). Pollock and Williams (2004) confirmed this finding in a sample of suicide attempters and non-

suicidal psychiatric patients. Pollock and Williams found that the suicide attempter group displayed significantly more impaired problem-solving skills, regardless of change in mood. Specifically, suicide attempters generated fewer and less effective solutions to everyday problems.

Dieserud and colleagues (2001) expanded on Schotte and Clum's diathesis-stress-hopelessness model to evaluate if impaired problem-solving skills mediated the relationship between various vulnerability factors and suicide attempts while controlling for depression and hopelessness. The authors examined multiple variables believed to be associated with suicidality including negative life-stress, self-efficacy, problem-solving, depression, and hopelessness. Results provided support for two pathways to a suicide attempt - a pathway composed of a progression from loneliness to depression, and an additional pathway from problem-solving deficits to suicide.

Analysis of problem-solving skills within the WHO/EURO Multicentre Study on Suicidal Behaviour yielded results indicating that individuals who engaged in repetitive, deliberate self-harm were significantly more likely to exhibit a passive/avoidant approach to problem-solving (McAuliffe, et al., 2006). This approach to problem solving is typified by anxious rumination regarding the problem, problem-irresolvability, negative world-view, a tendency to give-in rather than confront uncomfortable situations, and repeated attempts to avoid conflict.

Jeglic and associates (2005) explored the relationship between family history of suicide, negative problem-solving skills, and individual suicide attempt history. Researchers determined that the relationship between family history of suicide and individual attempter status was mediated by negative, or maladaptive, problem-solving style. D'Zurilla and colleagues (1998) reported similar findings in a study comparing the problem-solving skills and hopelessness in a sample of college students and psychiatric inpatients. Specifically, researchers found that a model composed of gender, problem-solving impairment, and hopelessness, accounted for approximately 70% of the variance in the sample. Evidence for problem-solving deficits in adolescent populations is more ambiguous. In their 2005 review, Speckens and Hawton noted that, while some evidence existed supporting the relationship between problem-solving and suicide in adolescents, most of the explanatory power diminished when researchers controlled for depression and hopelessness (Speckens & Hawton, 2005).

In more recent studies, Schotte and colleagues (1990) concluded that impaired interpersonal problem-solving skills represented a time-limited phenomenon that may be associated with suicide, but not a causal factor. Analyses indicated that problem-solving skills improved as mood symptoms improved and suicide intent resolved. This finding was supported in a study that examined problems solving skills in young, suicidal, incarcerated offenders (Biggam & Power, 1999). Williams et al (2005) found that problem solving

ability deteriorated after administration of a mood challenge task in participants with a history of suicidality (Williams, Barnhofer, Crane, & Beck, 2005).

Joiner and colleagues (2001) examined the relationship between positive mood and adaptive problem-solving skills and concluded that building problem-solving skills within the therapeutic setting may be particularly beneficial to patients in an acute suicidal crisis. Additionally, researchers recently found that treatment for participants with personality disorders composed of problem-solving intervention plus psychoeducation yielded promising results (Huband, McMurran, Evans, & Duggan, 2007). Specifically, participants demonstrated improved problem-solving skills, better social functioning, and decreased anger expression.

Many past studies have examined the relationship between cognitive processes and suicidal behavior. More specifically, researchers have demonstrated individual relationships between hopelessness, cognitive rigidity, impulsivity, and suicidality. Despite these findings, the interplay between these variables in the context of impaired problem-solving and completed suicide is not well understood. As Reinecke (2006) stated, "The question is not *whether* social problem-solving deficits are associated with risk, but *how* (p.238)."

Substantial limitations exist in the literature, particularly with regard to methodology. The majority of the problem-solving research has been conducted with college student populations, thereby limiting clinical applicability for individuals across age groups and diverse diagnostic classifications. Furthermore,

the definitions of suicidal behavior often vary significantly across research paradigms. Without a standardized definition of suicidal behavior across the literature, generalizability and treatment implications are restricted. In addition, the most commonly used measures of problem-solving have limited external validity and it has been hypothesized that these instruments are likely measuring an individual's perceived problem-solving ability, rather than the respondent's true aptitude for resolving complex situations (Reinecke, 2006). Finally, within the realm of suicide and problem-solving, no past research studies have obtained both a self-report and a behavioral measure of problem-solving ability.

SUMMARY

Suicide is a tragic and potentially preventable act with devastating impact on the victims' friends, family, and caregivers. Suicidology as a field of research is expanding rapidly and new initiatives show great promise for both prediction and prevention. However, current knowledge could be improved with the exploration of cognitive factors related to serious suicide attempts. Specifically, examination of social problem-solving skills and cognitive flexibility during the imminent risk state following a medically serious suicide attempt could yield important information and inform risk assessment. Additionally, limited evidence exists linking impaired social problem-solving deficits, resistance to premature closure, hopelessness, depression, and suicidality. Improved understanding of the cognitions associated with an imminent risk state can inform treatment efforts and make a significant contribution to the field of suicide prevention.

The methodology of the current study allowed for a more thorough exploration of cognitive risk factors than previous research. Empirically supported definitions of suicidal behavior were utilized in an effort to increase generalizability and improve the chances of replicating and confirming the results. Individuals designated for inclusion in the study were part of a cohort that provides unique information regarding the imminent risk state by virtue of the seriousness of their suicide attempt and the temporal proximity to the attempt. Additionally, a sample of both self-report and behavioral measures of problem-

solving skills was collected in an effort to more thoroughly examine the problem-solving component of the suicidal mode.

In summary, the current study examined cognitive factors temporally associated with suicide risk states. The findings presented include preliminary data regarding cognitive variables associated with imminent risk. Additionally, the study was designed to address previously discussed limitations existing in the suicide risk assessment literature and advance the current knowledge with regard to the cognitive underpinnings of suicidality.

Hypotheses

Hypothesis One: Higher levels of depression and hopelessness would be associated with increased impairment in problem-solving skills.

- *Depression* was assessed using the Quick Inventory of Depressive Symptomatology – Self-Report.
- *Hopelessness* was assessed using the Beck Hopelessness Scale.
- *Problem-Solving* was assessed using the Resistance to Premature Closure subscale on the Torrance Test of Creative Thinking and the Social Problem-Solving Inventory.

Hypothesis Two: High-risk suicidal behavior would be associated with increased levels of depression and hopelessness.

- *High risk suicidal behavior* was defined as inclusion in the medically serious suicide attempter group
- *Depression* was assessed using the Quick Inventory of Depressive Symptomatology – Self-Report.
- *Hopelessness* was assessed using the Beck Hopelessness Scale.

Hypothesis Three: Increased levels of impaired problem-solving skills, depression, and hopelessness combined would be associated with high-risk suicidal behavior.

- *Problem-Solving* was assessed using the Reisistance to Premature Closure subscale on the Torrance Test of Creative Thinking and the Social Problem-Solving Inventory.
- *Depression* was assessed using the Quick Inventory of Depressive Symptomatology – Self-Report.
- *Hopelessness* was assessed using the Beck Hopelessness Scale.
- *High risk suicidal behavior* was defined as inclusion in the medically serious suicide attempter group.

Hypothesis Four: The effect of depression and hopelessness on high risk suicidal behavior would be less than the effect of depression and hopelessness in combination with impaired problem-solving on high risk suicidal behavior.

- *Depression* was assessed using the Quick Inventory of Depressive Symptomatology – Self-Report.
- *Hopelessness* was assessed using the Beck Hopelessness Scale.
- *Problem-Solving* was assessed using the Resistance to Premature Closure subscale on the Torrance Test of Creative Thinking and the Social Problem-Solving Inventory.
- *High risk suicidal behavior* was defined as inclusion in the medically serious suicide attempter group.

CHAPTER THREE

Methodology

Study Design

Setting

This descriptive, hospital-based study retrospectively examined cognitive variables present during the imminent risk time period for suicidal behavior. Study recruitment took place within Parkland Health and Hospital System (PHHS). PHHS is a large, publicly funded hospital for indigent care in Dallas, Texas, which serves as the teaching hospital for the University of Texas Southwestern Medical School.

This study involved recruitment of two groups of patients over the 12-month study enrollment period. Consecutive SAs were recruited while being treated on an inpatient basis by the Parkland Hospital Consult Liaison Service (CL) and on an emergent basis in Parkland Psychiatric Emergency Services (PES). Participants in the SA group were recruited from the Parkland Consult-Liaison Psychiatry service between December, 2007 and July, 2008.

The comparison group consisted of Parkland Psychiatric Emergency Services (PES) patients who reported experiencing suicidal ideation (SI) with no indication of self-harm behavior. Suicide ideator group participants were

recruited in Parkland Psychiatric Emergency Services between September and November of 2008.

Participants

Inclusionary Criteria

Patients were recruited for the study in the hospital over the 12-month recruitment period and invited to participate in the study if they were: 18-75 years of age, capable of providing informed consent, able to pass a brief mental health screen, able to read and speak English, and willing to allow access to previous Parkland medical records.

For the purposes of this study, a suicide attempter (SA) was defined as an individual with an intentionally self-inflicted injury serious enough to require an International Classification of Disease, Ninth Edition (ICD)(*International Classification of Diseases, Ninth Revision, Clinical Modification*, 1980) External cause of injury (E-code) diagnosis associated with an acute episode of intentional self harm (i.e., E950-958.9). Furthermore, participants were only enrolled in the SA group if they reported that death was the goal of the self-harm behavior. This was assessed with the questions – "What was the goal of trying to hurt yourself" and "What were you thinking might happen." A suicide ideator (SI) study group member was a patient who: a) presented with a chief complaint of suicidality, but

no associated self-harm behavior, and b) no history of medically-serious suicide attempts.

Exclusionary Criteria

The instruments to be used in the study have not all been translated and validated in languages other than English, so only bilingual patients who could read and speak English at an eighth-grade level were asked to participate in this study. Other exclusion criteria included: cognitive impairment (i.e. traumatic brain injury, delirium, dementia) identified via medical record or on the study's brief mental status screen conducted immediately after study enrollment, active psychotic processes identified via medical record or on the study's brief mental status screen, pregnancy, and patients whose suicidal state occurred only in the context of substance intoxication, as measured by a denial of suicidal intent at enrollment where the medical diagnosis is coded as intentional self harm and by medical record evidence of intoxication at the time of presentation for treatment (e.g., chart note, toxicology screen). Patients who cannot read English at an eighth grade level were excluded, because this was the level required to read and comprehend the study's self-report questionnaires. Note that, because the assessment must have taken place within 48 hours of the time a patient regained full consciousness after a suicide attempt, if a potential subject was temporarily impaired due to overdose, they were able be assessed once they were fully conscious, as determined by chart notes and/or nursing/physician/staff report.

Note further that patients who were entirely cognitively intact for more than 48 hours after the suicide attempt (as determined by medical record and by the patient's self report) were excluded from participation.

Measures

Social Problem-Solving Inventory

The Social Problem-Solving Inventory-Revised, Short Version (SPSI-R:S) is a 25-item self-report instrument designed to assess various dimensions of social problem-solving (T.J. D'Zurilla, Nezu, & Maydeu-Olivares, 2002). The SPSI-R:S consists of five subscales: Positive Problem Orientation, Negative Problem Orientation, Rational Problem Solving, Impulsivity/Carelessness Style, and Avoidance Style. A total score is derived from the sum of the subscale scores.

The SPSI-R:S has strong internal consistency (Chronbach's α = .8-.93) and good test-retest reliability over a 3-week period (Pearson r = .84). Furthermore, analysis of the relationship between the short version and long version of the SPSI-R:S indicate that there is a strong relationship between the two versions (Pearson r = .92-1.00). Factor analysis of the SPSI-R:S indicated that the previously discussed five-factor model fit was a good fit for the items. The SPSI-R:S subscales were significantly negatively correlated with measures of depression, anxiety, hopelessness, and suicidality and positively correlated with life satisfaction.

Risk-Rescue Rating Scale

The Risk-Rescue Rating (RRR) was developed by Weisman and Worden (1972) to assess the lethality of a suicide attempt based on a series of factors influencing risk and rescue. Risk factors have been divided into five categories: Agent, Impaired Consciousness, Lesions and Toxicity, Reversibility and Treatment Required. Similarly, rescue factors have also been divided into five categories: Location, Person Initiating Rescue, Probability of Discovery by any Rescuer, Accessibility to Rescue, and Delay Until Discovery. Each of the five risk factors is rated on a scale of one to three points. The total risk points are then converted to a total risk score ranging from one to five. The same process is followed for the five rescue factors, resulting in a total rescue score. The totals are then transformed into a lethality rating for implementation. The Risk-Rescue Rating has shown adequate validity with a 0.66 correlation to independent clinical judgment of the patient's intent to himself/herself, and a correlation of 0.60 with the Medical Lethality Scale. In addition, interrater reliability ranged from 0.93 to 0.95.

Suicide Cognitions Scale

The Suicide Cognitions Scale (SCS) (M.D. Rudd, et al., 2007)is a 20-item self-report scale designed to measure suicidal thinking. SCS scores are calculated by summing the keyed responses and yields a score between 20 and 100. Past analyses indicate that the SCS has excellent internal reliability with a Chronbach's alpha of .96-.97. Analyses of concurrent validity demonstrated strong correlations between SCS total scores and established measures of hopelessness, suicidal ideation, and depression. The SCS effectively differentiated between individuals with a history of suicide attempts and those with no history of suicide attempts. Additionally, the SCS differentiated between those individuals with a history of mental health treatment, and those without. The SCS consists of two factors: "self and other beliefs" and "distress tolerance."

Modified Scale for Suicidal Ideation

The Modified Scale for Suicidal Ideation (MSSI) (I. W. Miller, Norman, Bishop, & Dow, 1986) is a revised version of the Scale for Suicide Ideation . The MSSI is designed to assess suicide symptoms over the preceding year. Each item is rated on a 0 to 3 point Likert scale and the total score ranges from 0 to 54. The MSSI has high internal consistency with Cronbach alpha coefficients ranging from .87 to .94. Test-retest reliability was .65 over a two-week period. The MSSI has moderately high correlations with other measures of suicidality including the

SSI (r = .74), Beck Depression Inventory total scores (r = .34), and the Beck Hopelessness Scale (r = .46). Limited data regarding predictive validity is available.

Subjective Experience of Problem Irresolvability – Adult Version

The Subjective Experience of Problem Irresolvability, Adult Version (SEPI-A) (Roaten, 2005) was developed in an effort to adapt a previously established measure for an adult population. Preliminary analyses indicated that SEPI-A total scores accurately distinguished between suicidal and non-suicidal patients ($t = 5.41$, $p = 0.00$). The SEPI-A demonstrated good internal reliability was reported (alpha = .97). Good concurrent validity was established with a correlation of 0.64 between the SEPI-A and the Beck Hopelessness Scale.

Beck Hopelessness Scale

The Beck Hopelessness Scale (BHS) was developed by Beck, Weissman, Lester and Trexler (1974). The BHS is a 20-item, true-false inventory designed to measure lack of hope about the future. Beck et al. (1974) report internal consistency ratings of .93 for this measure. Additionally, the BHS demonstrated concurrent validity with a correlation of .60 ($p < .001$) with the Stuart Future Test, and a correlation of .63 ($p < .001$) with the pessimism item of the Depression Inventory.

Quick Inventory of Depressive Symptomatology – Self-Report

The Quick Inventory of Depressive Symptomatology – Self-Report (QIDS-SR) (Rush, et al., 1986; Rush, Gullion, Basco, Jarrett, & Trivedi, 1996) is a 16-item self-report instrument designed to assess the severity of depressive symptoms. The items assess the nine symptoms used to diagnose a major depressive episode. Criterion validity was established by comparing the QIDS-SR to the Inventory of Depressive Symptomatology ($r = .83$) and the Hamilton Rating Scale for Depression ($r = 0.82$). Additionally, the QIDS-SR has high internal consistency (0.86). Each item score is rated 0 to 3 and total scores range from 0 to 27.

Suicide Intent Scale

The Suicide Intent Scale (SIS) (Beck, Schuyler, & Herman, 1974) is a 15-item, clinician-administered measure of the level of intent to commit suicide preceding the actual suicide attempt. The SIS is composed of three sections: circumstances related to the suicide attempt, self-report, and additional risk factors. Each item is scored on a 0-2 Likert scale for severity. The SIS was found to have good internal consistency (alpha = .95) and inter-rater reliability (.74 - .90). Results regarding predictive validity are variable. The SIS was found to be related to lethality of suicide attempts ($r = .38$).

Torrance Tests of Creative Thinking

The Torrance Tests of Creative Thinking (TTCT) (Torrance, 1966; Torrance, Ball, & Safter, 2007) were developed to assess creative thinking abilities in a variety of populations. The TTCT has a figural form and verbal form, each with a separate set of norms and reliability/validity data. The Figural Form A, used in the current study, consists of three separate subtests: Picture Completion, Picture Construction, and Lines. The Picture Completion task yields a Resistance to Premature Closure (RPC) score that is determined by examining an individual's written response to pictorial stimuli. Each item is scored on a 0 to 2 Likert scale with scores ranging from 0 to 20. The TTCT norms were established based on the results of 70,093 individuals from 35 states. The Resistance to Closure Score was found to have good interrater reliability (0.96).

Procedure

Treating physicians in Parkland Psychiatric Emergency Services and on the Parkland Psychiatric Consult Liaison Service participated in study orientation sessions where the purpose of the study, study patient inclusion and exclusion criteria, and all study procedures were described. The physicians were trained in how to discuss the study with potential study patients, and interested patients were referred to a designated research study coordinator, who contacted the patient to

schedule a time to discuss the study and qualify the patient. Clinic staff in PES and on the CL service were briefed on the study prior to its implementation.

Data obtained from medical records and referring physicians specifically to qualify patients for the research study and linked to identifiable human subjects included: Name, bed location within the hospital (SAs), age, ICD-9 diagnoses, review of systems, presence of major medical or psychiatric illness, and treating physician's most recent assessment of level of suicide risk. As study personnel provided information to the potential subject about the study they simultaneously screened the patient by determining the patient's capacity to speak and read English. After obtaining informed, written consent, study personnel assessed current mental status in order to establish study eligibility. For the SA group, the research study coordinator determined whether there was clear evidence of an injury or poisoning sustained intentionally and associated with intent to die. For the SI group, the research study coordinator established that there was no self-harm behavior associated with the PES admission and no history of medically-serious suicide attempts.

For the purposes of this study, time of suicide attempt was established as the first fully-conscious hour after the suicide attempt, as established by clinical exam, and/or chart notes/nursing/physician/staff report. Assessments for SAs took place within 48 hours of consciousness after a suicide attempt (Hirschfeld, 1998). During the assessment, SA patients were asked to retrospectively describe

their suicide-related cognitions and behaviors during the 48 hours preceding the suicidal behavior via semi-structured interview and self-report testing. In a similar fashion, patients in the SI group were asked to retrospectively describe their suicide-related cognitions and behaviors during a 48-hour time period ending two days prior to the interview. The interview took approximately 45 to 90 minutes for most patients to complete. At the end of the interview, current suicide-related risk status was ascertained, and information on the patient's plan of care was reviewed. Reports to the patients' treating physicians were made as needed. Recruitment flow for the SA group is presented in Figure 10.

All comparison group (SI) study subject interviews took place in Parkland Psychiatric Emergency Services, and were scheduled at times and in rooms convenient for clinic staff. SA assessment interviews took place on the medical ward where the patient is being treated, or in an appropriate adjacent room where confidentiality was ensured. Ward staff was briefed about the nature of the study and the nature of the interview to be administered.

All data was double-entered and reconciled in order to ensure accuracy. Each participant was assigned a unique study number and a separate file was maintained to correlate assigned study numbers with patient identifying information. Study data was analyzed using Statistical Package for the Social Sciences, version 12.0 for Windows.

Statistical Analysis Plan

Study Analyses

Group differences in demographic variables were explored using Pearson product-moment correlations and independent samples t-tests. Specifically, correlation coefficients and t-tests were used to determine the absence or presence of potentially confounding relationships between study outcome variables and demographic variables. Additional analyses were conducted to elucidate group differences in pertinent study variables such as intensity of suicidal ideation, suicidal intent, lethality of suicide attempt, and other study measures.

In order to explore the mediator role of problem-solving within the context of depression/hopelessness, and suicide, a number of analyses were conducted. The study model is presented in Figure 1. Baron and Kenny (1986) described a path model and analytic procedure for exploring the mediators in social science research. Refer to Figure 2 for the path model utilized in the current study. Baron and Kenny (1986) suggested conducting the following analyses:

- Regressing the mediator on the independent variable
- Regressing the dependent variable on the independent variable
- Regressing the dependent variable on both the independent variable and on the mediator

The authors noted the following, “If these conditions all hold in the predicted direction, then the effect of the independent variable on the dependent variable

must be less in the third equation than in the second." The following hypotheses were proposed:

Hypothesis One: Higher levels of depression and hopelessness would be associated with increased impairment in problem-solving skills.

- Correlation and linear regression would be conducted in order to determine the effect of depression and hopelessness on problem-solving skills.

Hypothesis Two: High-risk suicidal behavior would be associated with increased levels of depression and hopelessness.

- Correlation and linear regression would be conducted in order to determine the relationship between suicidal behavior and depression and hopelessness.

Hypothesis Three: Increased levels of impaired problem-solving skills, depression, and hopelessness combined would be associated with high-risk suicidal behavior.

- Correlation and linear regression would be conducted in order to determine the relationship between the combination of depression, hopelessness, and impaired problem-solving skills and suicidal behavior.

Hypothesis Four: The effect of depression and hopelessness on high risk suicidal behavior would be less than the effect of depression and hopelessness in combination with impaired problem-solving on high risk suicidal behavior.

- The effect of the predictor variable in the third hypothesis would be compared to the effect of the predictor variable in the second hypothesis.

CHAPTER FOUR

Results

Descriptive Statistics

Demographic Variables

The sample size for the current study included 76 total participants, 41 suicide attempters (SA) and 35 suicide ideators (SI). SI and SA participants presented with similar demographic characteristics; generally Caucasian (SA=63.4%, SI=48.6%) males (SA=65.9%, SI=60%) who were not employed (SA= 65.9%, SI=65.7%), and were never married (SA=31.7%, SI=40%). The average age of study participants was 38.62 years, with a minimum age of 18 and a maximum age of 71. Study subjects had an average of 12.74 years of education and 1.22 children.

The average age for the SA group was 38.56 years with a range of 19 to 71. SA group participants had a mean of 12.27 years of education (Range=6-17 years), and 1.15 children (Range=0-4). The average age for the SI group was 38.69 years with a range of 18 to 62. SI group members had mean of 13.29 years of education and 1.31 children. Study demographics are presented in Figures 3 – 6.

Contingency table analyses were conducted in order to assess whether demographic variables differed between suicide ideators and attempters. Table 1

shows the comparisons between groups. There were no significant differences in gender, age, race/ethnicity, or marital status. However, employment status was found to differ significantly between the SI and SA groups, χ^2 (5, *n*=76) = .11.75, *p* = .04. The primary difference appeared to be explained by the discrepancy in individuals who identified themselves as unemployed, seeking employment (SA *n*=5, SI *n*=12), and those who indicated that they were unemployed, not seeking employment (SA *n*=22, SI *n*=11). This difference appeared to suggest that unemployed SA group participants were less likely to be seeking employment than SI group members.

Clinical Characteristics

The most common primary psychiatric diagnoses for all study participants were mood disorders (n=57, 75%). The frequency of psychotic disorders (n=5, 6.6%), anxiety disorders (n=5, 6.6%), and substance related disorders (n=5, 6.6%) was equal within the study cohort, and one participant (1.3%) was given a primary diagnosis of a personality disorder. The majority of study participants acknowledged a family history of mental illness (n=61, 80.3%). Psychiatric diagnostic data for both study groups are presented in Table 2 and Figure 7.

SA participants reported an average of 2.4 past suicide attempts (Range 0-22), while SI group members had an average of 1.7 past suicide attempts (Range 0-20). Two participants in each group acknowledged a history of greater than ten

past suicide attempts. When these outliers were removed, the mean number of past suicide attempts for the SA group was 1.7 and for the SI group was .5. An independent samples t-test revealed that the SA group had a history of a significantly greater number of suicide attempts, $t(67) = -3.17$, $p = .00$, but only when the outliers were removed from the sample.

Participants in both the SA and SI groups commonly identified interpersonal conflict as a primary stressor leading up to suicidal behavior/thoughts (63.4% of SA group; 66.7% of SI group). Primary stressor data are presented in Figure 8. Individuals in the SA group were significantly less likely than SI subjects to inform someone that they were experiencing suicidal ideation, $\chi^2(1, n=73) = 8.31$, $p < .01$. Suicide attempters were also significantly more likely to report that they were using illegal drugs and/or alcohol while experiencing suicidal ideation / behavior, $\chi^2(1, n=73) = 7.07$, $p < .01$. Additional clinical data are presented in Table 3.

Within the SA group, 31.7% (n=13) of the participants indicated that they told someone about their suicidal thoughts prior to making a suicide attempt, however, 53% (n=22) of SAs reported that they did not do so when the attempt was imminent. More than 63% percent (n=26) of the suicide attempter group endorsed interpersonal conflict as the primary stressor preceding the suicide attempt. They did not typically make preparations for death (i.e. changes in will, giving away belongings, pets) (61%, n=25) or leave suicide notes (70.7%, n=29)

prior to the suicide attempt. Time between the onset of the primary stressor and the suicide attempt ranged from minutes (22%, *n*=9) to days (24.4%, *n*=10).

With regard to the suicide attempt itself, the most frequent method of self-harm was drug overdose (75.6%, *n*=31). Four patients sustained self-inflicted stab wounds (9.8%) and two self-immolated (4.9%). Other suicide attempt methods included gunshot wounds (2.4%, *n*=1), self-poisoning (2.4%, *n*=1), jumping from a bridge (2.4%, *n*=1), and ingesting razors (2.4%, *n*=1). The majority of the SA group participants (63.4%, *n*=26) lost consciousness following the suicide attempt, and were interviewed and consented an average of 21.23 hours (range 2-40, SD=11.87) after regaining consciousness. Suicide attempts most often occurred at night (63.4%, *n*=26), and less frequently during the afternoon (24.4%, *n*=10) and morning (12.2%, *n*=5). Suicide attempters most commonly believed their self-harming behavior to be highly lethal (68.3%, *n*=28), although some acknowledged uncertainty about the lethality of their behaviors (19.5%, *n*=8) or admitted that they did not believe their attempt would result in death (12.2%, *n*=5). Participants' beliefs about lethality did not correlate with study personnel rated levels of lethality, as measured by the Risk-Rescue Rating Scale (RRR), $r(39) = .12$, $p = .47$. Finally, about half of suicide attempters expressed relief that they did not die as a result of the attempt (51.2%, *n*=21), while another 34.1% of the group continued to acknowledge ambivalent feelings about survival, and six suicide attempting study patients stated that they felt

"disappointed" to be alive. Characteristics of suicide attempt are presented in Table 5.

Within the SI group, 60% (*n*=21) of participants reported that they told someone about their thoughts of suicide prior to presentation for emergency treatment. Analyses indicated a wide distribution in the duration of suicidal ideation within the SI group. Specifically, SI participants reported that they experienced thoughts of suicide for time periods ranging from hours (17.1%, *n*=6) to years (8.6%, *n*=3) leading up to study participation. The majority of SI group members experienced suicidal ideation "multiple times a day" (25.7%, *n*=9), but overall frequency of ideation ranged from "constant" (17.1%, *n*=6) to "yearly" (11.4%, *n*=4). Most ideators reported that the current episode was not their first experience of suicidal ideation (68.6%, *n*=24). The average age of onset of suicidal ideation was 22.93 years (Range 6-61, SD=15.35). The majority of SI group members had no history of suicide attempts (60%, *n*=21). Five individuals (14.3%) in the SI group had one past attempt, three had two past attempts (8.6%), one had five past attempts (2.9%), one individual (2.9%) had 18 past attempts, and one individual (2.9%) had 20 past attempts. Of the eleven individuals who acknowledged a past suicide attempt, four reported that they were treated as an inpatient in a psychiatric hospital following a previous attempt, and three reported that they previously received emergency room treatment for a suicide attempt. The other four did not receive medical care for prior suicidal behavior.

Univariate Analyses

The distributions of scores on primary outcome measures were examined prior to conducting statistical analyses. Sample distributions for the BHS, QIDS-SR, and SPSI:R-S all approximated the normal curve. Analysis of the RPC score distribution indicated that the ideator group was negatively skewed with a significant number of participants earning higher RPC scores.

Pearson product-moment correlations were conducted to explore the relationship between primary study outcome variables and demographic variables. No significant correlations were found between groups on the demographic variables of gender, age, employment status, or marital status and the Beck Hopelessness Scale (BHS), resistance to premature closure (RPC), Quick Inventory of Depressive Symptomatology (QIDS-SR), and Social Problem-Solving inventory (SPSI:R-S) scores. A significant, negative correlation was found for Hispanic participants (n=6 in SI group, n=7 in SA group) and BHS total scores when compared to Caucasian, $r(50) = -.39$, $p = .004$, and African-American participants' BHS scores, $r(30) = -.524$, $p = .003$. Data are presented in Table 6.

Independent samples t-tests were conducted to evaluate group differences on multiple study measures. In this sample, mean depression levels, as measured by the QIDS-SR, did not significantly differ between groups, $t(74) = 1.16$, p =

.25. Similarly, mean hopelessness scores, measured by the BHS, did not differ between groups, $t(73) = .04$, $p = .97$. Mean SPSI:R-S, a self-report measure of social problem-solving skills, did not significantly differ between groups, $t(70) = -.02$, $p = .99$. In contrast, mean RPC scores for suicide attempters (M=9.55, SD=5.02) and ideators (M=13.06, SD=4.26) were significantly different, $t(73) = 3.24$, $p = .002$. A Mann-Whitney *U* nonparametric analysis of group differences yielded similar significance, $z = -2.92$, $p < 01$. In this sample, problem irresolvability, as measured by mean total scores on the SEPI-A, did not differ significantly between groups, $t(73) = .05$, $p = .96$. Finally, average total scores on the SCS, a measure of negative self-cognitions, did not significantly differ between groups, $t(73) = .92$, $p = .36$. Data are presented in Table 7.

Characteristics of the Suicidal State

The Risk-Rescue Rating Scale (RRR), used in this study as a measure of medical lethality of suicide attempt, was completed for SA group participants and yielded a mean total score of 40.35 (Range 29-60, SD=7.6). Lethality of suicide attempt total scores were not significantly correlated with social problem-solving skills, as measured by the SPSI-R:S, $r(36) = .26$, $p = .12$. The relationship between lethality of attempt and RPC, approached significance, $r(38) = .310$, $p = .052$. The RRR was not significantly correlated with measures of depression,

r(39) = -.01, p = .98, hopelessness, *r*(38) = .05, p = .77, or negative suicide-related self cognitions, *r*(38) = .15, p = .36.

Suicide Intent Scale (SIS) total scores were obtained for the SA group and were significantly and positively correlated with measures of lethality of attempt (RRR), *r*(39) = .66, p = .00, and negative self-cognitions (SCS), *r*(38) = .35, p = .03. Intent score totals were not related to RPC scores, *r*(38) = .29, p = .07, depression (QIDS-SR), *r*(39) = .07, p = .67, problem irresolvability (SEPI-A), *r*(38) = .05, p = .78, social problem-solving (SPSI-R:S), *r*(36) = .13, p = .42, or hopelessness (BHS), *r*(38) = .16, p = .34.

Modified Scale for Suicidal Ideation (MSSI) total scores were obtained for the SI group and were significantly and positively correlated with depression, *r*(33) = .41, p = .01, hopelessness, *r*(33) = .37, p = .03, and negative self-cognitions (SCS), *r*(33) = .401, p = .02. MSSI total scores were not significantly correlated with RPC scores, r(33) = .19, p = .28, or SPSI scores, r(32) = -.02, p = .89. Additionally, MSSI total scores were not significantly correlated to problem irresolvability scores, *r*(33) = .11, p = .52). Results are presented in Table 9.

Major Study Hypotheses

Hypothesis One: Higher levels of depression and hopelessness will be associated with increased impairment in problem-solving skills.

Pearson product-moment correlations were conducted to initially assess for the presence of within-group relationships between depression, hopelessness and problem-solving skills. Hopelessness, as measured by total scores on the Beck Hopelessness Scale (BHS), was not significantly correlated with resistance to premature closure (RPC) scores in the study sample, $r(72) = .01$, $p = .92$. Additionally, hopelessness was not related to resistance to premature closure scores within the SA, $r(37) = .20$, $p = .24$, or SI groups, $r(33) = -.2$, $p = .16$. Analyses of the relationship between hopelessness and social problem-solving skills were significantly and negatively correlated in the overall sample, $r(70) = -.44$, $p = .00$, within the SA group, $r(36) = -.47$, $p = .00$, and within the SI group, $r(32) = -.4$, $p = .01$. Data are presented in Table 10.

Pearson product moment correlations indicated that the relationships between depression and resistance to premature closure scores, $r(73) = .13$, $p = .28$, were not significant within the overall sample. Furthermore, the relationship was not significant within the ideator, $r(33) = .25$, $p = .16$, or attempter group, $r(38) = -.02$, $p = .92$. Analyses of the relationship between QIDS-SR and SPSI-R:S total scores, a measure of social problem-solving skills, indicated that the

variables were significantly and negatively correlated, $r(70) = -.37$, $p = .00$. Further exploration clarified that the relationship was significant within the SA group, $r(36) = -.46$, $p = .00$, but not within the SI group, $r(32) = -.28$, $p = .11$. Data are presented in Table 10.

In summary, partial support is confirmed for the initial study hypothesis. Hopelessness and depression were negatively correlated social problem skills in the study sample. No relationship was found between hopelessness and depression and resistance to premature closure.

Hypothesis Two: High-risk suicidal behavior would be associated with increased levels of depression and hopelessness

Previously discussed independent samples t-tests indicated that levels of depression and hopelessness did not significantly differ between the SI and SA groups. As anticipated, point-biserial correlations confirmed that depression, $r(74) = -.13$, $p = .25$, and hopelessness, $r(73) = -.01$, $p = .97$, are not related to group status. Results are displayed in Table 11.

Hypothesis Three: Increased levels of impaired problem-solving skills, depression, and hopelessness combined would be associated with high-risk suicidal behavior.

The aim of this hypothesis was to determine whether the combination of depression, hopelessness, and impaired problem-solving skills accounted for additional variance in the equation used to predict group status. However, only one variable (RPC score) was found to be associated with group status in the preceding set of analyses. A relationship between depression/hopelessness and resistance to premature closure was not found. Therefore, an insufficient number of predictor variables were identified to explore this hypothesis.

Hypothesis Four: The effect of depression and hopelessness on high risk suicidal behavior would be less than the effect of depression and hopelessness in combination with impaired problem-solving on high risk suicidal behavior.

The aim of this hypothesis was to determine if problem-solving contributed unique, non-overlapping variance to the prediction of group status. Given the results described for hypotheses one and two, it was determined that conducting this analysis would not provide additional information regarding the relationship between the primary study variables and suicide.

Exploratory Analyses

Additional analyses were conducted in order to clarify the results obtained from analysis of sample characteristics and study hypotheses. Specifically, the absence of a correlation between depression/hopelessness and group status in the presence of significant group differences in resistance to premature closure suggested that further examination of study variables was necessary. Additionally, analyses were conducted to explore the potential confounding role of history of past suicide attempts in the overall sample and within each group. It was thought that further examination of relationships between depression, hopelessness, social problem-solving, resistance to premature and history of suicide attempt(s) could yield insight into the results obtained during the primary study analyses.

A logistic regression was conducted with study group as the criterion variable and RPC scores as the predictor. Results indicated that scores on resistance to premature closure significantly predicted group status, $\beta = -.159$, Wald(1) = 8.05, $p = .005$.

A multiple logistic regression analysis was conducted to predict group status from depression (QIDS-SR), hopelessness (BHS), resistance to premature closure (RPC), and social problem-solving (SPSI-R:S). Multiple logistic regression was chosen because of the dichotomous criterion variable. Additionally, multiple logistic regression is useful for correctly identifying the

category of outcome for individual cases using the most parsimonious model. The forward stepwise entry procedure was utilized in order to rank the relative importance of predictor variables in explaining the response variable. Results of the multiple logistic regression indicated that the measures of depression (QIDS-SR), hopelessness (BHS), and social social problem-skills (SPSI-R:S) did not contribute significant predictive power to the regression equation. As seen in Table 12, resistance to premature closure subscale (RPC) was the only significant predictor of group status, β -.16, Wald(1) = 6.80, p = .01. Data for this analysis are presented in Figure 9.

Correlations between history of suicide attempt and primary study variables were also conducted. The analyses were conducted across the study cohort and within each study group to determine if the relationship between the variables was consistent across the study or specific to one cohort or another. Point-biserial correlations were obtained using history of suicide attempt as a dichotomous variable (0=no history of attempt, 1=history of past suicide attempt). No significant relationships were found between history of past suicide attempt and resistance to premature closure (RPC), $r(70) = -.14$, p = .25 or social problem-solving (SPSI-R:S), $r(67) = -.14$, p = .27. Within the study groups the only significant relationship was a negative correlation between history of suicide attempt and social problem-solving skills in the suicide attempter group, $r(36) = -.40$, p = .01. These results are presented in Table 13.

Further exploration of the relationship between history of suicide attempt and resistance to premature closure (RPC) was conducted with a one-way analysis of variance (ANOVA). The independent variable, history of suicide attempt, included three levels: ideators with no history of suicide attempt(s), ideators with a history of suicide attempt(s), and attempters. The dependent variable was resistance to premature closure scores. The ANOVA was significant, $F(2, 69) = 6.23$, $p = .00$. The Dunnett's C test, which does not assume equal variances among the three groups, was used to evaluate pairwise differences among the means. There was a significant difference in resistance to premature closure mean scores in the ideator group with no history of suicide attempt(s) and the attempter group. ANOVA data is presented in Table 14.

One-way analysis of variance was also conducted to evaluate the relationship between suicide attempt history and social problem-solving skills (SPSI-R:S). The independent variable, history of suicide attempt, included three levels: ideators with no history of suicide attempt(s), ideators with a history of suicide attempt(s), and attempters. The dependent variable was social problem-solving scores (SPSI-R:S). The ANOVA was not significant, $F(2, 66) = .51$, $p = .60$. ANOVA data is presented in Table 14.

CHAPTER FIVE

Discussion and Conclusions

The aim of this study was to examine the mediational role of problem-solving in the pathway between depression and hopelessness and suicide. The results showed that resistance to premature closure, a construct within the realm of problem-solving, did accurately predict suicide attempter versus suicide ideator status, but did not play a mediator role. Analyses indicated that levels of depression, hopelessness, and self-report social problem-solving skills did not differ between groups. Study results did not provide support for the hypothesized model of the relationship between cognition and suicide, but did provide preliminary evidence of a linear relationship between resistance to premature closure and suicidal behavior.

Study Generalizability

The study sample was primarily composed of middle-aged, unemployed Caucasian men with significant psychiatric morbidity, a demographic group that is consistent with U.S. statistics regarding the incidence of completed suicides (Centers for Disease Control and Prevention, 2004; Lewis & Sloggett, 1998; S. Platt & Kreitman, 1984). Substantial data exists indicating that while males are more likely to commit suicide than females, females are more likely to attempt

suicide than males (A. M. Minino, Arias, Kochanek, Murphy, & Smith, 2002). However, Beautrais (2003) found that the well known gender-suicide relationship is mitigated in samples composed of medically-serious suicide attempters; more males than females make medically serious-suicide attempts. Analyses of a database maintained on the CL service indicated that 557 psychiatry consults for suicide attempts were received between January, 2007 and November, 2008. Of the 557 consults for attempted suicide, 56.2% of the patients were males with an average age of 36.36. The average age of female suicide attempters on the CL service was 36.45. This data seems to indicate that participants included in the current study have similar demographic characteristics compared to the typical CL suicide attempter providing evidence of study generalizability to this population. Information about other demographic variables such as race/ethnicity, education, and employment status were not available for CL psychiatry patients. Demographic trends for PES suicide ideators have not previously been characterized.

While the predominance of male study participants is consistent with national suicide rates and rates of medically serious suicide attempters, the recruitment of more males than females in the ideator group was unexpected. One potential explanation for this result is that young females were more likely to present for psychiatric emergency services care with some evidence of self-harm behavior (i.e. superficial lacerations, self-inflicted burns), which was an exclusion

criterion for this study. Although this evidence is anecdotal, it is consistent with past research indicating that females are significantly more likely than males to engage in non-lethal self-harm behavior (A.L. Beautrais, 2006; C. L. Rich, et al., 1988). Participants with evidence of self-harm and a history of a medically serious suicide attempt were excluded from the SI group in order to maximize differences between the SA and SI cohorts and better explore group differences. It is possible that this exclusion criterion inadvertently led to the recruitment of more males in the ideator group than we expected. Another potential explanation is that all researchers collecting data for the SA and SI groups were female, potentially biasing the sample procedure if patients were more or less willing to speak with females. This finding somewhat limits the generalizability of the study findings and underscores the need for additional research in the area of female ideators and attempters.

With regard to the suicide attempt, an overwhelming majority of SA group members sustained their injuries by overdosing on prescription or illicit drugs. More violent means of attempt were less common in this study, a finding that is potentially explained by recruitment limitations discussed in previous sections and the likelihood that the most serious suicide attempts are not assessed because the individual does not regain consciousness or does not survive. The majority of suicide attempters lost consciousness following their attempt, a finding that speaks to both the method and severity of drug overdoses as a form of self-harm.

While the current study sample is similar with regard to demographic characteristics to previously conducted research, it is clear that the recruitment of medically-serious suicide attempters is a new direction in the area of problem-solving and suicide. As a result, the sample demographic characteristics of this study are generally consistent with national suicide rates, but differ from previous studies of individuals with suicidal ideation. As previously discussed, this discrepancy seems to be a result of the criteria for inclusion in the study.

Past research examining the relationship between problem-solving and suicide reported that the majority of the patients recruited were unemployed and Caucasian, with an average age ranging from 30-40 years (Hewitt, et al., 1998; Pollock & Williams, 2004). This constellation of demographics is consistent with the sample for the current study. Overall, the study cohort is relatively small and provides only preliminary data regarding suicidal behavior and problem-solving. Therefore, results from this investigation should be applied to other groups with caution.

Study Findings

This study was designed to assess the mediational role of problem solving in suicide. Depression, hopelessness, subjective social problem-solving, and resistance to premature closure were assessed in a cohort of individuals with

suicidal ideation and individuals with a recent history of a medically-serious suicide attempt.

Preliminary analyses were conducted to explore group differences in demographic variables. The analyses uncovered no significant differences between groups with regard to age, gender, race/ethnicity, and marital status. The discrepancy in employment status between the two groups indicates that the majority of unemployed suicide attempters were not seeking work. In contrast, of the ideators reporting unemployment, approximately half were looking for a job at the time of recruitment. This finding may indicate that suicide attempters are more disabled compared to suicide ideators, an explanation supported by other study results commonly correlated with severity of psychological morbidity including a history of significantly more past suicide attempts for the SA group.

The vast majority of study patients were diagnosed with a mood disorder, which is consistent with past suicide research indicating that major depression and bipolar disorder are particularly prevalent in patients who attempt and commit suicide (Bertolote, et al., 2004; Cheng, et al., 2000; Fawcett, et al., 1987; Fawcett, et al., 1990). Additionally, more than 80% of the study cohort acknowledged a family history of mental illness including mood disorders, substance and alcohol disorders, and suicide. Past studies found that a significant number of individuals with a mood disorder who attempted suicide had a first-degree relative with a history of suicide or a major mood disorder (Brent, et al., 2002; J. J. Mann, et al.,

2005). The findings of the current study are consistent with past research indicating the role of familial factors in suicide risk.

Attempters and ideators both identified interpersonal stressors as the most common precipitating factor leading to the development of suicidal thoughts. This finding is consistent with past studies indicating that interpersonal stress and lack of social support play a role in suicidality (Breault, 1986; Heisel, et al., 2003; Joiner, et al., 2006). Interestingly, more than half of the attempters recruited for this study reported that they informed someone about their suicidal ideation, but only 30% of the same group communicated with others when the actual attempt was made. The majority of ideators also reported communicating with someone regarding their thoughts of suicide.

Group differences in history of suicide attempts between the SA and SI groups were consistent with past research indicating that individuals who make a suicide attempt are significantly more likely to have a history of multiple past suicide attempts than individuals with psychiatric morbidity but without a history of self-harm (Wingate, et al., 2004; Zahl & Hawton, 2004). The most common method of suicide attempt for both male and female participants was medication/drug overdose, a means typically associated with female attempters (C. L. Rich, et al., 1988). This finding is accordant with past ED studies but also likely reflects a sampling bias due to the difficulty in assessing participants who

sustained catastrophic injuries as a result of more violent methods, i.e. gunshot wounds, jumping from a substantial height, hanging, etc (Doshi, et al., 2005).

Suicide attempters generally believed their methods of self-harm to be highly lethal; however, this finding did not correlate with ratings of lethality, as measured by the Risk-Rescue Rating Scale. However, suicide intent was strongly correlated with lethality of attempt. Ratings of lethality took into account additional variables such as location of attempt, toxicity, and communication efforts which may explain this discrepancy. There does seem to be a relationship between intent and lethality, but this relationship may have limited utility for risk assessment because of the uncertain correlation with patients' perception of lethality. By making assumptions about risk based on the medical lethality of a suicide attempt, clinicians are likely to overlook the high risk of a cohort of suicidal individuals who lack the knowledge or ability to orchestrate a medically-serious attempt. In other words, the patient endorsing high intent who attempts suicide by taking antibiotics is potentially at just as much risk as the patient endorsing high intent who takes acetaminophen if the former lacks understanding of the biology ramifications of the attempt. The reverse is also true; individuals with limited medical knowledge may inadvertently make a very serious suicide attempt with comparatively minimal intent. Furthermore, significant overlap exists in items assessed in the lethality and intent questionnaires, increasing the chances of finding a strong, yet less meaningful, correlation between total scores.

Increased suicide intent was associated with increased negative self-cognitions (SCS) in the current study. This finding is intuitive when the content of the Suicide Cognitions Scale items is considered. Participants with high scores on items such as "The world would be better off without me" or "Suicide is the only way to end this pain" are more likely to disclose high levels of intent. However, negative self-cognitions scores did not accurately predict SA versus SI group membership. Therefore, preliminary data suggests that this particular construct alone does not characterize the near term risk state for a suicide attempt. Severity of suicidal ideation in the SI group was correlated with measures of depression, hopelessness, and negative self-cognitions. This data suggests that individuals with suicidal ideation reported significant depressive symptomatology.

Study data revealed that attempters and ideators do not differ on measures of depression and hopelessness. This finding is consistent with past research indicating that depression and hopelessness are present for both attempters and ideators, but not in significantly different levels (Beck, et al., 1990; Beck, et al., 1989; Beck & Weishaar, 1990; Holmstrand, et al., 2006; Michel, 1987). This data reiterates the limited utility of these factors as imminent risk assessment tools and confirms that suicidologists must conduct a more in depth exploration of the factors that characterize these two clinical populations.

Results of the current study indicate that individuals presenting for treatment of suicidal ideation are generally troubled by long-standing, recurring, and persistent thoughts of death. Despite this severity of psychological pain, most ideators denied any history of suicide attempts. Given these findings, the next logical question is – What differentiates individuals with a persistent history of suicidal ideation from those who experience ideation and make a medically serious suicide attempt? The following section will address specific areas of cognition that may impact the progression of an individual from ideation to attempt.

Problem-Solving and Suicide

Previous literature regarding the relationship between suicide and problem-solving is relatively limited. Past studies demonstrated that measures of cognitive rigidity and social perfectionism differed significantly between individuals who attempted suicide and those who did not (Hewitt, et al., 1998; A.T. Patsiokas, G.A. Clum, & R.L. Luscomb, 1979). Additionally, researchers found evidence of impaired executive functioning, perfectionism, and cognitive rigidity in samples of suicide ideators (Beevers & Miller, 2004; Marzuk, et al., 2005; Schotte & Clum, 1987).

Research regarding the reliability and validity of resistance to premature closure as a measure of problem-solving skills originated in educational psychology literature. Resistance to premature closure refers to an individual's ability to remain open to potential solutions when confronted with conflict (Pritzker & Runco, 1999). Results of study analyses demonstrated that resistance to premature closure was a unique indicator of attempter versus ideator status. This is the first time that this particular measure was used in a suicide research and serves as an impetus for ongoing exploration of behavioral assessment of problem-solving skills in this population.

It is a new direction in the field of suicide and promising preliminary data is presented in this study. However, it seems likely that there are factors that may overlap with the construct. Some of these potentially overlapping areas include: anxiety, impulsivity, aggression, agitation, intolerance for ambiguity and uncertainty, and situational stress.

Of particular importance in the current investigation is the finding that depression and hopelessness, two self-report measures of distress, and social problem-skills (SPSI-R:S) were correlated in the absence of a correlation between these same measures of distress and resistance to premature closure (RPC). The relationship found between SPSI-R:S scores and hopelessness/depression is consistent with past research (T. J. D'Zurilla, et al., 1998). However, D'Zurilla and colleagues also found that impaired problem-solving skills were correlated

with increased suicide risk in a sample of college students, a finding that was not replicated in the current cohort of ideators and attempters. Both attempters and ideators consistently reported a significant level of hopelessness and depression, as well and difficulty with social problem-solving. Study participants consistently reported significant impairment in multiple areas, but these perceptions did not relate to attempter versus ideator status. However, resistance to premature closure, a behavioral measure of specific problem-solving skills, differed significantly between groups while social problem-solving skills did not. This finding is noteworthy because of the implication that assessing an individual's ability to remain open to potential conflict solutions addresses something fundamentally different than other measures of problem-solving skills.

Patsiokas and colleagues (1979) found that a behavioral measure of cognitive rigidity was the best discriminator between suicide attempters and ideators. Researchers discovered that individuals admitted for a suicide attempter were significantly more likely to demonstrate cognitive rigidity. Marzuk and associates' (2005) finding that psychiatric inpatients with suicidal ideation evidenced impaired executive functioning, specifically impaired cognitive flexibility and mental set-shifting, provides further support for the relationship between cognitive impairment and problem-solving in suicidal individuals. Current study results support previous findings regarding the relationship between cognition and suicide, and suggest impairment in the ability to remain open to

potential problem solutions is a cognitive characteristic that differentiates attempters from ideators.

Based on observations during study assessments it was noted that individuals in the attempter group seemed to struggle with the idea of drawing without structural constraints and with limited direction. Participants in each group were provided with standardized test administration instructions; however, the ideators seemed more able to fully engage in testing and utilize the full time allotted. A number of factors could have influenced the attempters' ability to fully engage in a cognitive assessment including sedation and physical/emotional exhaustion. This observation, in combination with statistical evidence regarding group differences seems to suggest that suicide attempters have difficulty engaging in the creativity and openness of the problem-solving process and tend to quickly close off potential solutions. Patsiokas and colleagues (1979) described this finding in the following manner:

> "…suicide attempters have a cognitive organization of rigid thinking. They can be viewed as not possessing the ability to display diversity in coping with their stressors….A suicide attempt for such individuals may become the only way to cope with their limited cognitive resources and emotional problems. (p.483)

Despite these promising findings, the utility of the RPC task and the related cognitive paradigm as a measure of clinical assessment is uncertain due to its less

than clear relationship to "real-life" problem-solving. However, there is certainly value in exploring the construct of premature closure and other indications of impaired problem-solving in the realm of suicidology.

With regard to apriori study hypotheses, the goal of the first hypothesis was to examine the relationship between measures of depression and hopeless and impaired problem-solving skills. Analyses suggested partial support for this hypothesis in that hopelessness and depression were both significantly and negatively correlated with impaired social problem-solving skills. However, depression and hopelessness were not related to variations in resistance to premature closure scores. The results provide preliminary evidence that subjective experiences of despair and difficulty coping are closely related. In contrast, it seems that resistance to premature closure is a construct independent from measures of concurrent depression and hopelessness.

The aim of the second hypothesis was exploration of the relationship between depression and hopelessness and suicidal behavior. A significant relationship was not found. QIDS-SR and BHS scores did not predict group status. Additionally, increased levels of depression and hopelessness were associated with increased levels of suicidal ideation in the SI group, but were not correlated with medical lethality of suicide attempt or suicide intent in the SA group.

Hypotheses three and four were proposed to explore the role of problem-solving as a mediator in the relationship of depression and hopelessness with suicide. These analyses were not conducted because of the findings ascertained in the analyses for hypotheses one and two.

Exploratory analyses were conducted in order to more closely examine the concept of resistance to premature closure in the context of suicide. Results of a logistic regression with resistance to premature closure scores as the predictor and group status as the criterion variable indicated that RPC scores effectively categorize participants according to group status. Results of the forward stepwise logistic regression using depression, hopelessness, social problem-solving skills, and resistance to premature closure as predictor variables confirm other study analyses. RPC scores were the only variable retained in the model utilizing the forward stepwise procedure, indicating that this subscale was the only measure that accurately differentiated between suicide attempters and ideators. Furthermore, the results of both regression equations confirm that the odds of being a suicide attempter increase as resistance to premature closure scores decrease. These findings reiterate that study participants with a recent medically serious suicide attempt demonstrated impaired resistance to premature closure, indicating a suspected deficit in effective problem-solving skills. This data provides support for continued analysis of resistance to premature closure with regard to suicide. However, caution should be exercised when extrapolating from

these results because of the limitations imposed by study design. Because of the retrospective nature of the data, a causal relationship cannot be assumed.

Initial analyses of the relationship between history of suicide attempts and study variables showed that past episodes of self-harm were not correlated with resistance to premature closure. Within the attempter group an inverse relationship was found between history of suicide attempt and social problem-solving skills (SPSI-R:S). This finding indicates that individuals with a recent medically serious suicide attempt and history of other attempts acknowledge difficulty with interpersonal problem solving skills, perhaps suggesting that this cohort is particularly impaired in this area, a conclusion supported by extensive past literature (T. J. D'Zurilla, et al., 1998; Jeglic, et al., 2005; Orbach, Bar-Joseph, & Dror, 1990; Reinecke, 2006). ANOVA was used to more thoroughly explore the relationship between history of suicide attempt and problem-solving. The dependent variable in each analysis consisted of three levels: ideators with no history of suicide attempt, ideators with a history of suicide attempt(s), and attempters. One ANOVA used resistance to premature closure scores (RPC) as the predictor, while the other ANOVA used social problem-solving scores (SPSI;R:S) as the predictor. Analysis of history of suicide attempt(s) and SPSI-R:S scores indicated that there were no significant differences in mean social problem-solving scores for the groups. However, post-hoc analysis of the ANOVA for mean resistance to premature closure (RPC) scores suggests that

individuals with no history of suicide attempt(s) had significantly higher mean RPC scores than the medically serious suicide attempter group. Unfortunately, the results of these analyses provide somewhat conflicting data regarding this relationship. The data, particularly the ANOVA results, must be interpreted with caution given the extremely small group sizes involved in the analyses. Further exploration with more information about frequency and severity of past attempts and larger sample size could yield important information about resistance to premature closure and suicide.

Study Implications

The current study yields new information about the relationship between problem-solving skills and suicidal states and is comprised of a cohort of individuals that provide additional data about serious suicide attempts. Of note, the two study groups are well-matched with regard to demographic characteristics, suggesting that these characteristics do not explain the current results. Inconsistencies in study demographics and those of past suicide studies are likely a product of both the medical severity of the suicide attempts and the inclusion/exclusion criteria necessary to examine near-term risk state problem-solving skills while minimizing the impact of confounding variables.

This study provides evidence that it is feasible to assess individuals who have recently made a serious suicide attempt. Past research with medically-serious suicide attempters is limited, and feasibility is a concern when attempting to recruit participants who are likely to be struggling with a significant amount of physical and/or emotional pain. This recruitment process illustrates that individuals in the imminent risk state are often willing and eager to participate in research projects. A commonly expressed sentiment from patients was the idea of "giving something back" or "helping other people who feel this awful." Anecdotally, the refusal rate for individuals approached regarding study participation was very low for both groups. Most participants who qualified for the study were able to persist and finish all study instruments, but somnolence and lethargy were occasionally noted as reasons for discontinuing. These concerns highlight the importance of carefully considering the length of the study instrument battery in a physically and emotionally compromised population.

Inclusionary criteria required that patients in each of the study groups be recruited as soon as possible following presentation for treatment of suicidal ideation or attempts. Past research has not directly addressed the temporal relationship between problem-solving and suicidal behavior and little is understood about the state/trait nature of cognition in the suicidal patient. By assessing participants within 48 hours of a medically-serious suicide attempt, a unique picture of the imminent risk state is obtained. It appears that individuals,

both attempters and ideators, in this crisis state are very similar with respect to traditional indicators of suicide risk including hopelessness and depression. This finding has a number of potential implications, but suggests that depression and hopelessness may not be the best indicator of an individual's risk for eventually attempting suicide. Another possible explanation is that the two cohorts captured for the study actually represent the same cohort, caught at two different time points in the suicide risk cycle. However, group differences in study variables such as number of past suicide attempts and evidence of diminished resistance to premature closure suggest that this may not be the case.

One particularly important component of the current investigation is the utilization of two separate and unique measures of problem-solving skills. The Social Problem-Solving Inventory is a self-report measure that effectively assesses both positive and negative problem solving traits. The Resistance to Premature Closure subscale of the Torrance Test of Creative Thinking has not previously been used in a clinical sample such as the one recruited for this research. The reliability and validity of the TTCT as a measure of problem-solving originated in the field of education and represents an additional way to assess attributes of problem-solving aptitude in the field of suicidology. The resistance to premature subscale (RPC) on the Torrance Test of Creative Thinking (TTCT) was included in the study instrument battery in order to provide a behavioral sample of problem-solving skills.

The results of the study point toward the utility of behavioral and objective measures of problem-solving as a potential avenue for assessing suicide risk. Current data suggests that the individual's experience of psychological pain, as measured by the Beck Hopelessness Scale and the Quick Inventory of Depressive Symptomatology, in the absence of other risk assessment strategies, is not the best predictor of self-harm. Furthermore, self-report of social problem-solving deficits is not sufficient to draw conclusions about patient risk status. Future research is necessary to fully understand the role of premature closure in problem-solving and suicide.

The findings described in this study lay the groundwork for a more thorough exploration of cognition and suicide with the long-term goal of informing treatment strategies for individuals at risk for self-harm. Treatment of the suicidal patient is often an arduous task. In recent years, researchers have begun to formulate and test models of treatment and management from a variety of theoretical perspectives. Previously developed models are often helpful in managing an acute crisis and establishing a safety network, but do little to inform the clinician how to treat the patient on a session-by-session basis (Hirschfeld & Russell, 1997). In his review of prevention and treatment literature Goldney (2005) discussed the challenge of providing evidence-based care for suicidal behavior. Based on his review, Goldney advocated for increased social service programs, and standardized practices for assessment and management in clinical

care settings (Goldney, 2005). Previously discussed research indicated that a majority of patients who go on to commit suicide were seen in primary care setting in the months leading up to the act (Luoma, et al., 2002). Several publications advocate for the education of general practitioners in an effort to improve risk assessment (Oravecz & Moore, 2006; Zonda & Lester, 2006-2007). Clearly the limitations regarding the accurate assessment and treatment of suicide risk in primary care settings are substantial. The data presented in this study regarding the relationship between resistance to premature closure and the acute suicide risk state provides preliminary evidence for a potentially useful clinical assessment and treatment tool. Further research is necessary to elucidate the connection linking this aspect of problem-solving and self-harm behavior in a way that informs both risk assessment and treatment.

Study Limitations

Although findings in the study were significant, these should be tempered by several limitations. The sample consisted of predominantly divorced, unemployed, Caucasian men with significant levels of psychiatric comorbidity, which limits the generalizability of the findings. An additional constraint of the current study is small sample size. Although demographic differences were well

controlled, it is more difficult to draw conclusions and have confidence in findings with such a limited number of participants.

One of the primary difficulties when recruiting individuals following a serious suicide attempt is the impact of physical symptoms on participation. Individuals with these types of injuries were often unable to be assessed for weeks following the injury, and time of consciousness was difficult to evaluate secondary to ongoing medical sedation and high levels of pain medication. It is likely that the most medically-serious suicide attempters were not recruited for these reasons. Additionally, patients who sustained an injury that impacted writing or communication skills (i.e. injury requiring a tracheotomy, trauma to mouth area, injury to dominant hand/arm) often had difficulty completing study instrumentation. Finally, loss of consciousness was also a common consequence of a suicide attempt by the majority of SA group participants. This is evidence of cognitive impairment which could have impacted subjects' ability to fully participate in study measures and should be taken into consideration when interpreting results.

The methodology utilized in the study provides only retrospective information regarding the time period leading up to the suicide attempt and ideation. While this form of data collection is necessary because of the low base rate, unpredictability of suicide, and obvious ethical dilemmas with non-treatment, it limits the conclusions that can be drawn from the results.

Furthermore, participants may have been more likely to respond to research questions in a manner that increased or decreased their chances of subsequent psychiatric hospitalization based on their wishes regarding ongoing psychiatric care. For instance, when questioned about ongoing suicidality, a patient wishing to avoid inpatient psychiatric hospitalization may have minimized his or her level of distress. It was common for a potential participant to report, shortly after arriving for treatment of an obvious suicide attempt, that they were either no longer suicidal, or never felt suicidal.

Psychiatric diagnoses for study participants were obtained through the review of medical records for the presenting visit. Each of these diagnoses was made by the treating psychiatrist but, particularly in the case of the emergency services physicians, was often made after a brief, one-time, non-standardized interview of a patient. Furthermore, this study utilized a convenience sample of patients recruited from one site in an urban setting likely limiting the generalizability of these results to individuals in different regions and settings. Future research in multiple sites and varied locations with a wider range of SES distribution would address this limitation. Additionally, several of the measures used in this study were rated by study personnel and therefore subject to rater bias. It is suggested that future researchers include multiple blinded ratings in the study methodology to attend to this constraint.

Future Directions and Recommendations

Small sample size most likely played a role in the difficulty detecting group differences on various study variables. Although the two groups are well-matched with regard to demographics and consistent with sample sizes in other suicide studies, it is suggested that future research in this area target a larger group of participants in order to maximize the likelihood of uncovering clinically relevant information. The difficulty of recruiting individuals in the field of suicidology is frequently lamented and a difficult limitation to overcome. Despite these constraints, the current study demonstrated the possibility of engaging individuals in research designed to assess the imminent risk state.

This study assessed all variables retrospectively and in the context of significant physical and/or emotional pain. Researchers should endeavor to prospectively examine risk factors in an effort to inform clinical practice and avoid the confounding effects of extraneous variables discussed in previous sections. It would also be useful to obtain information regarding the treatment plan for the two groups of participants. It is possible that individuals in both groups who were transferred to an inpatient psychiatric facility could differ in some way from patients that are assessed, treated, and released. Patients who are deemed at imminent risk and in need of psychiatric hospitalization by the treating physicians may manifest different clinical characteristics than those judged safe to

go home. Additionally, recruiting a healthy control group for comparison purposes could help clarify the role of various risk factors in the progression toward suicide.

The next step in exploring the connections between psychological despair, problem-solving, and suicide should involve an assessment of the temporal relationship between depression and hopelessness, problem-solving and suicide. Examining this progression in a longitudinal, prospective design could yield important information about early or predisposing factors for individuals who will later self-harm.

Conclusions

Perhaps the most important conclusion that can be drawn from the current investigation is the necessity for rigorous empirical research in the area of problem-solving and suicide. This study clearly met its established goals of exploring the association between cognition and suicide, particularly in the context of the near-term risk state and serious suicide attempts. While the role of problem-solving as a mediator in the pathway from hopelessness and depression to suicide remains uncertain, it is clear that behavioral measures of cognition may provide additional information to aid in risk assessment. Further investigation is necessary to clarify the role of problem-solving in self-harm. Promising evidence is presented regarding the concept of resistance to premature closure and its

potential link to the process leading to a suicide attempt. Future study is needed to determine the utility of this construct in suicide prevention and prediction.

APPENDIX A: STUDY CONSENT FORMS

The University of Texas Southwestern Medical Center at Dallas
Parkland Health & Hospital System

CONSENT TO PARTICIPATE IN RESEARCH

Title of Research:	Characterization of cognitive variables and warning signs associated with suicidal risk states
Funding Agency/Sponsor:	University of Texas Southwestern Medical Center at Dallas, Department of Psychiatry
Study Doctors:	Kimberly Roaten, M.S. Jennifer Womack, B.S. Carissa Barney, B.A. Cindy Claassen, Ph.D. (Faculty Sponsor)

You may call these study doctors or research personnel during regular office hours at 214-648-4451 (Kim Roaten and Jennifer Womack), 214-648-3343 (Carissa Barney and Dr. Claassen). At other times, you may call 214-648-5555.

Instructions:
Please read this consent form carefully and take your time making a decision about whether to participate. As the researchers discuss this consent form with you, please ask him/her to explain any words or information that you do not clearly understand. The purpose of the study, risks, inconveniences, discomforts, and other important information about the study are listed below. If you decide to participate, you will be given a copy of this form to keep.

Why is this study being done?
This study is being done to understand the state of mind of certain groups of patients who experience long-term suicidal thoughts.

Why is this considered research?

- This is a research study because we know very little about the state of mind of patients who think about or actually do harm themselves deliberately.

The following definitions may help you understand this study:

- Standard medical care means the regular care you would receive from your personal doctor if you choose not to participate in this research.
- Researchers means the study doctor and research personnel at the University of Texas Southwestern Medical Center at Dallas and its affiliated hospitals.

Why am I being asked to take part in this research study?
You are invited to participate in this research because you have told your doctor that you have had suicidal thoughts over the past six months.

Do I have to take part in this research study?
No. You have the right to choose whether you want to take part in this research study. If you decide to participate and later change your mind, you are free to stop participation at any time.

If you decide not to take part in this research study it will not change your legal rights or the quality of health care that you receive at this center.

How many people will take part in this study?
About 50 people will take part in this study at Parkland Health & Hospital System.

What is involved in the study?
Participants in this study include patients treated at Parkland who have experienced suicidal ideation over six months or more.

If you volunteer to take part in this research study, you will be asked to sign this consent form and will have the following tests and procedures. Some of the procedures may be part of your standard medical care, but others are being done solely for the purpose of this study.

Screening Procedures
To help decide if you qualify to be in this study, the researchers may ask you questions about your health, including medications you take and any surgical procedures you have had.

You may also have to fill out certain forms or have the following exams, tests or procedures:

- Your current ability to concentrate and comprehend what is going on

around you

- Interview where you are asked for several pieces of information, including:
    - Information about any suicidal behavior within the past three years
    - Information about how long you have experienced suicidal ideation
    - Information to determine how likely you are to harm yourself in the near future.

Procedures and Evaluations during the Research

During this study, you will have the following tests and/or evaluations:

Assessment will take place immediately after you have signed the consent form. It will be approximately 45 to 60 minutes long, and you will be asked about the following:

- Your age, date of birth, gender, race, ethnicity, education level, current and former occupational status, marital status, number of children, number of persons living in household, personal and family history of suicide/suicide attempts/mental illness.
- Whether you have been experiencing any common, suicide-related thoughts, hopelessness, or suicidal ideation, and the way you would solve some common interpersonal problems, and other tasks.

Medical Record Review Your medical record will be reviewed to collect the following information:

- For all study patients, the following information will be obtained from medical records: any history of substance abuse/dependence, any current psychiatric diagnoses and/or treatment, any accidental injuries or suicide attempts within 6 months of baseline assessment
- If you experience any health problems related to participation in this study, medical records will be reviewed for the date, time and description of the problem, the medical action taken, and the outcome.

All evaluations listed above in this study are designed for research, not for medical purposes. They are not useful for finding problems or diseases. Even though the researchers are not looking at your evaluations to find or treat a medical problem, you will be told if they notice something unusual. You and your regular doctor can decide together whether to follow up with more tests or

treatment. Because the evaluations done in this study are not for medical purposes, the research results will not be sent to you or to your regular doctor.

How long can I expect to be in this study?
You will be interviewed one time for this study, and then we will not contact you again.

You can choose to stop participating for any reason at any time. However, if you decide to stop participating in the study, we encourage you to tell the researchers. You may be asked if you are willing to complete some study termination tests.

What are the risks of the study?

Suicidal feelings: It is possible that you will be feeling very suicidal or self-destructive when you are interviewed.

Psychological Stress: Some of the questions we will ask you as part of this study may make you feel uncomfortable. In addition, answering questions about emotional issues can make some people feel extremely uncomfortable, anxious or sad.

Loss of Confidentiality: Any time information is collected; there is a potential risk for loss of confidentiality. Every effort will be made to keep your information confidential; however, this cannot be guaranteed.

Other Risks: There may possibly be other risks that are unknown at this time. If you are concerned about other, unknown risks, please discuss this with the researchers.

How will risks be minimized or prevented?

Suicidal feelings: If you are feeling very suicidal or self-destructive when you are interviewed, you should know that all study personnel have an ethical obligation to keep you safe, even if you are not concerned about this at the time. The study doctor will ask you at the beginning of each testing session if you are feeling strong urges to hurt yourself or someone else. If you answer that you are, the study doctor will ask you several questions about how likely you are to try and harm yourself or someone else in the next few days. In past research that we have conducted at Parkland, about 5% of self-harm patients admitted feeling strong urges to hurt themselves during testing.

Psychological Stress, Discomfort, Anxiety or Sadness: Your study doctor will discuss with you the possibility that answering research questions may raise anxiety or be uncomfortable before beginning testing. She will also watch for signs that you are either physically or emotionally uncomfortable throughout the process. You may refuse to answer any of the questions, take a break or stop your participation in this study at any time.

Loss of Confidentiality: Interviews will be conducted privately in rooms where your responses cannot be overheard. Where necessary, you may be taken to rooms other than your hospital room for this purpose, after permission is obtained from appropriate unit staff.

What will my responsibilities be during the study?
While you are part of this study, the researchers will follow you closely to determine whether there are problems that need medical care. It is your responsibility to do the following:

- Ask questions about anything you do not understand.
- Keep your appointments.
- Follow the researchers' instructions.
- Let the researchers know if your telephone number or address changes.
- Tell your regular doctor about your participation in this study.
- Report to the researchers any injury or illnesses while you are on study, even if you do not think it is related.

If I agree to take part in this research study, will I be told of any new risks that may be found during the course of the study?
Yes. You will be told if any new information becomes available during the study that could cause you to change your mind about continuing to participate or that is important to your health or safety.

What should I do if I think I am having problems?
If you have unusual symptoms, pain, or any other problems while you are in the study, you should report them to the researchers right away. Telephone numbers where they can be reached are listed on the first page of this consent form.

If you have a sudden, serious problem, like difficulty breathing or severe pain, go to the nearest hospital emergency room, or call 911 (or the correct emergency telephone number in your area). Tell emergency personnel about any medications you are taking, including any medications you are taking for this study.

What are the possible benefits of this study?
If you agree to take part in this study, there may not be direct benefits to you. The researchers cannot guarantee that you will benefit from participation in this research.

We hope the information learned from this study will benefit other suicidal people in the future. Information gained from this research could lead to improved medical and/or psychiatric care for them.

What options are available if I decide not to take part in this research study?
This is not a treatment study. You do not have to be part of it to get treatment for your condition.

Will I be paid if I take part in this research study?
No. You will not be paid to take part in this research study. There are no funds available to pay for parking expenses, transportation to and from the research center, lost time away from work and other activities, lost wages, or child care expenses.

Will my insurance provider or I be charged for the costs of any part of this research study?
No. Neither you, nor your insurance provider, will be charged for anything done only for this research study (i.e., the Screening Procedures, Experimental Procedures, or Monitoring/Follow-up Procedures described above).

However, the standard medical care for your condition (care you would have received whether or not you were in this study) is your responsibility (or the responsibility of your insurance provider or governmental program). You will be charged, in the standard manner, for any procedures performed for your standard medical care.

What will happen if I am harmed as a result of taking part in this study?
It is important that you report any illness or injury to the research team listed at the top of this form immediately.

Compensation for an injury resulting from your participation in this research is not available from the University of Texas Southwestern Medical Center at Dallas or Parkland Health & Hospital System.

You retain your legal rights during your participation in this research

Can I stop taking part in this research study?
Yes. If you decide to participate and later change your mind, you are free to stop taking part in the research study at any time.

If you decide to stop taking part in this research study, it will not affect your relationship with the UT Southwestern staff or doctors. Whether you participate or not will have no effect on your legal rights or the quality of your health care.

If you are a medical student, fellow, faculty, or staff at the Medical Center, your status will not be affected in any way.

Your doctor is a research investigator in this study. S/he is interested in both your medical care and the conduct of this research study. At any time, you may discuss your care with another doctor who is not part of this research study. You do not have to take part in any research study offered by your doctor.

If I agree to take part in this research study, can I be removed from the study without my consent?
Yes. The researchers may decide to take you off this study if:

- Your medical problem remains unchanged or becomes worse.
- The researchers believe that participation in the research is no longer safe for you.
- The researchers believe that other treatment may be more helpful.
- The sponsor or the FDA stops the research for the safety of the participants.
- The sponsor cancels the research.
- You are unable to keep appointments or to follow the researcher's instructions.

Will my information be kept confidential?

Information about you that is collected for this research study will remain confidential unless you give your permission to share it with others, or as described below. You should know that certain organizations that may look at and/or copy your medical records for research, quality assurance, and data analysis include:

- The UT Southwestern Institutional Review Board.

In addition to this consent form, you will be asked to sign an "Authorization for Use and Disclosure of Protected Health Information." This authorization will give more details about how your information will be used for this research study, and who may see and/or get copies of your information.

To help us further protect the information, the investigators will obtain a Certificate of Confidentiality from the U.S. Department of Health and Human Services (DHHS). This Certificate adds special protections for research information that identifies you and will help researchers protect your privacy.

With this Certificate of Confidentiality, the researchers cannot be forced to disclose information that may identify you in any judicial, administrative, legislative, or other proceeding, whether at the federal, state, or local level. There are situations, however, where we will voluntarily disclose information consistent with state or other laws, such as:

- to DHHS for audit or program evaluation purposes;
- information regarding test results for certain communicable diseases to the Texas Department of State Health Services, including, but not limited to HIV, Hepatitis, Anthrax, and Smallpox;
- if you pose imminent physical harm to yourself or others;
- if you pose immediate mental or emotional injury to yourself;
- if the researchers learn that a child has been, or may be, abused or neglected; or
- if the researchers learn that an elderly or disabled person has been, or is being, abused, neglected or exploited.

The researchers will not, in any case, disclose information about you or your participation in this study unless it is included in the Authorization for Use and Disclosure of Protected Health Information for Research Purposes as stated above.

The Certificate of Confidentiality does not prevent you or a member of your family from voluntarily releasing information about your involvement in this research study. In addition, the researchers may not use the Certificate to withhold information about your participation in this research study if you have provided written consent to anyone allowing the researchers to release such information (including your employer or an insurance company). This means that you or your family must also actively protect your privacy.

A Certificate of Confidentiality does not represent an endorsement of this research project by the Department of Health & Human Services or any other Federal government agency.

Are there procedures I should follow after stopping participation in this research?

Yes. If you, the researchers, or the sponsor stops your participation in the research, you may be asked to do the following:

- Let the researchers know immediately that you wish to withdraw from the research.
- Return to the research center for tests that may be needed for your safety.
- Discuss your future medical care, if any, with the researchers and/or your personal doctor.

Whom do I call if I have questions or problems?
For questions about the study, contact Kimberly Roaten, M.S. at 214-648-4451 during regular business hours and at 214-648-5555 after hours and on weekends and holidays.

For questions about your rights as a research participant, contact the UT Southwestern Institutional Review Board (IRB) Office at 214-648-3060.

SIGNATURES:

YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP.

Your signature below certifies the following:

- You have read (or been read) the information provided above.
- You have received answers to all of your questions and have been told who to call if you have any more questions.
- You have freely decided to participate in this research.
- You understand that you are not giving up any of your legal rights.

_____

Participant's Name (printed)

_____ _____

Participant's Signature Date

_____

Name of person obtaining consent (printed)

_____ _____

Signature of person obtaining consent Date

_____ _____

Signature of witness to consent Date

The University of Texas Southwestern Medical Center at Dallas
Parkland Health & Hospital System

CONSENT TO PARTICIPATE IN RESEARCH

Title of Research:	Factors Associated With Risk Status after a Nonfatal Suicide Attempt
Funding Agency/Sponsor:	University of Texas Southwestern Medical Center at Dallas, Department of Psychiatry
Study Doctors:	Cindy Claassen, Ph.D. Kimberly Roaten, M.S. Jennifer Womack, B.S.

You may call these study doctors or research personnel during regular office hours at 214-648-3343 (Dr. Claassen), 214-648-0163 (Kim Roaten), 214-648-0163 (Jennifer Womack). At other times, you may call them at 214-648-5555 (Dr. Claassen), 214-648-4451 (Kim Roaten), 214-648-4451 (Jennifer Womack). .

Instructions:
Please read this consent form carefully and take your time making a decision about whether to participate. As the researchers discuss this consent form with you, please ask him/her to explain any words or information that you do not clearly understand. The purpose of the study, risks, inconveniences, discomforts, and other important information about the study are listed below. If you decide to participate, you will be given a copy of this form to keep.

Why is this study being done?
This study is being done to: 1) understand the state of mind of certain groups of patients who are treated for suicidal behavior or who experience long-term suicidal thoughts and 2) examine how this state of mind changes over time.

Why is this considered research?

- This is a research study because we know very little about the state of mind of patients who think about or actually do harm themselves deliberately.

The following definitions may help you understand this study:

- Standard medical care means the regular care you would receive from your personal doctor if you choose not to participate in this research.
- Researchers means the study doctor and research personnel at the University of Texas Southwestern Medical Center at Dallas and its affiliated hospitals.

Why am I being asked to take part in this research study?
You are invited to participate in this research because you are receiving medical treatment after a suicide attempt or you have told your doctor that you have had suicidal thoughts over the past six months.

Do I have to take part in this research study?
No. You have the right to choose whether you want to take part in this research study. If you decide to participate and later change your mind, you are free to stop participation at any time.

If you decide not to take part in this research study it will not change your legal rights or the quality of health care that you receive at this center.

How many people will take part in this study?
About 400 people will take part in this study at Parkland Health & Hospital System.

What is involved in the study?
There are two groups of patients being recruited for this study. The first is a group of persons who have recently attempted suicide. The second is a group of patients treated at Parkland who have experienced suicidal ideation over six months or more.

If you volunteer to take part in this research study, you will be asked to sign this consent form and will have the following tests and procedures. Some of the procedures may be part of your standard medical care, but others are being done solely for the purpose of this study.

Screening Procedures
To help decide if you qualify to be in this study, the researchers may ask you questions about your health, including medications you take and any surgical procedures you have had.

You may also have to fill out certain forms or have the following exams, tests or procedures:

- Your current ability to concentrate and comprehend what is going on around you
- Interview where you are asked for several pieces of information, including:
    - Information about the intentions behind recent self-harm
    - Information about any suicidal behavior within the past five years
    - Information about how long you have experienced suicidal ideation
    - Information to determine how likely you are to harm yourself in the near future.

Procedures and Evaluations during the Research

During this study, you will have the following tests and/or evaluations:

Baseline Assessment will take place immediately after you have signed the consent form. It will be approximately 45 to 60 minutes long, and you will be asked about the following:

- Your age, date of birth, gender, race, ethnicity, education level, current and former occupational status, marital status, number of children, number of persons living in household, personal and family history of suicide/suicide attempts/mental illness.
- Whether you have been experiencing any common, suicide-related thoughts, hopelessness, or suicidal ideation, and the way you would solve some common interpersonal problems, and other tasks.
- If you recently made a suicide attempt, you will be asked about the level of medical seriousness of the suicide attempt and what you expected to happen, as well as whether there were any warning signs during the 48 hours prior to the attempt. In addition, you will be asked when you will be discharged and where you will be going.

Medical Record Review will happen at baseline, and 12 months later. You will not be present during these reviews. Your medical record will be reviewed to collect the following information:

- If you recently made a suicide attempt, your record will be reviewed to find out whether there was any substance use before or during the suicide attempt, how medically serious the attempt was, and what the

circumstances of the suicide attempt were, when you got to the hospital and who brought you, what the doctors decide about when you are discharged and where you will go.

- For all study patients, the following information will be obtained from medical records: any history of substance abuse/dependence, any current psychiatric diagnoses and/or treatment, any accidental injuries or suicide attempts within 12 months of baseline assessment
- If you experience any health problems related to participation in this study, medical records will be reviewed for the date, time and description of the problem, the medical action taken, and the outcome.

All evaluations listed above in this study are designed for research, not for medical purposes. They are not useful for finding problems or diseases. Even though the researchers are not looking at your evaluations to find or treat a medical problem, you will be told if they notice something unusual. You and your regular doctor can decide together whether to follow up with more tests or treatment. Because the evaluations done in this study are not for medical purposes, the research results will not be sent to you or to your regular doctor.

How long can I expect to be in this study?

You will be interviewed one time for this study, and then we will not contact you again. However, your Parkland medical records will be reviewed 12 months after your first interview in order to determine whether you have sustained any additional injuries.

You can choose to stop participating for any reason at any time. However, if you decide to stop participating in the study, we encourage you to tell the researchers. You may be asked if you are willing to complete some study termination tests.

What are the risks of the study?

Suicidal feelings: It is possible that you will be feeling very suicidal or self-destructive when you are interviewed.

Psychological Stress: Some of the questions we will ask you as part of this study may make you feel uncomfortable. In addition, answering questions about emotional issues can make some people feel extremely uncomfortable, anxious or sad. In past research, less than 10% of people have had this problem.

Loss of Confidentiality: Any time information is collected; there is a potential risk for loss of confidentiality. Every effort will be made to keep your information confidential; however, this cannot be guaranteed.

Other Risks: There may possibly be other risks that are unknown at this time. If you are concerned about other, unknown risks, please discuss this with the researchers.

How will risks be minimized or prevented?

Suicidal feelings: If you are feeling very suicidal or self-destructive when you are interviewed, you should know that all study personnel have an ethical obligation to keep you safe, even if you are not concerned about this at the time. The study doctor will ask you at the beginning of each testing session if you are feeling strong urges to hurt yourself or someone else. If you answer that you are, the study doctor will ask you several questions about how likely you are to try and harm yourself or someone else in the next few days. If this seems likely, you will be taken to the Parkland Psychiatric Emergency Service where doctors can assess your mental state and provide emergency care. Even if you do not want treatment at that point, the doctor will strongly encourage you to get help. If it seems very likely that you are at high risk of harming yourself in the near future, study personnel are ethically obligated to call someone from your treatment team to escort you to the psychiatric emergency service. In past research that we have conducted at Parkland, about 5% of self-harm patients admitted feeling strong urges to hurt themselves during testing.

Psychological Stress, Discomfort, Anxiety or Sadness: Your study doctor will discuss with you the possibility that answering research questions may raise anxiety or be uncomfortable before beginning testing. She will also watch for signs that you are either physically or emotionally uncomfortable throughout the process. You may refuse to answer any of the questions, take a break or stop your participation in this study at any time.

Loss of Confidentiality: Interviews will be conducted privately in rooms where your responses cannot be overheard. Where necessary, you may be taken to rooms other than your hospital room for this purpose, after permission is obtained from appropriate unit staff.

What will my responsibilities be during the study?

While you are part of this study, the researchers will follow you closely to determine whether there are problems that need medical care. It is your responsibility to do the following:

- Ask questions about anything you do not understand.
- Keep your appointments.
- Follow the researchers' instructions.
- Let the researchers know if your telephone number or address changes.
- Tell your regular doctor about your participation in this study.
- Report to the researchers any injury or illnesses while you are on study even if you do not think it is related.

If I agree to take part in this research study, will I be told of any new risks that may be found during the course of the study?
Yes. You will be told if any new information becomes available during the study that could cause you to change your mind about continuing to participate or that is important to your health or safety.

What should I do if I think I am having problems?
If you have unusual symptoms, pain, or any other problems while you are in the study, you should report them to the researchers right away. Telephone numbers where they can be reached are listed on the first page of this consent form.

If you have a sudden, serious problem, like difficulty breathing or severe pain, go to the nearest hospital emergency room, or call 911 (or the correct emergency telephone number in your area). Tell emergency personnel about any medications you are taking, including any medications you are taking for this study.

What are the possible benefits of this study?

If you agree to take part in this study, there may not be direct benefits to you. The researchers cannot guarantee that you will benefit from participation in this research.

We hope the information learned from this study will benefit other suicidal people in the future. Information gained from this research could lead to improved medical and/or psychiatric care for them.

What options are available if I decide not to take part in this research study?
This is not a treatment study. You do not have to be part of it to get treatment for your condition.

Will I be paid if I take part in this research study?
No. You will not be paid to take part in this research study. There are no funds available to pay for parking expenses, transportation to and from the research center, lost time away from work and other activities, lost wages, or child care expenses.

Will my insurance provider or I be charged for the costs of any part of this research study?
No. Neither you, nor your insurance provider, will be charged for anything done only for this research study (i.e., the Screening Procedures, Experimental Procedures, or Monitoring/Follow-up Procedures described above).

However, the standard medical care for your condition (care you would have received whether or not you were in this study) is your responsibility (or the responsibility of your insurance provider or governmental program). You will be charged, in the standard manner, for any procedures performed for your standard medical care.

What will happen if I am harmed as a result of taking part in this study?
It is important that you report any illness or injury to the research team listed at the top of this form immediately.

Compensation for an injury resulting from your participation in this research is not available from the University of Texas Southwestern Medical Center at Dallas Parkland Health & Hospital System.

You retain your legal rights during your participation in this research

Can I stop taking part in this research study?
Yes. If you decide to participate and later change your mind, you are free to stop taking part in the research study at any time.

If you decide to stop taking part in this research study, it will not affect your relationship with the UT Southwestern staff or doctors. Whether you participate or not will have no effect on your legal rights or the quality of your health care.

If you are a medical student, fellow, faculty, or staff at the Medical Center, your status will not be affected in any way.

Your doctor is a research investigator in this study. S/he is interested in both your medical care and the conduct of this research study. At any time, you may

discuss your care with another doctor who is not part of this research study. You do not have to take part in any research study offered by your doctor.

If I agree to take part in this research study, can I be removed from the study without my consent?
Yes. The researchers may decide to take you off this study if:

- Your medical problem remains unchanged or becomes worse.
- The researchers believe that participation in the research is no longer safe for you.
- The researchers believe that other treatment may be more helpful.
- The sponsor or the FDA stops the research for the safety of the participants.
- The sponsor cancels the research.
- You are unable to keep appointments or to follow the researcher's instructions.

Will my information be kept confidential?
Information about you that is collected for this research study will remain confidential unless you give your permission to share it with others, or as described below. You should know that certain organizations that may look at and/or copy your medical records for research, quality assurance, and data analysis include:

- The UT Southwestern Institutional Review Board.

In addition to this consent form, you will be asked to sign an "Authorization for Use and Disclosure of Protected Health Information." This authorization will give more details about how your information will be used for this research study, and who may see and/or get copies of your information.

To help us further protect the information, the investigators will obtain a Certificate of Confidentiality from the U.S. Department of Health and Human Services (DHHS). This Certificate adds special protections for research information that identifies you and will help researchers protect your privacy.

With this Certificate of Confidentiality, the researchers cannot be forced to disclose information that may identify you in any judicial, administrative, legislative, or other proceeding, whether at the federal, state, or local level. There are situations, however, where we will voluntarily disclose information consistent with state or other laws, such as:

- to DHHS for audit or program evaluation purposes;
- information regarding test results for certain communicable diseases to the Texas Department of State Health Services, including, but not limited to HIV, Hepatitis, Anthrax, and Smallpox;
- if you pose imminent physical harm to yourself or others;
- if you pose immediate mental or emotional injury to yourself;
- if the researchers learn that a child has been, or may be, abused or neglected; or
- if the researchers learn that an elderly or disabled person has been, or is being, abused, neglected or exploited.

The researchers will not, in any case, disclose information about you or your participation in this study unless it is included in the Authorization for Use and Disclosure of Protected Health Information for Research Purposes as stated above.

The Certificate of Confidentiality does not prevent you or a member of your family from voluntarily releasing information about your involvement in this research study. In addition, the researchers may not use the Certificate to withhold information about your participation in this research study if you have provided written consent to anyone allowing the researchers to release such information (including your employer or an insurance company). This means that you or your family must also actively protect your privacy.

A Certificate of Confidentiality does not represent an endorsement of this research project by the Department of Health & Human Services or any other Federal government agency.

Are there procedures I should follow after stopping participation in this research?

Yes. If you, the researchers, or the sponsor stops your participation in the research, you may be asked to do the following:

- Let the researchers know immediately that you wish to withdraw from the research.
- Return to the research center for tests that may be needed for your safety.
- Discuss your future medical care, if any, with the researchers and/or your personal doctor.

Whom do I call if I have questions or problems?

For questions about the study, contact Cindy Claassen, Ph.D. at 214-648-0164 during regular business hours and at 214-648-5555 after hours and on weekends and holidays.

For questions about your rights as a research participant, contact the UT Southwestern Institutional Review Board (IRB) Office at 214-648-3060.

SIGNATURES:

YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP.

Your signature below certifies the following:

- You have read (or been read) the information provided above.
- You have received answers to all of your questions and have been told who to call if you have any more questions.
- You have freely decided to participate in this research.
- You understand that you are not giving up any of your legal rights.

_____

Participant's Name (printed)

_____ _____

Participant's Signature —
Date

_____

Name of person obtaining consent (printed)

_____ _____

Signature of person obtaining consent ——
Date

The University of Texas Southwestern Medical Center at Dallas
Children's Medical Center of Dallas, Parkland Health & Hospital System
Retina Foundation of the Southwest
Texas Scottish Rite Hospital for Children
The University of Texas Southwestern Moncrief Cancer Center

Authorization for Use and Disclosure of
Health Information for Research Purposes

NAME OF RESEARCH PARTICIPANT:
_____

What is the purpose of this form?
This authorization describes how information about you and your health will be used and shared by the researcher(s) when you participate in the research study: "Factors Associated with Risk Status after a Nonfatal Suicide." Attempt Health information is considered "protected health information" when it may directly identify you as an individual. By signing this form you are agreeing to permit the researches and other others (described in detail below) to have access to and share this information. If you have questions, please ask a member of the research team.

Who will be able to use or share my health information?
Parkland Health and Hospital Service may use or share your health information with Cindy Claassen, Ph.D. and her staff at UT Southwestern Medical Center ("Researchers") for the purpose of this research study.

Will my protected health information be shared with someone other than the Researchers?
Yes, the researchers may share your health information with others who may be working with the researchers on the research project ("Recipients") for purposes directly related to the conduct of this research study or as required by law. These other people or entities include:

- The UT Southwestern Institutional Review Board (IRB). This is a group of people who are responsible for assuring that the rights of participants in research are respected. Members and staff of the IRB at UT Southwestern may review the records of your participation in this research. A representative of the IRB may contact you for information

about your experience with this research. If you do not want to answer their questions, you may refuse to do so.

How will my health information be protected?
Whenever possible your health information will be kept confidential as required by law. Federal privacy laws may not apply to other institutions, companies or agencies collaborating with UT Southwestern on this research project. UT Southwestern cannot guarantee the confidentiality of your health information after it has been shared with the Recipients.

Why is my personal contact information being used?
Your personal contact information is important for the UT Southwestern Medical Center research team to contact you during the study. However, your personal contact information will not be released without your permission.

What health information will be collected, used and shared (disclosed)?
Data obtained with written consent during baseline assessment session:

XXmedical and mental health history	XXdrug test results	DNA
XXhistory of medications	XXpregnancy test results	videotape
XXphysical exam	XXpsychological evaluation(s) & ratings	audiotape
XXblood test result	XXmental health questionnaire(s)	XXdrug use history
XXurine test results	brain scan	HIV status
XXroutine diagnostic tests	XXcognitive testing	XXpersonality testing
XXtrauma history	XXvital signs (blood pressure, heart rate, and body weight)	

Will my health information be used in a research report?
Yes, the research team may fill out a research report. (This is sometimes called "a case report".) The research report will not include your name, address, or telephone or social security number. The research report may include your date of birth, dates you received medical care and a tracking code. The research report will also include information the research team collects for the study.

Will my health information be used for other purposes?
Yes, the researchers and recipients may use your health information in a research database that does not identify you by name or use any of your identifying

numbers, such as Social Security number, Medical Record number, etc. Research data that does not identify you may be used and shared by the Researchers and Recipients in a publication about the results of the Research Project or for other research purposes not related to the Research Project.

Do I have to sign this authorization?
No, this authorization is voluntary. Your health care providers will continue to provide you with health care services even if you choose not to sign this authorization. However, if you choose not to sign this authorization, you cannot take part in this Research Project.

How long will my permission last?
This authorization has no expiration date. You may cancel this authorization at any time. If you decide to cancel this authorization, you will no longer be able to take part in the Research Project. The Researchers may still use and share the health information that they have already collected before you canceled the authorization. To cancel this authorization, you must make this request in writing to: Kimberly Roaten, 5323 Harry Hines Boulevard, Dallas, Texas 75390-9044, 214-648-0163.

Will I receive a copy of this authorization?
Yes, a copy of this authorization will be provided to you.

Signatures:

By signing this document you are permitting UT Southwestern Medical Center to use and disclose health information about you for research purposes as described above.

_____ _____

Signature of Research Participant Date

The University of Texas Southwestern Medical Center at Dallas
Children's Medical Center of Dallas, Parkland Health & Hospital System
Retina Foundation of the Southwest
Texas Scottish Rite Hospital for Children
The University of Texas Southwestern Moncrief Cancer Center

Authorization for Use and Disclosure of
Health Information for Research Purposes

NAME OF RESEARCH PARTICIPANT:
_____

What is the purpose of this form?
This authorization describes how information about you and your health will be used and shared by the researcher(s) when you participate in the research study: **Characterization of Cognitive Variables and Warning Signs Associated with Suicidal Risk States**. Health information is considered "protected health information" when it may directly identify you as an individual. By signing this form you are agreeing to permit the researches and other others (described in detail below) to have access to and share this information. If you have questions, please ask a member of the research team.

Who will be able to use or share my health information?
Parkland Health and Hospital Service may use or share your health information with Kimberly Roaten and his or her staff at UT Southwestern Medical Center ("Researchers") for the purpose of this research study.

Will my protected health information be shared with someone other than the Researchers?
Yes, the researchers may share your health information with others who may be working with the researchers on the research project ("Recipients") for purposes directly related to the conduct of this research study or as required by law. These other people or entities include:

- The UT Southwestern Institutional Review Board (IRB). This is a group of people who are responsible for assuring that the rights of participants in research are respected. Members and staff of the IRB at UT Southwestern may review the records of your participation in this research. A representative of the IRB may contact you for information about your experience with this

research. If you do not want to answer their questions, you may refuse to do so.

How will my health information be protected?
Whenever possible your health information will be kept confidential as required by law. Federal privacy laws may not apply to other institutions, companies or agencies collaborating with UT Southwestern on this research project. UT Southwestern cannot guarantee the confidentiality of your health information after it has been shared with the Recipients.

Why is my personal contact information being used?
Your personal contact information is important for the UT Southwestern Medical Center research team to contact you during the study. However, your personal contact information will not be released without your permission.

What health information will be collected, used and shared (disclosed)?
The Researchers will collect the following information:

- current mental status
- demographic information including: name, age, date of birth, gender, race, ethnicity, education level, current and former occupational status, marital status, number of children, number of persons living in household, family history of suicide/suicide attempts/mental illness
- current intensity of 20 common, suicide-related thoughts
- current intensity of suicidal ideation
- ability to see solutions to current problems
- current level of hopelessness
- current level of depression
- Warning Signs for suicidal behavior
- level of social problem-solving skills
- level of cognitive rigidity
- treating doctor's most recent assessment of level of suicide risk
- date, time and manner of presentation for treatment
- discharge planning
- history of substance abuse/dependence
- current psychiatric diagnoses/treatment
- history of suicidal behavior
- pregnancy status

Will my health information be used in a research report?
Yes, the research team may fill out a research report. (This is sometimes called "a case report".) The research report will not include your name, address, or telephone or social security number. The research report may include your date of birth, initials, dates you received medical care and a tracking code. The research report will also include information the research team collects for the study.

Will my health information be used for other purposes?
Yes, the researchers and recipients may use your health information in a research database that does not identify you by name or use any of your identifying numbers, such as Social Security number, Medical Record number, etc. Research data that does not identify you may be used and shared by the Researchers and Recipients in a publication about the results of the Research Project or for other research purposes not related to the Research Project.

Do I have to sign this authorization?
No, this authorization is voluntary. Your health care providers will continue to provide you with health care services even if you choose not to sign this authorization. However, if you choose not to sign this authorization, you cannot take part in this Research Project.

How long will my permission last?
This authorization has no expiration date. You may cancel this authorization at any time. If you decide to cancel this authorization, you will no longer be able to take part in the Research Project. The Researchers may still use and share the health information that they have already collected before you canceled the authorization. To cancel this authorization, you must make this request in writing to: Kimberly Roaten, 5323 Harry Hines Boulevard, Dallas, Texas 75390-9044, 214-648-4451.

Will I receive a copy of this authorization?
Yes, a copy of this authorization will be provided to you.

Signatures:

By signing this document you are permitting UT Southwestern Medical Center to use and disclose health information about you for research purposes as described above.

_____ _____

Signature of Research Participant Date

APPENDIX B: IRB APPROVAL

UT SOUTHWESTERN
MEDICAL CENTER

Institutional Review Board

TO: Kimberly Roaten
Psychiatry - 9044

FROM: David Karp, MD, PhD
Institutional Review Board 1 Chairperson
IRB - 8843

DATE: August 18, 2008

RE: **Expedited Approval of NR1-Exp, Protocol/Project Summary, Consent Form, HIPAA Authorization and HIPAA Waiver**
IRB Number: 072008-077
Title: Characterization of Cognitive Variables and Warning Signs Associated with Suicidal Risk States

The Institutional Review Board reviewed this research activity via an expedited review procedure in accordance with 45 CFR 46.110(a)-(b)(1), 63 FR 60364, and 63 FR 60353. Having met the conditions as set forth by the IRB Chairman on August 11, 2008 your research protocol is now approved for a period of 12 months. This approval period will begin August 18, 2008 and last until August 10, 2009. If the research continues beyond approval period, the study will require continuing review from the IRB and a reminder will be mailed to you 60 days prior to the expiration date stated above.

Your approved subject sample size is 35 subjects.

Important Note: Unless a verbal consent process or waiver of consent was approved, you must use a photocopy of the attached IRB-approved and stamped consent form(s) to document each subject's willingness to participate. Use of a copy of any other version of the consent form is prohibited.

A photocopy of the signed consent form(s) and HIPAA Authorization should be given to each participant. The copy of the consent form(s) bearing original signatures should be kept with other records of this research for at least five years past the completion of the study. For research involving treatment or invasive procedures, a photocopy of the signed consent form(s) should be on file in a subject's medical record.

Federal regulatory law requires that you report to the Institutional Review Board any unexpected and/or serious adverse events/unanticipated problems, as defined on the IRB website at http://www.utsouthwestern.edu/irb , that occur to research subjects or others during the course of your study.

In the future, should you require a change or need to modify the research, including the informed consent document(s) and HIPAA Authorization, per federal regulation you must obtain prospective review and approval of the Institutional Review Board. For any change to the research, prior review and approval before implementing such changes is mandatory except when prompt implementation is necessary to eliminate apparent immediate hazard to a subject.

Gooch Auditorium, 1st Floor, Suite 206
5323 Harry Hines Boulevard / Dallas, Texas 75390-8843 / 214-648-3060 Fax 214-648-2171
www.utsouthwestern.edu

If you have any questions related to this approval or the IRB, you may contact Kristin Shelby at 214.648.8430.

Enc: NR1-Exp
Protocol/Project Summary
Consent Form
HIPAA Authorization
HIPAA Waiver

DK/ca

Parkland
Health & Hospital System

Clinical Research & Data Management

Parkland Memorial Hospital

Community Oriented Primary Care

Parkland Community Health Plan, Inc.

Parkland Foundation

September 5, 2008

Kimberly Roaten
Doctoral Candidate, Psychiatry
UTSWMC
MC 9044

RE: IRB#072008-077

Dear Kimberly,

Your site request for the study "Characterization of Cognitive Variables and Warning Signs Associated with Suicidal Risk States" has been approved. This approval is contingent upon compliance with UTSWMC IRB rules and regulations. Approval is also contingent upon the understanding that research expenses will be billed to a Special Accounts Receivable (SAR). The research expense identified for this study is the administrative review fee. This study meets criteria for waiver of the fee.

Subjects enrolled in studies must be listed in the Clinical Research & Data Management research database to support our Federal Wide Assurance compliance activities. Submit enrollment information at the time the subject is placed on the study. The enrollment form is available from Mr. A.J. Harrington, Senior Staff Accountant at ajharr@parknet.pmh.org. A copy of the patient's consent form must be placed in the medical record. Failure to submit enrollment data or consent will result in administrative closure of the study.

All adverse events reportable to the IRB must be reported to PHHS Clinical Research. Please send an email to notify this office of the event and ERGO will be used to extract the information. This office will contact you for any further information needed. Notify Clinical Research when the study is modified (send MOD form) and /or closed.

All members of the research team that will be interacting with patients on the PHHS campus must have privileges to practice at Parkland and must wear current Parkland ID badges. This includes research nurses and assistants. For information on the process for obtaining privileges and/or a PHHS ID badge, contact the Office of Clinical Research & Data Management. Please do not hesitate to contact me if I can be of further assistance with this study. I can be reached at (214) 590-8966 or via e-mail at vhart@parknet.pmh.org. Good luck with your study.

Sincerely,

Valerie Hart, RN, PhD, MSN
Director, Clinical Research & Data Management
Parkland Health & Hospital System, MC 7750

cc: Aldrena Head, Nancy Schierding

Clinical Research & Data Management
Support Svcs. Bldg. B - Ground Flr., Rm. G103
5201 Harry Hines Blvd. Dallas, Texas 75235 214-590-1170 Fax 214-590-4595

Parkland Health & Hospital System

Site Approval Request for Research and/or Data Collection
Review and Recommendations

Date sent	**9/4/2008**	**IRACC Approval Date**	**9/11/2008**
Principle Investigator	**Kimberly Roaten**	**IRB #:**	**072008-077**
Funding Source	☐DHHS ☐Industry ☐Internal/UTSW ☒Other (NONE) ☐PHHS		
Title of Study	**Cognitive Variables/Warning Signs Associated with Suicidal Risk States**		

Reviewed by:

☒Medicine Services (Psychiatry, Psych Emergency Services)	☐Surgical Services
☐Pathology	☐WISH
☐Medical Records	☐ED
☐COPC	☐Investigational Drug Services (IDS)
☐Radiology	☐CV Lab
☐Nursing Education	☒CRDM
☐Decision Support	☐Other

Research Resources

☒Review	☐Labs	☐IDS	☐ECG	☒Medical Records
☐CXR	☐MRI	☐CT ☐PET	☐MROC	☐Image Copies
☐Data Extraction	☐OPC Visit	☐Inpatient Stay	☐Staff	☐Other

Request for Cost Negotiation	☒NO	☐YES
Request for Waiver of admin fee	☐NO	☒YES

COMMENTS: Study to understand the state of mind of certain groups of patients who experience long-term suicidal thoughts and behaviors unique to the time period associated with "imminent risk" (48 hours) for suicidal behavior. Patients to be referred by Psych ED treating physicians; recruited over 12 month period. Psych Medical Director has evidently been approached about study by the student. Screened using medical record, English speaking, current mental status will be assessed to see if eligible. Approx 45 minute scheduled interviews conducted in the PHHS Psych ED, patients will be asked to describe their suicide-related cognitions and behaviors during a 48-hour time period ending two days prior to the interview. Interviews will be scheduled at times and in rooms convenient for clinic staff. Ward staff will be briefed on the study prior to the administration of the interview. No additional contact with the patient after initial assessment. Enrolled patients' medical records will be reviewed for history of substance abuse/dependence, current psychiatric diagnoses/treatment and history of suicidal behavior. 50 subjects requested. Services: Admin.; Medical Records. Fees waived. This proposal has been approved by the above departments.

	Service	Charge	Quantity		Total
Total Service	Research Administrative Fee	$1,000	1		$1,000
Charges Waived					
				Total	$1,000

Recommendations

☒Approval	☐Deferral for modifications	☐Disapprove
☒Fee Waiver	☐SAR Required	☒ No SAR
☐Funding Insufficient		

9/15/08

Reviewer Signature **Date**

09/09/08

CMO, Dr Jay Shannon **Date**

Parkland
Health & Hospital System

Clinical Research & Data Mgmt.

Parkland Memorial Hospital

Community Oriented Primary Care

Parkland Community Health Plan, Inc.

Parkland Foundation

December 13, 2007

Cynthia Claassen, MD
Assistant Professor, Psychiatry
UTSWMC
MC 9119

Dear Dr. Claassen,

Your research site request for the study "Factors Associated with Risk Status after a Nonfatal Suicide Attempt" has been approved. This approval is contingent upon compliance with UTSWMC IRB rules and regulations. Approval is also contingent upon the understanding that research expenses will be billed to a Special Accounts Receivable (SAR). The research expenses identified for this study is the administrative review which also covers use of medical records fee. The fees will be waived due to no additional research-only visits; medical records will be accessed during standard visit.

Subjects enrolled in studies must be listed in the Clinical Research & Data Management research database to support our Federal Wide Assurance compliance activities. Submit enrollment information at the time the subject is placed on the study. The enrollment form is available from Mr. A.J. Harrington, Staff Accountant at ajharr@parknet.pmh.org. A copy of the patient's consent form must be placed in the medical record. Failure to submit enrollment data or consent will result in administrative closure of the study.

All adverse events reportable to the IRB must be reported to PHHS Clinical Research. Please send an email to notify this office of the event and ERGO will be used to extract the information. This office will contact you for any further information needed. Notify Clinical Research when the study is modified (send MOD form) and /or closed.

All members of the research team that will be interacting with patients on the PHHS campus must have privileges to practice at Parkland and must wear current Parkland ID badges. This includes research nurses and assistants. For information on the process for obtaining privileges and/or a PHHS ID badge, contact the Office of Clinical Research & Data Management. Please do not hesitate to contact me if I can be of further assistance with this study. I can be reached at (214) 590-8966 or via e-mail at vhart@parknet.pmh.org. Good luck with your study.

Sincerely,

Valerie Hart, RN, PhD, MSN
Director, Clinical Research & Data Management
Parkland Health & Hospital System, MC 7750

cc Nancy Schierding
Karen Reese

Clinical Research & Data Management
Support Svcs. Bldg. B - Ground Flr., Rm. G103
5201 Harry Hines Blvd. Dallas 75235 214/590-1170 Fax 214/590-4595

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institutes of Health
National Institute of Mental Health
6001 Executive Boulevard
Bethesda, Maryland 20892

December 17, 2007

Cindy Claassen, Ph.D
Associate Professor
Department of Psychiatry
University of Texas Southwestern Medical Center
5323 Harry Hines Blvd.
Dallas, TX 75390-9158

Dear Dr. Claassen:

Enclosed is the Confidentiality Certificate protecting the identity of research subjects in your project entitled, "Factors Associated with Risk Status after a Nonfatal Suicide Attempt". Please note that the Certificate expires on March 31, 2012.

Please be sure that the consent form given to research participants accurately states the intended uses of personally identifiable information and the confidentiality protections, including the protection provided by the Certificate of Confidentiality with its limits and exceptions.

If you determine that the research project will not be completed by the expiration date, March 31, 2012, you must submit a written request for an extension of the Certificate three (3) months prior to the expiration date. If you make any changes to the protocol for this study, you should contact me regarding modification of this Certificate. Any requests for modifications of this Certificate must include the reason for the request, documentation of the most recent IRB approval, and the expected date for completion of the research project.

Please advise me of any situation in which the certificate is employed to resist disclosure of information in legal proceedings. Should attorneys for the project wish to discuss the use of the certificate, they may contact the Office of the NIH Legal Advisor, National Institutes of Health, at (301) 496-6043.

Correspondence should be sent to:

Ms. Olga Boikess
Office of Resource Management
National Institute of Mental Health
6001 Executive Boulevard, Room 8102 (MSC 9653)
Bethesda, Maryland 20892-9653
Telephone: (301) 443-3877
Fax: (301) 443-2578

Sincerely,

Olga Boikess

Enclosure

CONFIDENTIALITY CERTIFICATE

MH-07-170

issued to

University of Texas Southwestern Medical Center

conducting research known as

"Factors Associated with Risk Status after a Nonfatal Suicide Attempt"

In accordance with the provisions of section 301(d) of the Public Health Service Act 42 U.S.C. 241(d), this Certificate is issued in response to the request of the Principal Investigator, Cindy Claassen, Ph.D, to protect the privacy of research subjects by withholding their identities from all persons not connected with this research. Dr. Claassen is primarily responsible for the conduct of this research.

Under the authority vested in the Secretary of Health and Human Services by section 301(d), all persons who:

1. are enrolled in, employed by, or associated with the University of Texas Southwestern Medical Center and its contractors or cooperating agencies, and

2. have in the course of their employment or association access to information that would identify individuals who are the subjects of the research pertaining to the project known as "Factors Associated with Risk Status after a Nonfatal Suicide Attempt",

are hereby authorized to protect the privacy of the individuals who are the subjects of that research by withholding their names and other identifying characteristics from all persons not connected with the conduct of that research.

This research study examines suicide-related cognitions and behaviors unique to the time period associated with "imminent risk" for suicidal behavior, and monitors social problem-solving capacity, suicide-related cognitions and behaviors over the days following a nonfatal suicide attempt. Approximately 200 medically-serious suicide attempters, treated on an inpatient basis by the Parkland Hospital Consult Liaison Service, and 200 outpatient controls who report experiencing chronic suicidal ideation in the absence of specific suicide-related plan or act, and who are deemed to be at low risk of suicidal behavior will be recruited as subjects.

Page 2 – Confidentiality Certificate

A Certificate of Confidentiality is needed because sensitive information about mental health, substance use, illegal activity and psychological well-being will be collected during the course of the study. The certificate will help researchers avoid involuntary disclosure that could expose subjects or their families to adverse economic, legal, psychological and social consequences.

All subjects will be assigned a coded number and identifying information and records will be kept in locked files.

This research is underway, and is expected to end on March 31, 2012.

As provided in section 301 (d) of the Public Health Service Act 42 U.S.C. 241(d):

> "Persons so authorized to protect the privacy of such individuals may not be compelled in any Federal, State, or local civil, criminal, administrative, legislative, or other proceedings to identify such individuals."

This Certificate does not protect you from being compelled to make disclosures that: (1) have been consented to in writing by the research subject or the subject's legally authorized representative; (2) are required by the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.) or regulations issued under that Act; or (3) have been requested from a research project funded by NIH or DHHS by authorized representatives of those agencies for the purpose of audit or program review.

This Certificate does not represent an endorsement of the research project by the Department of Health and Human Services. This Certificate is now in effect and will expire on March 31, 2012. The protection afforded by this Confidentiality Certificate is permanent with respect to any individual who participates as a research subject (i.e., about whom the investigator maintains identifying information) during any time the Certificate is in effect.

Date of Issuance: December 17, 2007

Patrick Shirdon
Acting Executive Officer

APPENDIX C: TABLES

Table 1

Demographic Characteristics of Sample (n =76)

	Suicide Attempters n=41	Suicide Ideators n=35	Test Statistic
Gender			
Male	27 (65.9%)	21 (60%)	$X^2 = .28$, df = 1, p = .60
Female	14 (34.1%)	14 (40%)	
Marital Status			
Never Married	13 (31.7%)	14 (40%)	
Divorced	6 (14.6%)	5 (14.3%)	
Cohabitating w/Partner	6 (14.6%)	4 (11.4%)	$X^2 = 2.57$. df = 5, p = .77
Married	9 (22%)	9 (25.7%)	
Separated	5 (12.2%)	3 (8.6%)	
Widowed	2 (4.9%)	0 (0%)	
Race/Ethnicity			
White/Caucasian	26 (63.4%)	17 (48.6%)	
African-American	8 (19.5%)	11 (31.4%)	$X^2 = 2.98$, df = 3, p = .40
Hispanic	7 (17.1%)	6 (17.1%)	
Asian	0 (0%)	1 (2.9%)	
Employment Status			
Unemployed, not looking	22 (53.7%)	11 (31.4%)	
Unemployed, looking	5 (12.2%)	12 (34.3%)	
Employed Full-Time	9 (22%)	6 (17.1%)	$X^2 = .11.75$, df =5, p = .04*
Employed Part-Time	2 (4.9%)	6 (17.1%)	
Self-Employed	2 (4.9%)	0 (0%)	
Retired	1 (2.4%)	0 (0%)	

* *significant at the .05 level*

(table continues)

Table 1 cont.

Demographic Characteristics of Sample (N =76)

	Suicide Attempters N=41	Suicide Ideators N=35	Test Statistic
Age	M=38.56 (SD=12.86)	M=38.69 (SD=14.76)	t = .04, df = 74, p = .97
Years of Education	M=12.27 (SD=2.60)	M=13.29 (SD=2.09)	t = 1.86, df = 74, p = .07
Number of Children	M=1.15 (SD=1.41)	M=1.31 (SD=1.47)	t = .51, df = 74, p = .61

Table 2

Primary Psychiatric Diagnoses of Sample (N=73)

	Suicide Attempters *n*=40	Suicide Ideators *n*= 33	Test Statistic
Mood Disorders	28 (68.3%)	29 (82.9%)	
Psychotic Disorders	3 (7.3%)	2 (5.7%)	$X^2 = 7.41$, df =4, p = .12
Anxiety Disorders	4 (9.8%)	1 (2.9%)	
Substance Related Disorders	5 (12.2%)	0 (0%)	
Personality Disorders	0 (0%)	1 (2.9%)	

Table 3

Independent Samples t-test – History of Suicide Attempts

		Mean	SD	Test Statistic, (df), sig
All Participants	Attempter n=41	2.44	3.92	t = -.75, df = 71, p = .46
	Ideator n=32	1.69	4.67	
Participants with <10 Past Suicide Attempts	Attempter n=39	1.69	1.76	t = -3.17, df = 67, p = .002**
	Ideator n=30	.53	1.07	

***significant at the .01 level*

Table 4

Clinical Characteristics of the Sample

	Suicide Attempters	Suicide Ideators	Test Statistic
Communicated with others regarding suicidal ideation	13 (31.7%)	21 (60%)	$X^2 = 8.31$, df = 1, p = .004**
Using EtOH or Drugs at the onset of suicidal ideation	20 (48.8%)	6 (17.1%)	$X^2 = 7.07$, df = 1, p = .008**
Primary Stressors			
Interpersonal	26 (63.4%)	24 (68.6%)	
Financial	4 (9.8%)	4 (11.4%)	
Job	7 (17.1%)	2 (5.7%)	$X^2 = 3.81$, df =5, p = .58
Health	2 (4.9%)	2 (5.7%)	
Academic	1 (2.4%)	0 (0%)	
Legal	1 (2.4%)	0 (0%)	

***significant at the .01 level*

Table 5

Characteristics of the Suicide Attempt (n=41)

	n	Percent
Loss of Consciousness Following Suicide Attempt	26	41.3
Wrote or Spoke about Suicide Prior to Attempt	16	39
Presence of Suicide Note	12	29.3
Other Preparations for Death	16	39
Method of Suicide Attempt (n=41)		
Drug Overdose	31	75.6
Gunshot Wound	1	2.4
Stab Wound	4	9.8
Self-Immolation	2	4.9
Self-Poisoning	1	2.4
Jumped	1	2.4
Ingested Razors	1	2.4
Subjective Lethality of Attempt (n=41)		
Certain	28	68.3
Uncertain	8	19.5
Unlikely	5	12.2
Likelihood of Discovery After Attempt (n=41)		
Certain	27	65.9
Uncertain	8	19.5
Unlikely	6	14.6
Feelings About Survival (n=41)		
Glad to be Alive	21	51.2
Mixed Feelings/Ambivalent	14	34.1
Disappointed	6	14.6

Table 6

Bivariate Correlations – Study Demographics and Depression, Hopelessness, and Problem Solving

		r	p
Gender	QIDS-SR (N=76)	.08	.47
	BHS (N=75)	.05	.70
	SPSI (N=72)	-.15	.22
	RPC (N=75)	.12	.36
Age	QIDS-SR (N=76)	-.16	.16
	BHS (N=75)	.05	.67
	SPSI (N=72)	-.04	.75
	RPC (N=75)	-.05	.65
Employment Status	QIDS-SR (N=76)	-.03	.80
	BHS (N=75)	-.11	.35
	SPSI (N=72)	.16	.18
	RPC (N=75)	-.05	.67
Marital Status	QIDS-SR (N=76)	-.04	.75
	BHS (N=75)	-.05	.70
	SPSI (N=72)	.10	.39
	RPC (N=75)	-.01	.92
Race/Ethnicity	QIDS-SR (N=76)	-.08	.48
	BHS (N=75)	-.03	.01**
	SPSI (N=72)	.20	.10
	RPC (N=75)	-.07	.53

***significant at the .01 level*

Table 7

Independent Sample t-tests – Primary Study Variables and Group Status

		Mean	SD	Test Statistic
QIDS-SR	Attempter (n=41)	16.39	6.04	t = 1.16, df = 74, p = .252
	Ideator (n=35)	17.91	5.35	
BHS	Attempter (n=40)	10.80	6.35	t = .04, df = 73, p = .97
	Ideator (n=35)	10.86	5.53	
SPSI	Attempter (n=48)	85.18	15.56	t = -.02, df = 70, p = .99
	Ideator (n=34)	85.12	17.58	
RPC	Attempter (n=40)	9.55	5.02	t = 3.24, df = 73, p = .002**
	Ideator (n=35)	13.06	4.26	
SEPIA	Attempter (n=40)	78.35	25.26	t = .05, df = 73, p = ..96
	Ideator (n=35)	78.60	22.76	
SCS	Attempter (n=40)	53.75	28.17	t = .92, df = 73, p = .36
	Ideator (n=35)	58.83	17.90	

***significant at the .01 level*

Table 8

Bivariate Correlations – Measures of Lethality/Intent and Measures of Depression, Hopelessness, Self-Cognition, and Problem-Solving Variables

		r	p
RRR	QIDS-SR (N=41)	-.01	.98
	BHS (N=40)	.05	.77
	SPSI (N=38)	.26	.12
	RPC (N=40)	.31	.05
	SCS (N=40)	.16	.32
	SEPIA (N=40)	-.07	.66
SIS	QIDS-SR (N=41)	.07	.67
	BHS (N=40)	.20	.23
	SPSI (N=38)	.13	.42
	RPC (N=40)	.29	.07
	SCS (N=40)	.37	.02*
	SEPIA (N=40)	.05	.78
	RRR(N=41)	.66	.00**

**significant at the .05 level*
***significant at the .01 level*

Table 9

Bivariate Correlations – Suicidal Ideation and Measures of Depression, Hopelessness, Self-Cognition, and Problem-Solving Variables

		r	p
MSSI	QIDS-SR (N=35)	.41	.01*
	BHS (N=35)	.37	.03*
	SPSI (N=34)	-.02	.89
	RPC (N=35)	.19	.28
	SCS (N=35)	.40	.02*
	SEPIA (N=35)	.11	.52

**significant at the .05 level*

Table 10

Bivariate Correlations – Measures of Hopelessness/Depression and problem-solving

		Attempter		Ideator		Sample	
		r	p	*r*	p	*r*	p
BHS	SPSI	-.47	.00**	-.42	.01*	-.44	.00**
	RPC	.20	.24	-.25	.16	.01	.92
QIDS-SR	SPSI	-.46	.00**	-.28	.11	-.37	.00**
	RPC	-.02	.92	.25	.16	.13	.28

**significant at the .05 level*
***significant at the .01 level*

Table 11

Point-biserial correlations – Depression/Hopelessness and Group status

	Group (Dichotomous)	
	r	p
QIDS-SR	-.01	.97
BHS	-.13	.25

Table 12

Summary of Multiple Logistic Regression for Depression, Hopelessness, an d Problem-Solving Predicting Group Status (n=71)

	β	SE	Wald	df	*p*
RPC	-.16	.06	6.80	1	.01**
QIDS-SR	-.06	.05	1.19	1	.28
SPSI-R:S	.01	.02	.41	1	.52
BHS	.05	.06	.86	1	.35

***significant at the .01 level*

Table 13

Point-biserial correlations - Sample and within group correlations between history of suicide attempt and problem-solving

		Suicide Attempters		Suicide Ideators		Sample	
		r	p	*r*	p	*r*	p
History of Suicide Attempt(s)	SPSI-R:S	-.40	.01*	.17	.37	-.14	.27
	RPC	.05	.76	-.08	.66	-.14	.25

**significant at the .05 level*

Table 14

One-way Analyses of Variance –The Relationship Between History of Suicide Attempt(s) and Problem-Solving

	SI – No Hx of Attempt(s)		SI – Hx of Attempt(s)		SA			
	M	*SD*	*M*	*SD*	*M*	*SD*	Test Statistic	Sig
RPC	13.52	3.87	12.91	3.56	9.55	5.02	$F(2, 69) = 6.23$	$p = .00$**
SPSI-R:S	84.75	16.60	90.27	15.36	85.18	15.56	$F(2, 66) = .51$	$p = .60$

** *significant at the .01 level*

APPENDIX D: FIGURES

Figure 1

Model – Problem-Solving as a Mediator Between Depression/Hopelessness and Suicide

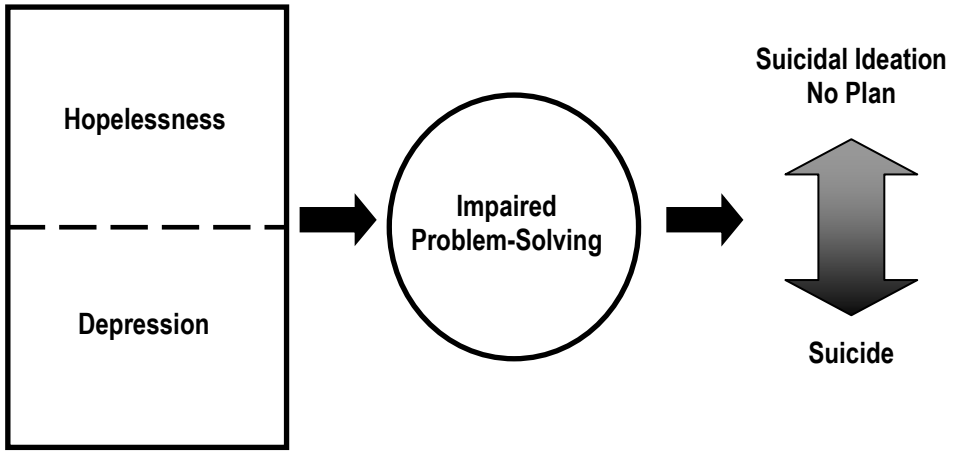
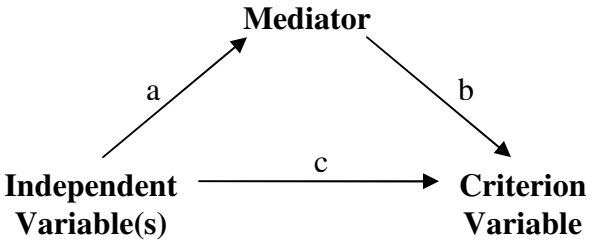


Figure 2

Mediator Path Models



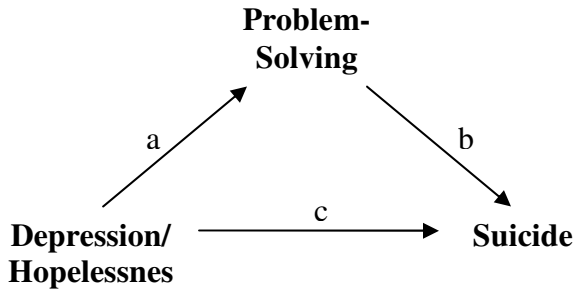


Figure 3

Gender Frequencies by Group

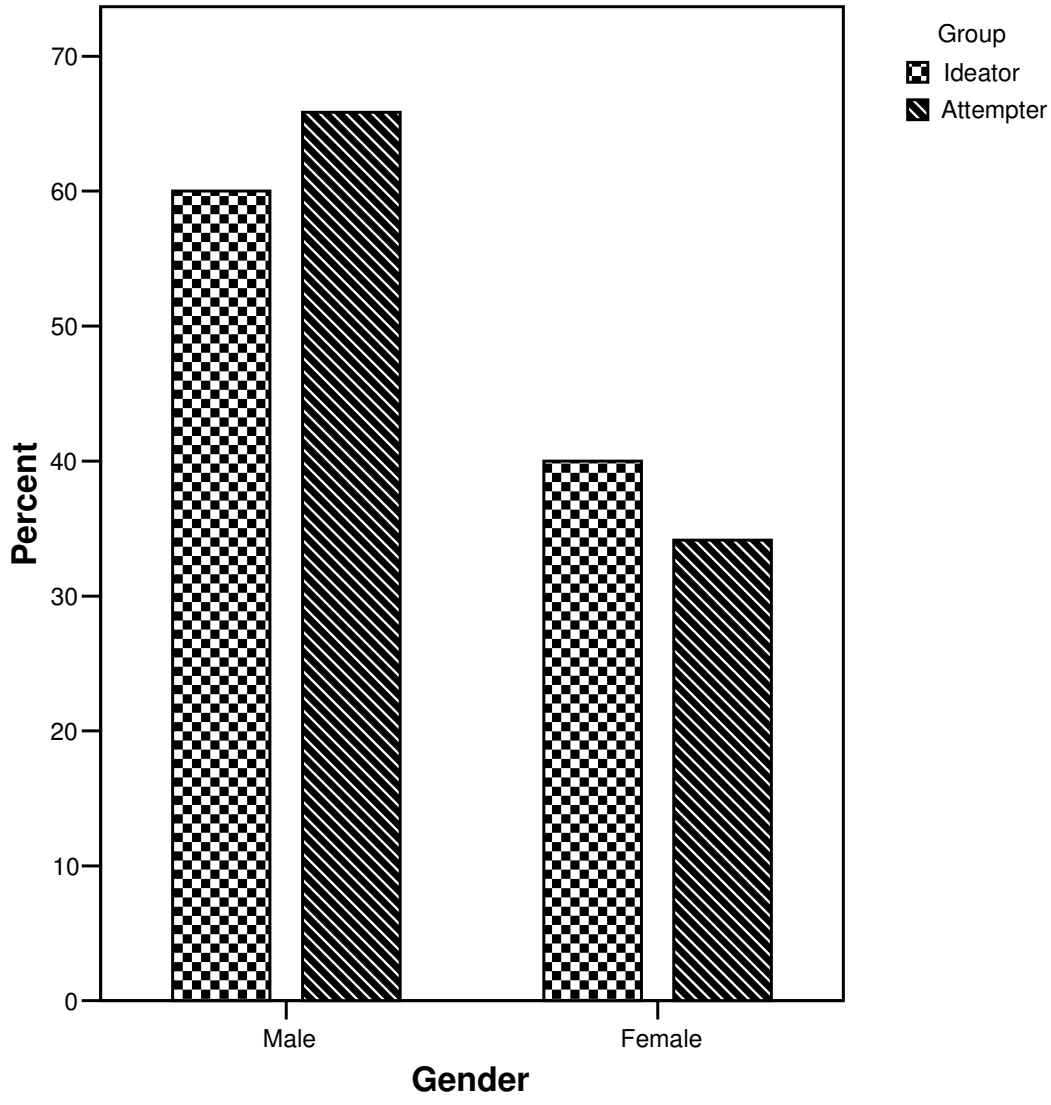


Figure 4

Race/Ethnicity Frequencies by Group

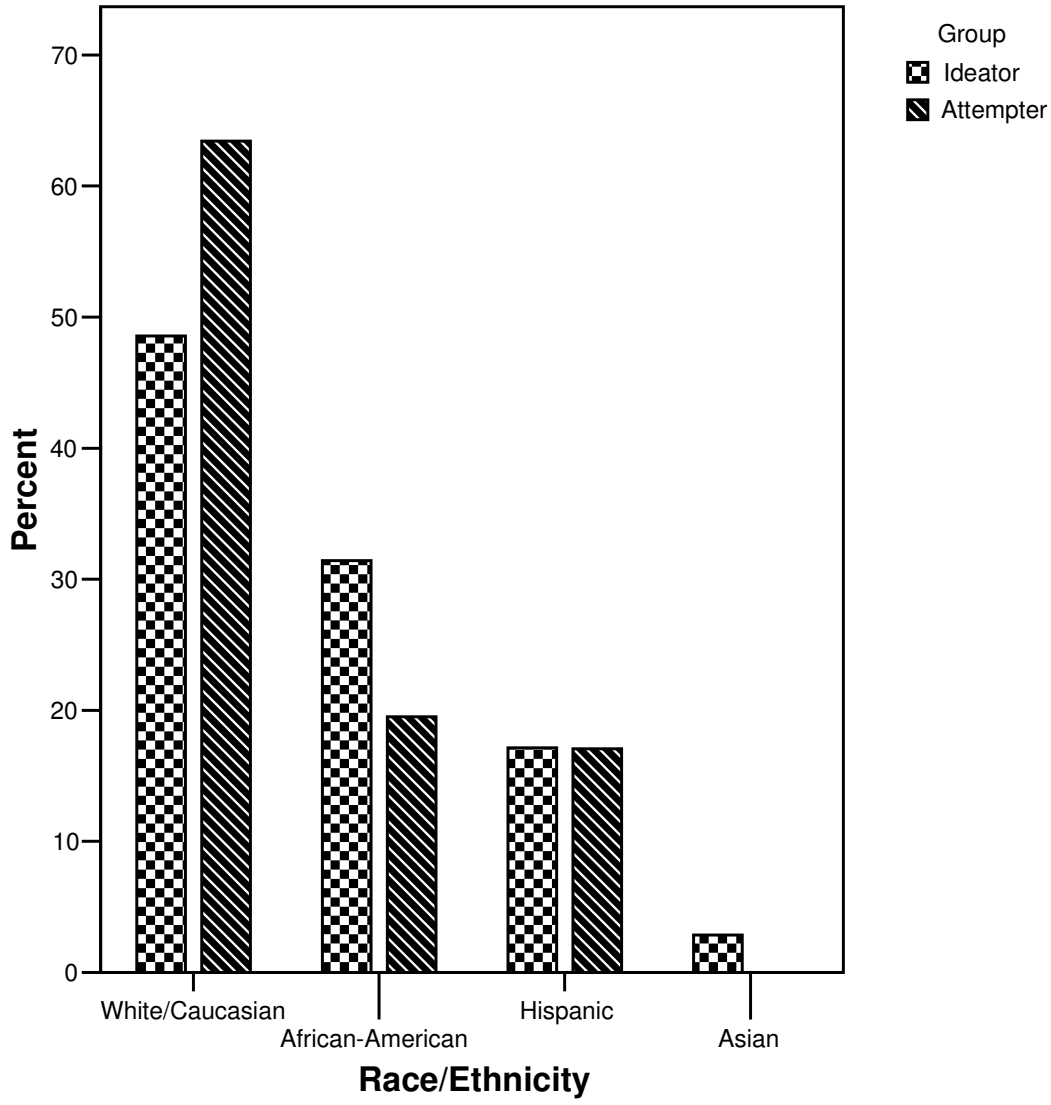


Figure 5

Marital Status by Group

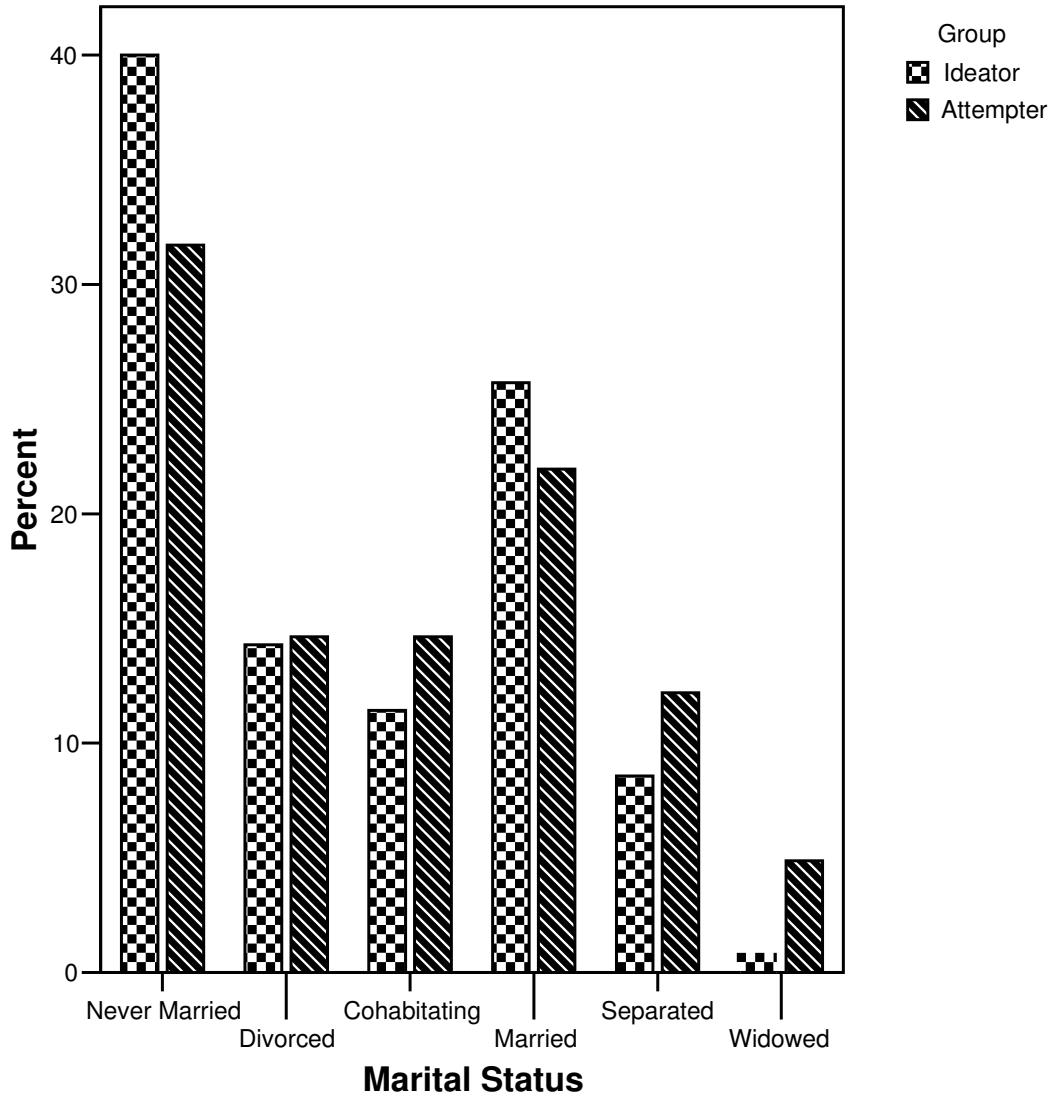


Figure 6

Employment Status by Group

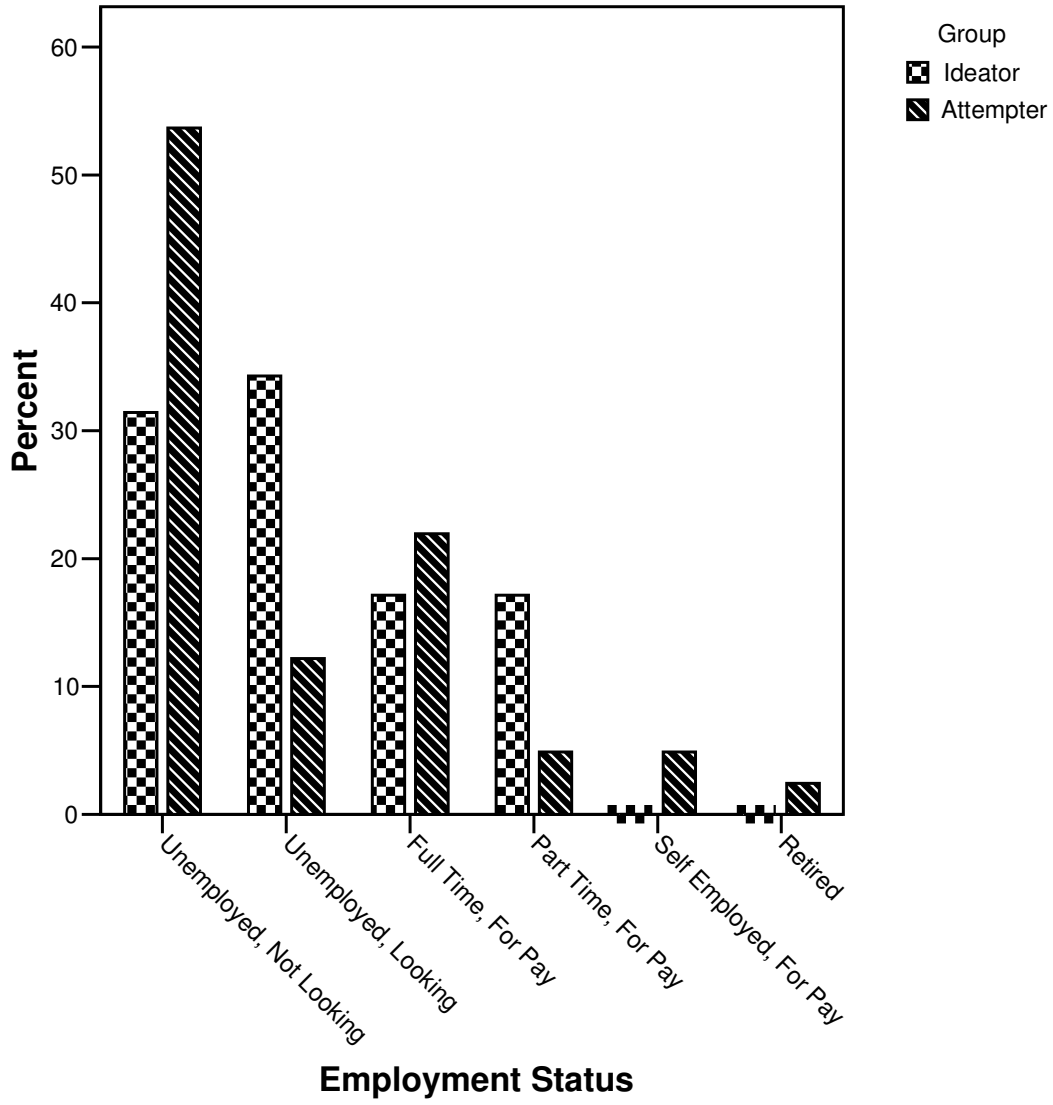


Figure 7

Primary Psychiatric Diagnosis by Group

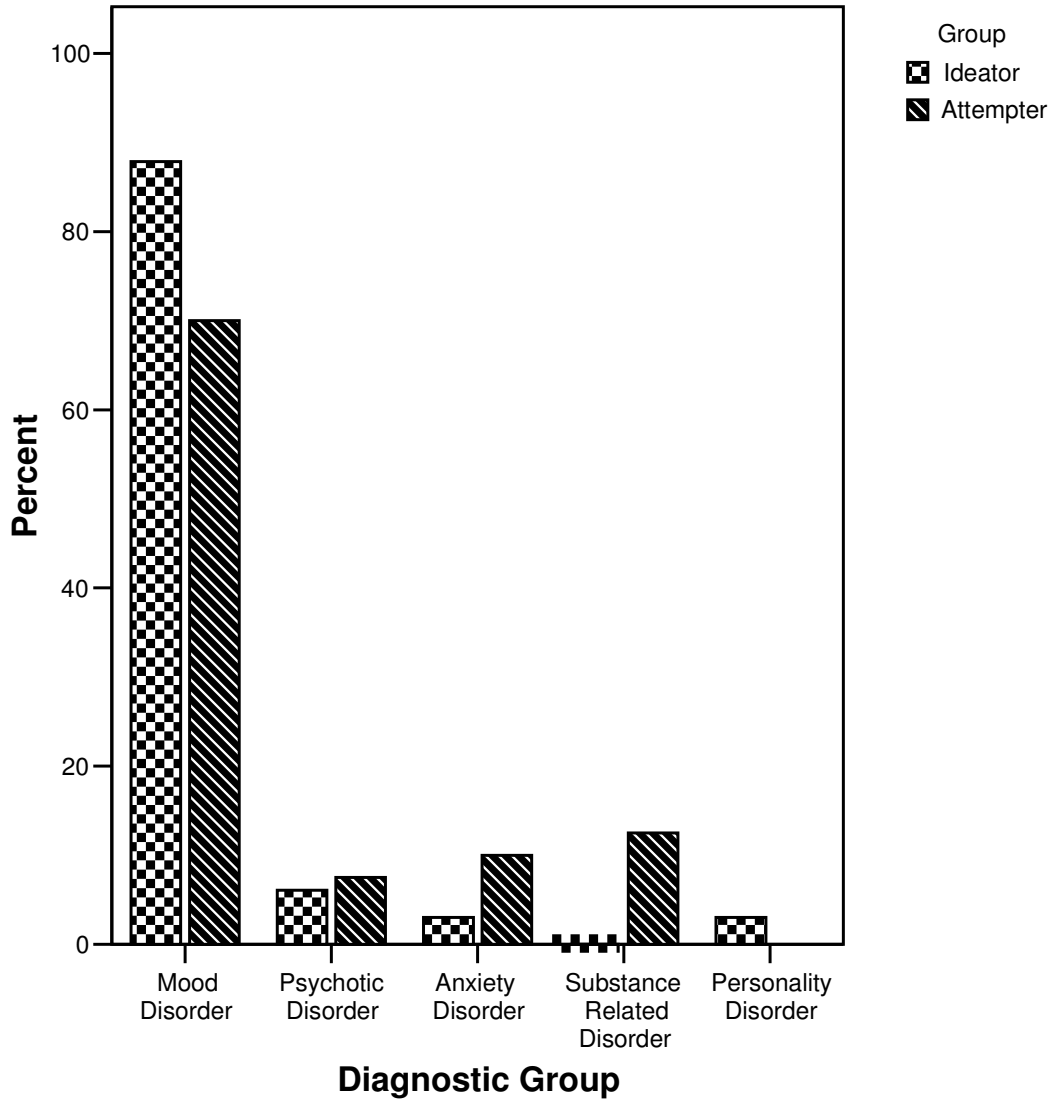


Figure 8

Primary Stressor by Group

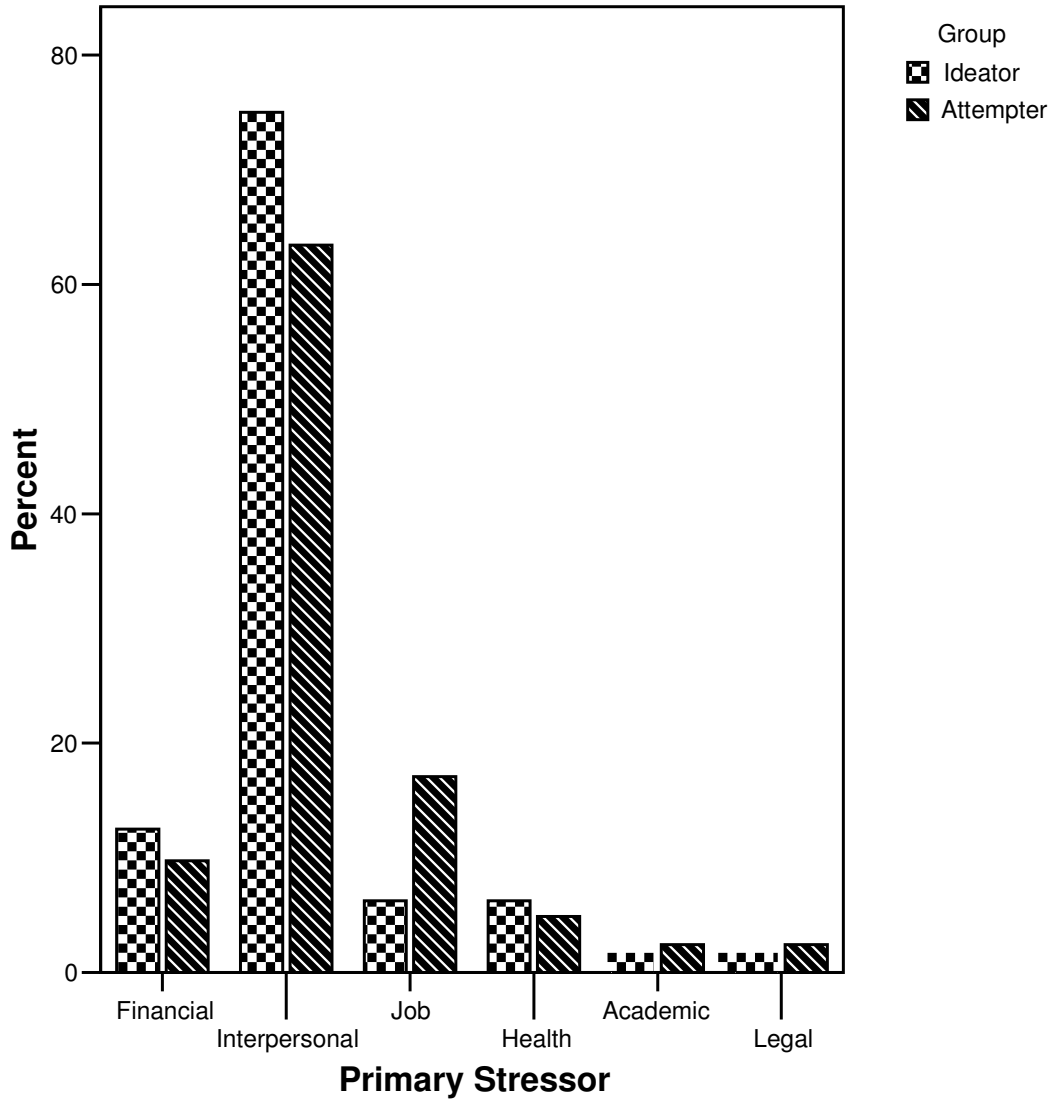


Figure 9

Logistic Regression – Resistance to Premature Closure and Group Status

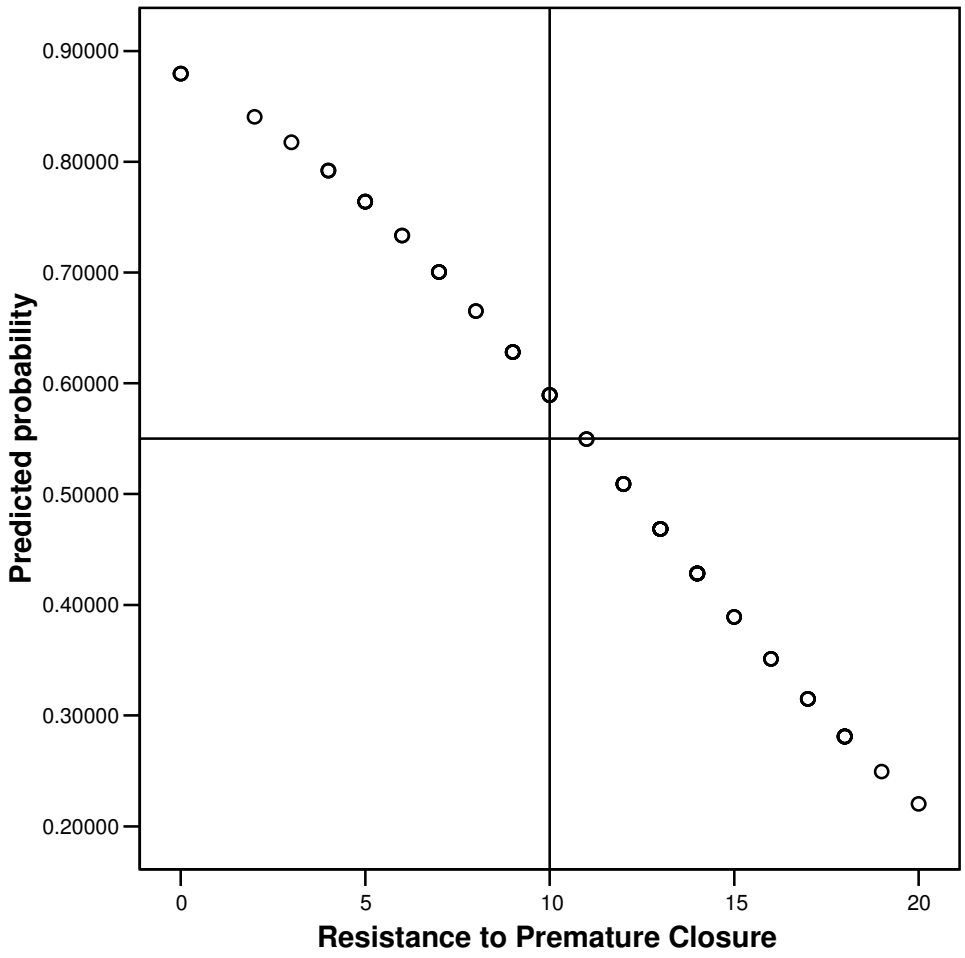
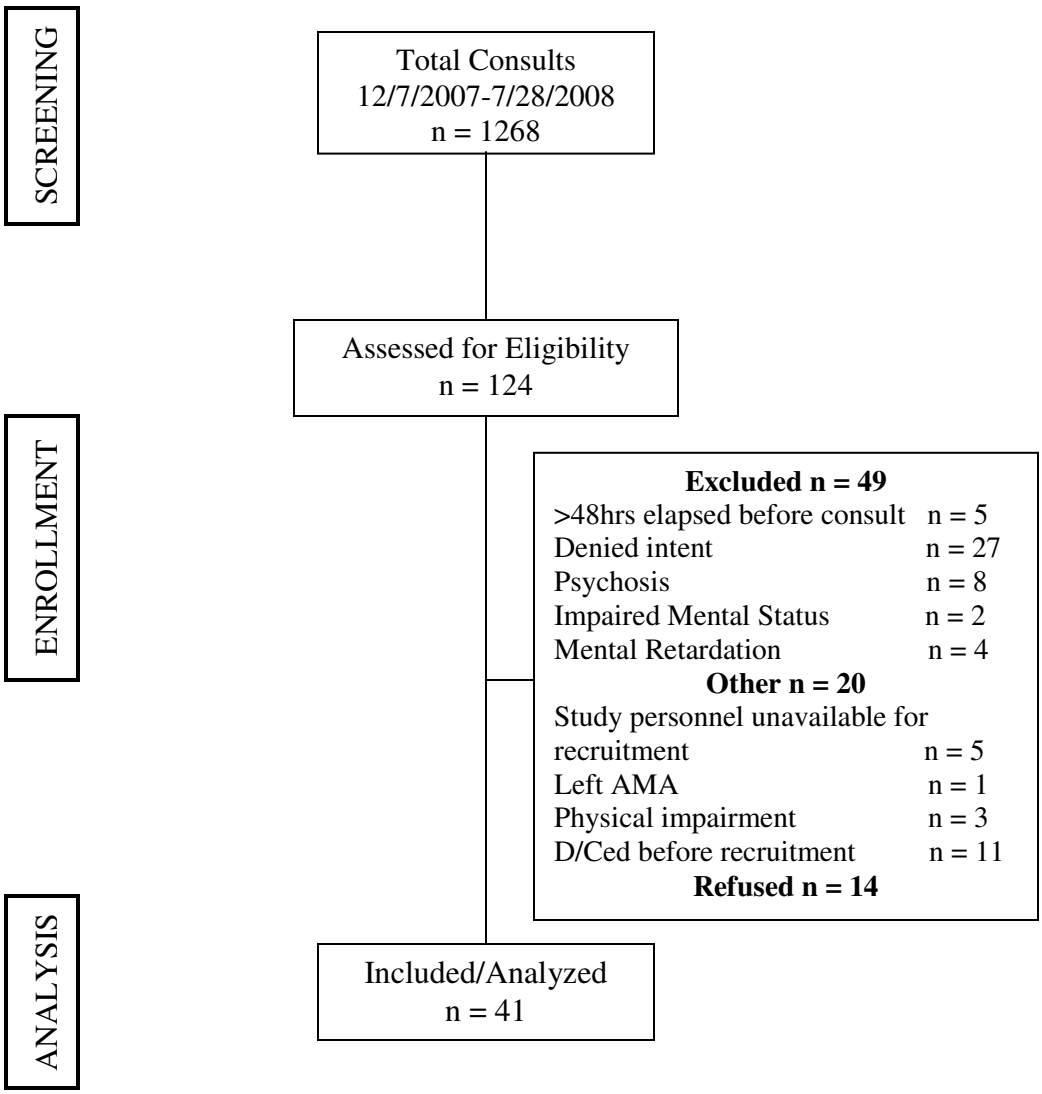


Figure 10

CONSORT Flow Diagram – Study Screening and Recruitment-Suicide Attempter Group



APPENDIX E: STUDY INSTRUMENTS

PRO-ACTS - 2

PROJECT FOR ASSESSMENT & CRISIS TREATMENT OF SUICIDALITY – PHASE 2A: (Assessment)

PACKET - ATTEMPTER

ASSESSMENT FORMS CHECKLIST:

_____ Patient Consent Form – IRB
_____ Patient Consent Form – HIPPA
_____ Patient Demographics Form
_____ Clinical History Interview Form

(Self-Report Forms)
_____ Recent Life Events
_____ Q-IDS
_____ Beck Hopelessness Scale
_____ Sheehan Disability Scale

(Chart Review Forms)
_____ Medical Review Form
_____ Risk Rescue Rating Form

Pt. Name: _____

Date Of Interview: _____

Time Of Interview: _____

Interviewer: _____

Send study results _____ Y _____ N

Note: *Assessment must take place within 48 hours of the time a patient regains full consciousness after a suicide attempt, if a potential subject is temporarily impaired due to overdose, they can be assessed once they are fully conscious, as determined by chart notes and/or nursing/physician/staff report.*

Inclusion Criteria

_____ 18 - 75 years old
_____ with an intentionally self-inflicted injury serious enough to require:
a) an International Classification of Disease, Ninth Edition (ICD)(*International Classification of Diseases, Ninth Revision, Clinical Modification*, 1980) External cause of injury (E-code) diagnosis associated with an acute episode of intentional self harm (i.e., E950-958.9),
b) admission to the hospital for ongoing medical (not psychiatric) treatment of the self-inflicted injury.
_____ capable of providing informed consent,
_____ able to pass a brief mental health screen
_____ able to read and speak English,
_____ willing to allow access to previous Parkland medical records
_____ willing to allow access to Parkland medical records for the 12 months following the injury.
_____ Interviewed within 48 conscious hours after suicide attempt

Exact Date of Suicide Attempt: _____

Exact Time of Day of Suicide Attempt: _____

Did patient experience partial/complete loss of consciousness after attempt? ___Y ___N

(If yes) Estimated time of day / date when full consciousness regained: _____

Total no. hrs. between suicide attempt/regaining consciousness and interview: _____

Exclusion Criteria

_____ Terminal illness such that death may occur within the next 12 months
_____ cognitive impairment (i.e. traumatic brain injury, delirium, dementia) identified via medical record or on the study's brief mental status screen
_____ current or past diagnoses involving active psychotic processes identified via medical record or on the study's brief mental status screen
_____ patients whose suicidal state occurred only in the context of substance intoxication, as measured by:
_____ a denial of suicidal intent at enrollment where the medical diagnosis is coded as intentional self harm and there is evidence of intoxication during injury

CHART REVIEW FORM

MRN:	
NAME:	
AGE:	
D.O.B.:	
ICD-9 DIAGNOSES:	
REVIEW OF SYSTEMS (INPT ONLY):	
PRESENCE OF ANY MAJOR MEDICAL OR PSYCHIATRIC PROBLEMS:	
MECHANISM OF SUICIDE ATTEMPT:	
DATE / TIME OF ARRIVAL AT HOSPITAL:	
Ψ DX:	
GAF:	
SADPERSONS SCORE:	

_____ Attempter

_____ Ideator

PRO-ACTS

DEMOGRAPHICS FORM I

Subject ID | | | | | | | | | | | Visit Code | 0 | 0 | Site: _____

Date | | | / | | | / | | | | | **1. Age** | | | yrs | | | mos

M M D D Y Y Y Y

2. Social security number | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | 0 | 0 |

3. Date of Birth | | | / | | | / | | | | |

M M D D Y Y Y Y

4. Gender (check one) ☐ Male ☐ Female

5. Race/Ethnicity (check one or more)

☐ American Indian or Alaskan Native ☐ Asian ☐ Black or African American
☐ Native Hawaiian or Other Pacific Islander ☐ Hispanic ☐ White ☐ Other

6. What is your current marital status? (check one)

☐ Never married ☐ Cohabiting with partner ☐ Widowed ☐ Separated
☐ Divorced ☐ Married, living together ☐ Married, not living together

7. If you are married or cohabitating with a partner, how long has this been? _____ years

8. Number of previous marriages _____ **9. How many children do you have?** _____

10. How many years of formal education have you *completed*? | | |

For example, if you have a high school degree, you have completed 12 years. If you are a sophomore in college, and have completed your freshman year, you have completed 13 years. If you have a Bachelors degree, you have completed 16 years. Please ask if you need further explanation about this question.

11. What is the highest educational degree received? (check one)

☐ None ☐ High school diploma ☐ GED ☐ 4 year College diploma
☐ M.B.A./M.A./M.S. ☐ Associate degree/technical degree ☐ Ph.D./M.D./J.D./LL.B

12. What best describes your current employment status? (check one)

- ☐ Unemployed, not looking for employment
- ☐ Unemployed, looking for employment
- ☐ Full-time employed for pay
- ☐ Part-time employed for pay
- ☐ Self-employed for pay
- ☐ Retired, not working

13. Type of Occupation?

- ☐ Professional specialty
- ☐ Technical and related support
- ☐ Sales
- ☐ Administrative support, including clerical
- ☐ Private household
- ☐ Protective service
- ☐ Other specify _____
- ☐ Service, except private households & protective
- ☐ Precision production, craft and repair
- ☐ Machine operators, assemblers and inspectors
- ☐ Transportation and material moving occupations
- ☐ Handlers, equipment cleaners, helpers and laborers
- ☐ Farming, forestry and fishing

14. How many years of formal education has your spouse *completed*? ☐☐

15. Highest degree your spouse has obtained? (check one)

☐ None ☐ High school diploma ☐ GED ☐ 4 year College diploma

☐ M.B.A./M.A./M.S. ☐ Associate degree/technical degree ☐ Ph.D./M.D./J.D./LL.B

16. What best describes your spouse's current employment status? (check one)

- ☐ Unemployed, not looking for employment
- ☐ Unemployed, looking for employment
- ☐ Full-time employed for pay
- ☐ Part-time employed for pay
- ☐ Self-employed for pay
- ☐ Retired, not working

17. Spouse's Type of Occupation?

- ☐ Professional specialty
- ☐ Technical and related support
- ☐ Sales
- ☐ Administrative support, including clerical
- ☐ Private household
- ☐ Protective service
- ☐ Other specify _____
- ☐ Service, except private households & protective
- ☐ Precision production, craft and repair
- ☐ Machine operators, assemblers and inspectors
- ☐ Transportation and material moving occupations
- ☐ Handlers, equipment cleaners, helpers and laborers
- ☐ Farming, forestry and fishing

18. TOTAL number of persons *including yourself* in your household?

Total number at residence ☐☐

19. Family history of mental illness? Y___ N ___

Relative(s) & diagnosis: _____

Background:

General Information about Attempt

A) Can you tell me a little about what happened to cause you to try and hurt yourself?

1) What was the goal of trying to hurt yourself? What were you thinking might happen? _____

1b) Before you tried to kill yourself, had you said to anyone that you wanted to do so? _____

1c) Had you written about suicide or talked about it in any way prior to your attempt? _____

2) Stressor: _____

3) Length of time between onset of stressor & attempt: _____

4) Means of attempt: _____

5) Time of day of attempt: _____

6) Did you think that the harm you did yourself would kill you? _____

7) Did you think that there was any chance that if you were discovered before you were dead and taken to a doctor, you could be saved? _____

7) So what did you think the chances were that you might die?

_____A little

_____Some

_____A lot

8) Did you make any kind of preparations because you were going to die? _____

a. For instance, did you leave a note? _____

b. Any other preparations? _____

9) Length of time before attempt discovered (approx) _____

10) Were you drinking or doing any drugs when you attempted suicide? _____

11) "Rescue-ability" --How likely to be discovered?

_____ High likelihood of discovery

_____ Some likelihood of discovery

_____ Low likelihood of discovery

12) Degree of planning / prior arrangements to have means available:

____ Detailed planning

____ Some planning

____ No planning

13) Time of FIRST attempt at communication to others that the attempt had taken place

_____ No communication – discovered by accident

_____ No communication, attempt took place where discovery was likely

_____ Communicated attempt only after a 4 or more hours

_____ Communicated attempt after1-4 hours

_____Communicated immediately, or in less than 1 hour

14) How do you feel now about the fact that your attempt wasn't successful? Would you say you are:

a. Glad to be alive
b. Having mixed feelings about being alive
c. Disappointed you didn't succeed.

For the rest of this interview, I want to focus on the 48 hours before your attempt. I want you to answer all questions as if it were those two days.. Please try to remember how you were feeling and thinking then, and respond like you would have during those two days.

SIS

I. Objective Circumstances Related to Suicide Attempt

1. Isolation	Someone present.	○	0
	Someone nearby or in visual or vocal contact.	○	1
	No one nearby or in visual or vocal contact.	○	2

2. Timing	Timed so that intervention is probable.	○	0
	Timed so that intervention is not likely.	○	1
	Timed so that intervention is highly unlikely.	○	2

3. Precaution against discovery/ intervention	No precautions.	○	0
	Passive precautions such as avoiding others but doing nothing (alone in room with unlocked door).	○	1
	Active precautions (locked door).	○	2

4. Acting to get help during/after attempt	Notified potential helper regarding attempt.	○	0
	Contacted but did not specifically notify potential helper regarding attempt.	○	1
	Did not contact/notify potential helper.	○	2

5. Final acts in anticipation of death (e.g., will, gifts, insurance)	None.	○	0
	Patient thought about making or made some arrangements in anticipation of death.	○	1
	Definite plans made (change in will, giving gifts, taking out insurance).	○	2

6. Active preparation for attempt	No preparation.	O	0
	Minimal/moderate preparation.	O	1
	Extensive preparation.	O	2

7. Suicide note	Absence of note.	O	0
	Note written, but torn up or note thought about.	O	1
	Presence of note.	O	2

8. Overt communication of intent before the attempt	None.	O	0
	Equivocal communication.	O	1
	Unequivocal communication.	O	2

II. Self Report

9. Alleged purpose of attempt	To manipulate environment, get attention, revenge.	O	0
	Components of "0" and "2"	O	1
	To escape, surcease, solve problems	O	2

10. Expectations of fatality	Thought death was unlikely	O	0
	Thought death possible but not probable.	O	1
	Thought death was probable or certain.	O	2

11. Concept of method's lethality	Did less than he/she thought was lethal.	O	0
	Wasn't sure what he/she did would be lethal.	O	1
	Act equaled or exceeded what he/she thought would be lethal.	O	2

12. Seriousness of attempt	Did not attempt to end life.	O	0

	Uncertain about seriousness to end life.	O	1
	Seriously attempted to end life.	O	2

13. Attitude toward living/dying	Did not want to die.	O	0
	Components of "0" and "2."	O	1
	Wanted to die.	O	2

14. Concept of medical rescuability	Thought that death would be unlikely if received medical attention.	O	0
	Was uncertain whether death could be averted by medical attention.	O	1
	Was certain of death even if he/she received medical attention.	O	2

15. Degree of premeditation	None – impulsive.	O	0
	Suicide contemplated for 3 hours or less prior to attempt.	O	1
	Suicide contemplated for >3 hours prior to attempt.	O	2

RISK-RESCUE RATING **Attempters Only**

Risk Score _____

Rescue Score _____

Risk-Rescue Rating _____ Previous Attempts _____

Circumstances _____

RISK FACTORS

1. Agent used:

___ 1 Ingestion, cutting, stabbing
___ 2 Drowning, asphyxiation, strangulation
___ 3 Jumping, shooting

2. Impaired consciousness:

___ 1 None in evidence
___ 2 Confusion, semi-coma
___ 3 Coma, deep coma

3. Lesions/Toxicity:

___ 1 Mild
___ 2 Moderate
___ 3 Severe

4. Reversibility:

___ 1 Good, complete recovery expected
___ 2 Fair, recovery expected with time
___ 3 Poor, residuals expected, if recovery

5. Treatment required:

___ 1 First aid, E.D. care
___ 2 House admission, routine treatment
___ 3 Intensive care, special treatment

Total Risk Points _____

RISK SCORE

5. High risk (13-15 risk points)
4. High moderate (11-12 risk points)
3. Moderate (9-10 risk points)
2. Low moderate (7-8 risk points)
1. Low risk (5-6 risk points)

RESCUE FACTORS

1. Location:

___ 3 Familiar
___ 2 Non-familiar, non-remote
___ 1 Remote

2. Person initiating rescue:*

___ 3 Key person
___ 2 Professional
___ 1 Passerby

3. Probability of discovery by any rescuer:

___ 3 High, almost certain
___ 2 Uncertain discovery
___ 1 Accidental discovery

4. Accessibility to rescue:

___ 3 Asks for help
___ 2 Drops clues
___ 1 Does not ask for help

5. Delay until discovery:

___ 3 Immediate – 1 hour
___ 2 Less than 4 hours
___ 1 Greater than 4 hours

Total Rescue Points _

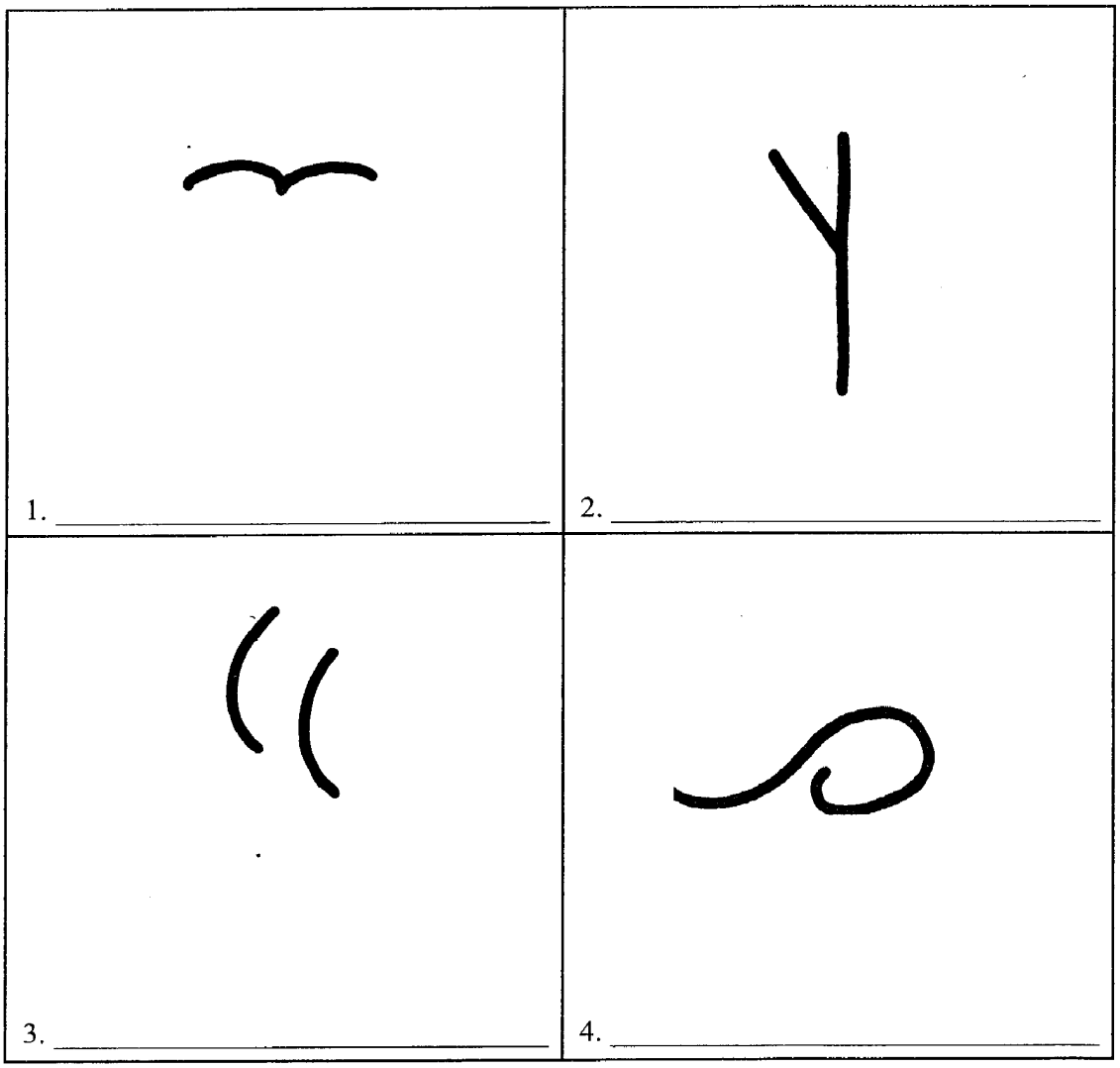
RESCUE SCORE

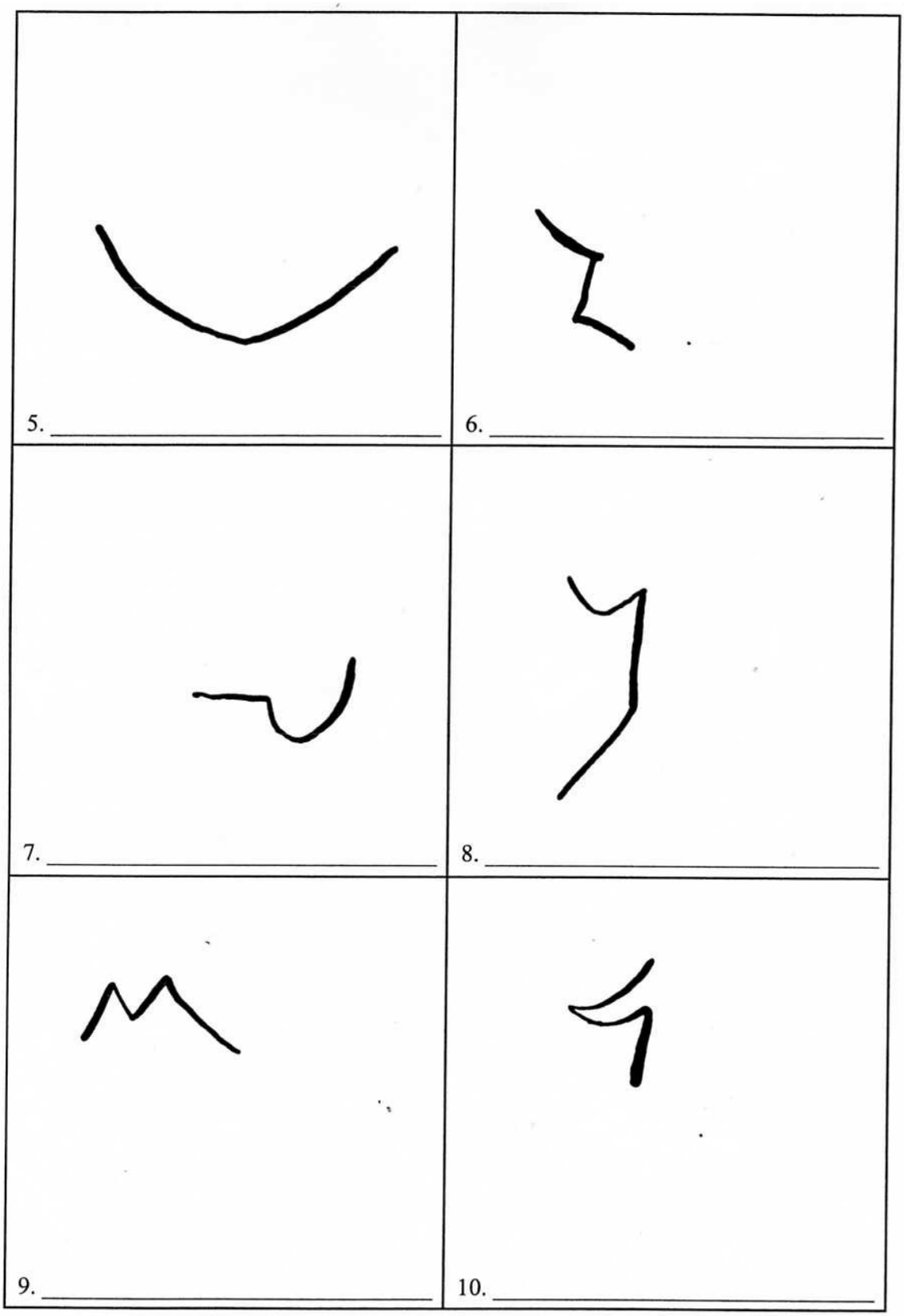
1. Least rescuable (5-7 rescue points)
2. Low moderate (8-9 rescue points)
3. Moderate (10-11 rescue points)
4. High moderate (12-13 rescue points)
5. Most rescuable (14-15 rescue points)

* Self-rescue automatically yields a Rescue Score of 5
** If there is undue delay in obtaining treatment after discovery, reduce the final Rescue Score by one point.

Activity 2. PICTURE COMPLETION

By adding lines to the incomplete figures on this and the next page, you can sketch some interesting objects or pictures. Again, try to think of some picture or object that no one else will think of. Try to make it tell as complete and as interesting a story as you can by adding to and building up your first idea. Make up an interesting title for each of your drawings and write it at the bottom of each block next to the number of the figure.




5.
6.
7.
8.
9.
10.

DEPRESSION SCREENING TEST

Check the one response to each item that best describes you for the past seven days.

During the past seven days…

1. Falling Asleep:	I never take longer than 30 minutes to fall asleep.	○	0
	I take at least 30 minutes to fall asleep, less than half the time.	○	1
	I take at least 30 minutes to fall asleep, more than half the time.	○	2
	I take more than 60 minutes to fall asleep, more than half the time.	○	3
2. Sleep During the Night:	I do not wake up at night.	○	0
	I have a restless, light sleep with a few brief awakenings each night.	○	1
	I wake up at least once a night, but I go back to sleep easily.	○	2
	I awaken more than once a night and stay awake for 20 minutes or more, more than half the time.	○	3
3. Waking Up Too Early:	Most of the time, I awaken no more than 30 minutes before I need to get up.	○	0
	More than half the time, I awaken more than 30 minutes before I need to get up.	○	1
	I almost always awaken at least one hour or so before I need to, but I go back to sleep eventually.	○	2
	I awaken at least one hour before I need to, and can't go back to sleep.	○	3

During the past seven days…

4. Sleeping Too Much:	I sleep no longer than 7-8 hours/night, without napping during the day.	O	0
	I sleep no longer than 10 hours in a 24-hour period including naps.	O	1
	I sleep no longer than 12 hours in a 24-hour period including naps.	O	2
	I sleep longer than 12 hours in a 24-hour period including naps.	O	3
5. Feeling Sad:	I do not feel sad.	O	0
	I feel sad less than half the time.	O	1
	I feel sad more than half the time.	O	2
	I feel sad nearly all of the time.	O	3
Please complete either 6 or 7 (not both)			
6. Decreased Appetite:	There is no change in my usual appetite.	O	0
	I eat somewhat less often or lesser amounts of food than usual.	O	1
	I eat much less than usual and only with personal effort.	O	2
	I rarely eat within a 24-hour period and only with extreme personal effort or when others persuade me to eat.	O	3
	-OR-		
7. Increased Appetite:	There is no change from my usual appetite.	O	0
	I feel a need to eat more frequently than usual.	O	1
	I regularly eat more often and/or greater amounts of food than usual.	O	2
	I feel driven to overeat both at mealtime and between meals.	O	3

During the past seven days…

Please complete either 8 or 9 (not both)			
8. Decreased Weight (Within the Last Two Weeks):	I have not had a change in my weight.	O	0
	I feel as if I have had a slight weight loss.	O	1
	I have lost 2 pounds or more.	O	2
	I have lost 5 pounds or more.	O	3
-OR-			
9. Increased Weight (Within the Last Two Weeks):	I have not had a change in my weight.	O	0
	I feel as if I have had a slight weight gain.	O	1
	I have gained 2 pounds or more.	O	2
	I have gained 5 pounds or more.	O	3
10.Concentration/ Decision Making:	There is no change in my usual capacity to concentrate or make decisions	O	0
	I occasionally feel indecisive or find that my attention wanders	O	1
	Most of the time, I struggle to focus my attention or to make decisions.	O	2
	I cannot concentrate well enough to read or cannot make even minor decisions.	O	3
11. View of Myself:	I see myself as equally worthwhile and deserving as other people.	O	0
	I am more self-blaming than usual.	O	1
	I largely believe that I cause problems for others.	O	2
	I think almost constantly about major and minor defects in myself.	O	3

During the past seven days…

12. Thoughts of Death or Suicide:	I do not think of suicide or death.	O	0
	I notice that life is empty or wonder if it's worth living.	O	1
	I think of suicide or death several times a week for several minutes.	O	2
	I think of suicide or death several times a day in some detail, or I have made specific plans for suicide or have actually tried to take my life.	O	3
13. General Interest:	There is no change from usual in how interested I am in other people or activities.	O	0
	I notice that I am less interested in people or activities.	O	1
	I find I have interest in only one or two of my formerly pursued activities.	O	2
	I have virtually no interest in formerly pursued activities.	O	3
14. Energy Level:	There is no change in my usual level of energy.	O	0
	I get tired more easily than usual.	O	1
	I have to make a big effort to start or finish my usual daily activities (for example, shopping, homework, cooking, or going to work).	O	2
	I really cannot carry out most of my usual daily activities because I just don't have the energy.	O	3

During the past seven days…

15. Feeling Slowed Down:	I think, speak, and move at my usual rate of speed.	O	0
	I find that my thinking is slowed down or my voice sounds dull or flat.	O	1
	It takes me several seconds to respond to most questions and I'm sure my thinking is slowed.	O	2
	I am often unable to respond to questions without extreme effort.	O	3
16. Feeling Restless:	I do not feel restless.	O	0
	I'm often fidgety, wringing my hands, or need to shift how I am sitting.	O	1
	I have impulses to move about and quite restless.	O	2
	At times, I am unable to stay seated and need to pace around.	O	3

ADQ

In the past 2 weeks, have you had any alcohol? **NO** **YES**

In the past 2 weeks, how many drinks (*i.e. beer, wine, cocktail*) did you have per week?

Number per week _____

In the past 2 weeks, have you had 3 or more alcoholic drinks within a 3 hour period on more than one occasion? **NO** **YES**

In the last 2 weeks have you ever taken any drugs to get high, to feel better, or to change your mood? **NO** **YES**

In the last 2 weeks what drugs have you ever taken? *(circle all drinks on the list below)*

In the past 2 weeks, how many times did you use (*see list below*) per week?

Number of times per week _____

CIRCLE EACH DRUG TAKEN:
Stimulants: amphetamines, "speed", crystal meth, "rush", Dexedrine, Ritalin, diet pills.
Cocaine: snorting, IV, freebase, crack, "speedball".
Narcotics: heroin, morphine, Dilaudid, opium, Demerol, methadone, codeine, Percodan, Darvon, OxyContin.
Hallucinogens: LSD ("acid"), mescaline, peyote, PCP ("Angel Dust", "peace pill"), psilocybin, STP, "mushrooms", ecstasy, MDA, or MDMA.
Inhalants: "glue", ethyl chloride, nitrous oxide ("laughing gas"), amyl or butyl nitrate ("poppers").
Marijuana: Hashish ("hash"), THC, "pot", "grass", "weed", "reefer"
Tranquilizers: Quaalude, Seconal ("reds"), Valium, Xanax, Librium, Ativan, Dalmane, Halcion, barbiturates, Miltown.
Miscellaneous: steroids, nonprescription sleep or diet pills, GHB. Any others?

Specify MOST USED Drug(s): _____

SEPI – Adult Version (Revised)

	In the past two weeks, I have felt that . . .	**Rarely/ Never**	**Occasionally**	**Often**	**Almost Always**
1.	The expectations that people have of me are unattainable.	O	O	O	O
2.	My family demands too much of me at this time.	O	O	O	O
3.	Different members of my family want me to do different things.	O	O	O	O
4.	People around me are pressuring me, but I don't know exactly what would make them happy.	O	O	O	O
5.	My family does not treat me with respect.	O	O	O	O
6.	I would have to be a different person in order to make my family happy.	O	O	O	O
7.	If I were well, there would be more stress between my family members.	O	O	O	O
8.	When I am in trouble, my family members are more relaxed.	O	O	O	O
9.	When I solve one problem, another one seems to pop up right away.	O	O	O	O
10.	It is my responsibility to make my family members happy.	O	O	O	O
11.	My family thinks there is something wrong with me, but they don't talk to me about it.	O	O	O	O
12.	My problems make my family feel better about themselves.	O	O	O	O
13.	I have to protect my family from hurting each other.	O	O	O	O
14.	I have very few rights of my own any more.	O	O	O	O
15.	I cannot meet the goals that people have set for me.	O	O	O	O
16.	If I were healthy, my family would actually be more unhappy.	O	O	O	O
17.	The problems I have with my family will never be solved.	O	O	O	O
18.	I am not able to make my own decisions any more.	O	O	O	O
19.	I am in charge of making sure my family members are happy.	O	O	O	O

	In the past two weeks, I have felt that . . .	**Rarely/ Never**	**Occasionally**	**Often**	**Almost Always**
20.	Most of the big problems in my life will never be fixed.	O	O	O	O
21.	Some of my family members want me to do one thing, while other family members want me to do the opposite.	O	O	O	O
22.	Every time I fix one problem, another one comes up.	O	O	O	O
23.	My family members act like there is something wrong with me, but don't talk to me about it.	O	O	O	O
24.	I have to keep my family members from harming each other.	O	O	O	O
25.	My family is happier when I have problems.	O	O	O	O
26.	I am responsible for making sure that my family members aren't angry with each other.	O	O	O	O
27.	I am carrying a great burden.	O	O	O	O
28.	I am a burden to the people around me.	O	O	O	O
29.	My boss demands too much of me.	O	O	O	O
30.	I cannot satisfy my coworkers.	O	O	O	O
31.	I am under a great deal of stress at work.	O	O	O	O
32.	I have more responsibilities at work than I can handle.	O	O	O	O
33.	Every solution that I come up with causes a new problem.	O	O	O	O
34.	I feel that there is no way to eliminate the trap in which I am caught.	O	O	O	O
35.	Every solution that I have for my problems will still result in great loss to me.	O	O	O	O
36.	I can resolve some of my problems only at great cost to me.	O	O	O	O
	Please answer #37 OR #38				
37.	I cannot live up to the role of husband/father.	O	O	O	O
38.	I cannot live up to the role of wife/mother.	O	O	O	O

SPSI (Revised - Short)

Below are some ways that you might think, feel, and act when faced with problems in everyday living. In this questionnaire, a problem is something important in your life that bothers you a lot, but you don't immediately know to make it better or stop it from bothering you so much. Please read each statement carefully and choose one of the numbers below that best shows how much the statement is true of you.

		Not at all true of me	Slightly true of me	Moderately true of me	Very true of me	Extremely true of me
1.	I feel threatened and afraid when I have an important problem to solve.	○	○	○	○	○
2.	When making decisions, I do not evaluate all my options carefully enough.	○	○	○	○	○
3.	I feel nervous and unsure of myself when I have an important decision to make.	○	○	○	○	○
4.	When my first efforts to solve a problem fail, I know if I persist and do not give up too easily, I will eventually find a good solution.	○	○	○	○	○
5.	When I have a problem, I try to see it as a challenge, or opportunity to benefit in some positive way from having the problem.	○	○	○	○	○
6.	I wait to see if a problem will resolve itself first, before trying to solve it myself.	○	○	○	○	○
7.	When my first efforts to solve a problem fail, I get very frustrated.	○	○	○	○	○
8.	When I am faced with a difficult problem, I doubt that I will be able to solve it on my own no matter how hard I try.	○	○	○	○	○
9.	Whenever I have a problem, I believe that it can be solved.	○	○	○	○	○
10.	I go out of my way to avoid having to deal with problems in my life.	○	○	○	○	○
11.	Difficult problems make me very upset.	○	○	○	○	○
12.	When I have a decision to make, I try to predict the positive and negative consequences of each action.	○	○	○	○	○
13.	When problems occur in my life, I like to deal with them as soon as possible.	○	○	○	○	○

		Not at all true of me	Slightly true of me	Moderately true of me	Very true of me	Extremely true of me
14.	When I am trying to solve a problem, I go with the first good idea that comes to mind.	O	O	O	O	O
15.	When I am faced with a difficult problem, I believe that I will be able to solve it on my own if I try hard enough.	O	O	O	O	O
16.	When I have a problem to solve, one of the first things I do is get as many facts about the problem as possible.	O	O	O	O	O
17.	When a problem occurs in my life, I put off trying to solve it for as long as possible.	O	O	O	O	O
18.	I spend more time avoiding my problems than solving them.	O	O	O	O	O
19.	Before I try to solve a problem, I set a specific goal so that I know exactly what I want to accomplish.	O	O	O	O	O
20.	When I have a decision to make, I do not take the time to consider the pros and cons of each option.	O	O	O	O	O
21.	After carrying out a solution to a problem, I try to evaluate as carefully as possible how much the situation has changed for the better.	O	O	O	O	O
22.	I put off solving problems until t is too late to do anything about them.	O	O	O	O	O
23.	When I am trying to solve a problem, I think of as many options as possible until I cannot come up with any more ideas.	O	O	O	O	O
24.	When making decisions, I go with my "gut feeling" without thinking too much about the consequences of each option.	O	O	O	O	O
25.	I am too impulsive when it comes to making decisions.	O	O	O	O	O

BECK

In the past two weeks, I have felt that . . .

1.	I look forward to the future with hope and enthusiasm.	***TRUE***	FALSE
2.	I might as well give up because I can't make things better for myself.	**TRUE**	**FALSE**
3.	When things are going badly, I am helped by knowing they can't stay that way forever.	**TRUE**	**FALSE**
4.	I can't imagine what my life would be like in 10 years.	**TRUE**	**FALSE**
5.	I have enough time to accomplish the things I most want to do.	**TRUE**	**FALSE**
6.	In the future, I expect to succeed in what concerns me most.	**TRUE**	**FALSE**
7.	My future seems dark to me.	**TRUE**	**FALSE**
8.	I expect to get more of the good things in life than the average person.	**TRUE**	**FALSE**
9.	I just don't get breaks, and there's no reason to believe I will in the future.	**TRUE**	**FALSE**
10.	My past experiences have prepared me well for my future.	**TRUE**	**FALSE**
11.	All I can see ahead of me is unpleasantness rather than pleasantness.	**TRUE**	**FALSE**
12.	I don't expect to get what I really want.	**TRUE**	**FALSE**
13.	When I look ahead to the future, I expect I will be happier than I am now.	**TRUE**	**FALSE**
14.	Things just won't work out the way I want them to.	**TRUE**	**FALSE**
15.	I have great faith in the future.	**TRUE**	**FALSE**
16.	I never get what I want so it's foolish to want anything.	**TRUE**	**FALSE**
17.	It is very unlikely that I will get any real satisfaction in the future.	**TRUE**	**FALSE**
18.	The future seems vague and uncertain to me.	**TRUE**	**FALSE**
19.	I can look forward to more good times than bad times.	**TRUE**	**FALSE**
20.	There's no use in really trying to get something I want because I probably won't get it.	**TRUE**	**FALSE**

SCS-Revised

Instructions: The following 20 statements are intended to assess your beliefs about your current problems. Please read each statement carefully and circle the number that best describes you right now. How **you feel right now**. Remember to rate each item and circle only one number for each item.

In the past two weeks, I have felt that . . .		**Strongly Disagree**	Disagree	*Neutral*	**Agree**	*Strongly Agree*
1.	The world would be better off without me.	1	2	3	4	5
2.	Suicide is the only way to solve my problems.	1	2	3	4	5
3.	I can't stand this pain any more.	1	2	3	4	5
4.	I am an unnecessary burden to my family.	1	2	3	4	5
5.	I've never been successful at anything.	1	2	3	4	5
6.	I can't tolerate being this upset any longer.	1	2	3	4	5
7.	I can never be forgiven for the mistakes I have made.	1	2	3	4	5
8.	No one can help solve my problems.	1	2	3	4	5
9.	It is unbearable when I get this upset.	1	2	3	4	5
10.	I am completely unworthy of love.	1	2	3	4	5
11.	Nothing can help solve my problems.	1	2	3	4	5
12.	It is impossible to describe how badly I feel.	1	2	3	4	5
13.	I have driven away everyone in my life.	1	2	3	4	5
14.	I can't cope with my problems any longer.	1	2	3	4	5
15.	I can't imagine anyone being able to withstand this kind of pain.	1	2	3	4	5
16.	There is nothing redeeming about me.	1	2	3	4	5
17.	Suicide is the only way to end this pain.	1	2	3	4	5
18.	I don't deserve to live another moment.	1	2	3	4	5
19.	I would rather die now than feel this unbearable pain.	1	2	3	4	5
20.	No one is as loathsome as me.	1	2	3	4	5

PRO-ACTS - 2

PROJECT FOR ASSESSMENT & CRISIS TREATMENT OF SUICIDALITY – PHASE 2A: (Assessment)

PACKET - IDEATOR

ASSESSMENT FORMS CHECKLIST:

_____ Patient Consent Form – IRB
_____ Patient Consent Form – HIPPA
_____ Patient Demographics Form
_____ Clinical History Interview Form

(Self-Report Forms)
_____ ADQ
_____ Q-IDS
_____ Beck Hopelessness Scale
_____ Sheehan Disability Scale

(Chart Review Forms)
_____ Medical Review Form
_____ Risk Rescue Rating Form

Pt. Name: _____

Date Of Interview: _____

Time Of Interview: _____

Interviewer: _____

Study Inclusion Criteria –Suicide Ideators

Inclusion Criteria

_____ > 18 – 75 years of age
_____ presenting complaint of suicidal ideation
_____ no history of suicidal behavior or acts within the past six months
_____ capable of providing informed consent
_____ able to pass a brief mental status screen
_____ able to read and speak English

Exclusion Criteria

_____ cognitive impairment (i.e. traumatic brain injury, delirium, dementia) identified via medical record or on the study's brief mental status screen
_____ ongoing active psychotic processes identified via medical record or on the study's brief mental status screen
_____ pregnancy

CHART REVIEW FORM

MRN:	
NAME:	
AGE:	
D.O.B.:	
PRESENTING COMPLAINT:	
ICD-9/10 DIAGNOSES:	
PRESENCE OF ANY MAJOR MEDICAL OR PSYCHIATRIC ILLNESS:	
TIME CHECKED IN:	
WHERE DISCHARGED:	
DISCHARGE PLAN:	
Ψ DX:	
GAF:	
SADPERSONS SCORE:	

_____ Attempter

_____ Ideator

PRO-ACTS

DEMOGRAPHICS FORM I

Subject ID | | | | | | | | | | | Visit Code | 0 | 0 | Site: _____

Date | | | / | | | / | | | | | **1. Age** | | | yrs | | | mos

M M D D Y Y Y Y

2. Social security number | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | 0 | 0 |

3. Date of Birth | | | / | | | / | | | | |

M M D D Y Y Y Y

4. Gender (check one) ☐ Male ☐ Female

5. Race/Ethnicity (check one or more)

☐ American Indian or Alaskan Native ☐ Asian ☐ Black or African American
☐ Native Hawaiian or Other Pacific Islander ☐ Hispanic ☐ White ☐ Other

6. What is your current marital status? (check one)

☐ Never married ☐ Cohabiting with partner ☐ Widowed ☐ Separated
☐ Divorced ☐ Married, living together ☐ Married, not living together

7. If you are married or cohabitating with a partner, how long has this been? _____ years

8. Number of previous marriages _____ **9. How many children do you have?** _____

10. How many years of formal education have you *completed*? | | |

For example, if you have a high school degree, you have completed 12 years. If you are a sophomore in college, and have completed your freshman year, you have completed 13 years. If you have a Bachelors degree, you have completed 16 years. Please ask if you need further explanation about this question.

11. What is the highest educational degree received? (check one)

☐ None ☐ High school diploma ☐ GED ☐ 4 year College diploma
☐ M.B.A./M.A./M.S. ☐ Associate degree/technical degree ☐ Ph.D./M.D./J.D./LL.B

12. What best describes your current employment status? (check one)

☐ Unemployed, not looking for employment ☐ Part-time employed for pay
☐ Unemployed, looking for employment ☐ Self-employed for pay

☐ Full-time employed for pay ☐ Retired, not working

13. Type of Occupation?

☐ Professional specialty
☐ Technical and related support
☐ Sales
☐ Administrative support, including clerical
☐ Private household
☐ Protective service
☐ Other specify _____
☐ Service, except private households & protective
☐ Precision production, craft and repair
☐ Machine operators, assemblers and inspectors
☐ Transportation and material moving occupations
☐ Handlers, equipment cleaners, helpers and laborers
☐ Farming, forestry and fishing

14. How many years of formal education has your spouse *completed*? ☐☐

15. Highest degree your spouse has obtained? (check one)

☐ None ☐ High school diploma ☐ GED ☐ 4 year College diploma
☐ M.B.A./M.A./M.S. ☐ Associate degree/technical degree ☐ Ph.D./M.D./J.D./LL.B

16. What best describes your spouse's current employment status? (check one)

☐ Unemployed, not looking for employment
☐ Unemployed, looking for employment
☐ Full-time employed for pay
☐ Part-time employed for pay
☐ Self-employed for pay
☐ Retired, not working

17. Spouse's Type of Occupation?

☐ Professional specialty
☐ Technical and related support
☐ Sales
☐ Administrative support, including clerical
☐ Private household
☐ Protective service
☐ Other specify _____
☐ Service, except private households & protective
☐ Precision production, craft and repair
☐ Machine operators, assemblers and inspectors
☐ Transportation and material moving occupations
☐ Handlers, equipment cleaners, helpers and laborers
☐ Farming, forestry and fishing

18. TOTAL number of persons *including yourself* in your household?

Total number at residence ☐☐

19. Family history of mental illness? Y___ N ___

Relative(s) & diagnosis: _____

Background:

General Information about Suicidal Ideation

B) Can you tell me a little about what led up to the thoughts that you've had about hurting yourself?

1a) Did you tell anyone that you were having these thoughts? _____

1b) Had you written about suicide or talked about it in any way? _____

2) Stressor: _____

3) Length of time between onset of stressor & suicidal thoughts: _____

4) Is this the first time you've had thoughts like this?

When do you first remember having these thoughts?

Means of attempt: _____

5) How often do you think about suicide? _____

6) Did you make any kind of preparations because you were thinking about hurting yourself?

_____

a. For instance, did you leave a note? _____

b. Any other preparations? _____

6) Were you drinking or doing any drugs when you had these thoughts? _____

7) How many suicide attempts have you made in the past? _____

8) When was the most recent suicide attempt? _____

a. What kind of treatment was required for the most serious attempt?

i. Psychiatric hospitalization? _____

ii. Medical Hospitalization? _____

iii. ER Care (stitches, etc)? _____

For the rest of this interview, I want to focus on the 48 hours before your attempt. I want you to answer all questions as if it were those two days. Please try to remember how you were feeling and thinking then, and respond like you would have during those two days.

MSSI

The purpose of this scale is to assess the presence or absence of suicide ideation and the degree of severity of suicidal ideas. The time frame is from the point of interview through the previous 48 hours.

1. Wish to Die		
Over the past day or two have you thought about wanting to die? Do you want to die now? (If the patient wants to die ask: Over the past day or two how often have you had the thought that you wanted to die? A little? Quite often? a lot? When you have wished for death, how strong has the desire been? Weak? Moderately strong? Very strong?)		
None - no current wish to die, hasn't had any thought about wanting to die.	O	0
Weak - unsure about whether he/she wants to die, seldom thinks about death, or intensity seems low.	O	1
Moderate - current desire to die, may be preoccupied with ideas about death, or intensity seems greater than a rating of 1.	O	2
Strong - current death wish, high frequency or high intensity during the past day or two.	O	3

2. Wish to Live		
Over the past day or two have you thought that you want to live? Do you care if you live or die? (If the patient wants to live ask: Over the past day or two how often have you thought about wanting to live? A little? Quite often? A lot? How sure are you that you really want to live?)		
Strong - current desire to live, high frequency or high intensity.	O	0
Moderate - current desire to live, thinks about wanting to live quite often, can easily turn his/her thoughts away from death or intensity seems more than a rating of 2.	O	1
Weak - unsure about whether he/she wants to live, occasional thoughts about living or intensity seems low.	O	2
None - patient has no wish to live.	O	3

3. Desire to Make an Active Suicide Attempt		
Over the past day or two when you have thought about suicide did you want to kill yourself? How often? A little? Quite often? A lot? Do you want to kill yourself now?		
None - patient may have had thoughts but does not want to make an attempt.	O	0
Weak - patient isn't sure whether he/she wants to make an attempt.	O	1
Moderate - wanted to act on thoughts at least once in the last 48 hours.	O	2
Strong - wanted to act on thoughts several times and/or almost certain he wants to kill self.	O	3

4. Passive Suicide Attempt		
Right now would you deliberately ignore taking care of your health? Do you feel like trying to die by eating too much (too little), drinking too much (too little), or by not taking needed medications? *Have you felt like doing any of these things over the past day or two?* *Over the past day or two, have you thought it might be good to leave life or death to chance, for example, carelessly crossing a busy street, driving recklessly, or even walking alone at night in a rough part of town?*		
None - would take precautions to maintain life.	O	0
Weak - not sure whether he/she would leave life/death to chance, or has thought about gambling with fate at least once in the last two days.	O	1
Moderate - would leave life/death to chance, almost sure he/she would gamble.	O	2
Strong - avoided steps necessary to maintain or save life, e.g., stopped taking needed medications.	O	3

CUT OFF INSTRUCTIONS:
Item 1 and item 2 are scored less than "2" and Items 3 and 4 are scored 0, then STOP. Otherwise continue with full scale.

5. Duration of Thoughts		
Over the past day or two when you have thought about suicide how long did the thoughts last? Were they fleeting, e.g., a few seconds? *Did they occur for a while, then stop, e.g., a few minutes? Did they occur for longer periods, e.g., an hour at a time? Is it to the point where you can't seem to get them out of your mind?*		
Brief - fleeting periods.	O	0
Short duration - several minutes.	O	1
Longer - an hour of more.	O	2
Almost continuous - patient finds it hard to turn attention away from suicidal thoughts, can't seem to get them out of his/her mind.	O	3

6. Frequency of Ideation		
Over the last day or two how often have you thought about suicide? Once a day? Once an hour? More than that? All the time?		
Rare - once in the past 48 hours.	O	0
Low frequency - twice or more over the last 48 hours.	O	1
Intermittent - approximately every hour	O	2
Persistent - several times an hour.	O	3

7. Intensity of Thoughts		
Over the past day or two, when you have thought about suicide, have they been intense (powerful)? How intense have they been? Weak? Somewhat strong? Moderately strong? Very strong?		
Very weak.	O	0
Weak.	O	1
Moderate.	O	2
Strong.	O	3

8. Distress Over Thoughts		
How do you feel about the fact that you think about suicide? *Are you distressed, upset or frightened by your suicidal thoughts?* *Over the past day or two has there been any time when you have felt upset or frightened about your suicidal thoughts?*		
Not distressed.	O	0
Not sure, or minimal distress.	O	1
Quite distressed.	O	2
Very distressed.	O	3

9. Control Over Suicidal Thoughts		
How much control do you have over your suicidal thoughts? Do the thoughts keep coming back even when you try not to have them? Can you stop thinking about suicide if you decide to or do the thoughts seem to reoccur against your will?		
Complete control, can stop thoughts.	O	0
Moderate control, sometimes able to stop thoughts.	O	1
Little control, rarely successful in stopping thoughts or can only stop thoughts for brief periods of time.	O	2
No control, thoughts are experienced as completely involuntary.	O	3

10. Congruence of Suicidal Thoughts		
Does thinking about suicide make sense to you at this time? Do these thoughts fit with who you think you are and how you feel right now? How compatible are your thoughts about suicide with your other thoughts and feelings? Do you feel these suicidal thoughts are part of you or are do they feel foreign and external?		
Highly congruent, patient welcomes suicidal thoughts	O	0
Moderately congruent, thoughts are not welcomed but experienced as congruent with other thinking and feelings	O	1
Somewhat incongruent, suicidal thoughts are experienced as incongruent with other thoughts and feelings	O	2
Highly incongruent, suicidal thoughts are experienced as unwanted, senseless and ego dystonic	O	3

11. Resistance Against Suicidal Thoughts		
How much of an effort do you make to resist the suicidal thoughts? Do you try to disregard them or put these thoughts out of your mind? What kinds of things do you try to get rid of the thoughts? How often do you attempt to resist the thoughts?		
Strong resistance, patient always resists	O	0
Moderate resistance, tries to resist most of the time, but occasionally does not	O	1
Mild resistance, makes some effort to resist thoughts, or makes effort on sporadic occasions	O	2
No resistance, patient never tries to resist or control thoughts	O	3

12. Control Over Suicidal Behaviors		
Over the past two days have you felt forced to act upon your suicidal thoughts? Over the last two days have your felt that you are getting closer and closer to committing suicide? *Right now, are you afraid that you will lose control or do something you don't want to do?*		
Sense of control - does not and has not felt compelled to act upon thoughts during last 48 hours	O	0
Moderate sense of control-feels has some control	O	1
Unsure of control - feels that suicidal thoughts may drive him/her to do something but isn't sure	O	2
Lack of control - feels compelled to act on suicidal thoughts, almost against his/her will, has no sense of control.	O	3

13. Deterrent to Active Attempt		
Can you think of anything that would keep you from killing yourself? (Your religion, consequences for your family, chance that you may injure yourself seriously if unsuccessful).		
Definite deterrent - wouldn't attempt suicide because of deterrents. Patient must name one deterrent.	O	0
Probable deterrent - can name at least one deterrent, but does not definitely rule out suicide.	O	1
Questionable deterrent - patient has trouble naming any deterrents, seems focused on the advantages to suicide, minimal concern over deterrents.	O	2
No deterrents - no concern over consequences to self or others.	O	3

14. Reasons for Living and Dying		
Right now can you think of any reasons why you should stay alive? What about over the past day or two? Over the past day or two have you thought that there are things happening in your life that make you want to die? (lf the patient says there are clear reasons for living and dying, ask what they are and write them verbatim in the section provided. Ask the remaining the questions)		
Living **Dying**		
Do you think that your reasons for dying are better than your reasons for living? Would you say that your reasons for living are better than your reasons for dying? Are your reasons for living and dying about equal in strength, 50-50?		
Patient has no reasons for dying, never occurred to him/her to weigh reasons.	O	0
Has reasons for living <u>and</u> occasionally has thought about reasons for dying.	O	1
Not sure about which reasons are more powerful, living and dying are about equal, or those for dying slightly outweigh those for living.	O	2
Reasons for dying strongly outweigh those for living, can't think of any reasons for living.	O	3

Method
Over the last day or two have you been thinking about a way to kill yourself, the method you might use? *Do you know where to get these materials?* *Have you thought about jumping from a high place? Where would you jump?* *Have you thought about using a car to kill yourself? Your own? Someone else's? What highway or road would you use?* *When would you try to kill yourself? Is there a special event (e.g., anniversary, birthday with which you would like to associate your suicide?* *Have you thought of any other ways you might kill yourself? (note details verbatim).*

15. Degree of Specificity/Planning		
Not considered, method not thought about.	O	0
Minimal consideration.	O	1
Moderate consideration.	O	2
Details worked out, plans well formulated.	O	3

16. Violence of Method		
No method considered.	O	0
Nonviolent method – i.e. drug overdose.	O	1
Moderately violent method – i.e. drowning, wrist cutting, gas.	O	2
Violent method – i.e. guns, hanging, car crash, stabbing	O	3

17. Method: Availability/Opportunity		
Over the past day or two have you thought methods are available to you to commit suicide? Would it take time/effort to create an opportunity to kill yourself? *Do you foresee opportunities being available to you in the near future (e.g., leaving hospital)?*		
Method not available, no opportunity.	O	0
Method would take time/effort, opportunity not readily available, e.g., would have to purchase poisons, get prescription, borrow or buy a gun.	O	1
Future opportunity or availability anticipated - if in hospital when patient got home, pills or gun available.	O	2
Method/opportunity available - pills gun, car available, patient may have selected a specific time.	O	3

18. Patient's Perceived Lethality of Chosen Method		
If you (insert chosen method, e.g. took all your pills), what would be the likelihood that you would die? What would be the odds that you would live? or die?		
Low perceived lethality - patient believes that he/she would have almost no chance of dying if made an attempt (less than 25% chance of dying)	O	0
Mild perceived lethality - patient believes that it would be possible but not probable that he/she would die (25-50%)	O	1
Moderate perceived lethality - patient believes that he/she would be likely but not certain to die (50-75%)	O	2
High perceived lethality - patient believes that he/she would almost certainly die if an attempt was made (75% or greater)	O	3

19. Objective Medical Lethality – (should be rated by M.D.)		
Low - death would be unlikely	O	0
Mild - death would be possible but not likely	O	1
Moderate - death would be likely but not certain	O	2
High - death would be almost certain	O	3

20. Sense of Courage to Carry Out Attempt		
Do you think you have the courage to commit suicide?		
No courage – too weak/afraid.	O	0
Unsure of courage.	O	1
Quite sure.	O	2
Very sure.	O	3

21. Competence		
Do you think you have the ability to carry out your suicide? *Can you carry out the necessary steps to insure a successful suicide?* *How convinced are you that you would be effective in bringing an end to your life?*		
Not competent.	O	0
Unsure.	O	1
Somewhat sure.	O	2
Convinced that he/she can do it.	O	3

22. Expectancy of Actual Attempt		
Over the last day or two have you thought that suicide is something you really might do sometime? Right now what are the chances you would try to kill yourself if left along to your own devices? Would you say the chances are less than 50%? About equal? More than 50%?		
Patient says he/she definitely would not make an attempt.	O	0
Unsure - might make an attempt but chances are less than 50% or about equal, 50-50.	O	1
Almost certain - chances are greater than 50% that he/she would try to commit suicide?	O	2
Certain - patient will make an attempt if left by self (i.e., if not in hospital or not watched).	O	3

23. Talk about Death/Suicide		
Over the last day or two have you noticed yourself talking about death more than usual? Can you recall whether or not you spoke to anybody, even jokingly, that you might welcome death or try to kill yourself! Have you confided in a close friend, religious person, or professional? helper that you intend to commit suicide?		
No talk of death/suicide.	O	0
Talked about death more than usual but no specific mention of death wish. May have alluded to suicide using humor.	O	1
Specifically said that he/she wants to die.	O	2
Confided that he/she plans to commit suicide.	O	3

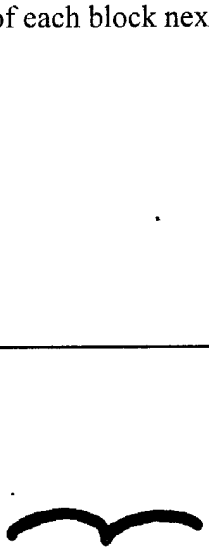
24. Writing about Death/Suicide		
Have you written about death/suicide e.g. poetry, in a personal diary?		
No written material.	O	0
General comments regarding death.	O	1
Specific reference to death wish.	O	2
Specific reference to plans for suicide.	O	3

25. Suicide Note		
Over the last 48hrs have you thought about leaving a note or writing a letter to somebody about your suicide? Do you know what you'd say? Who would you leave it for? Have you written itt yet? Where did you leave it?		
None - hasn't thought about a suicide note.	O	0
"Mental note" - has thought about a suicide note, those he/she might give it to, possibly worked out general themes which would be put in the note (e.g., being a burden to others, etc.)	O	1
Started - suicide note partially written, may have misplaced it.	O	2
Completed note - written out, definite plans about content, addressee.	O	3

26. Actual Preparation		
Over the past day or two have you actually done anything to prepare for your suicide, e.g., collected material, pills, guns, etc.?		
None - no preparation.	O	0
Probable preparation - patient not sure, may have started to collect materials.	O	1
Partial preparation - definitely started to organize method of suicide.	O	2
Complete - has pills, gun, or other devices that he needs to kill self.	O	3

Activity 2. PICTURE COMPLETION

By adding lines to the incomplete figures on this and the next page, you can sketch some interesting objects or pictures. Again, try to think of some picture or object that no one else will think of. Try to make it tell as complete and as interesting a story as you can by adding to and building up your first idea. Make up an interesting title for each of your drawings and write it at the bottom of each block next to the number of the figure.

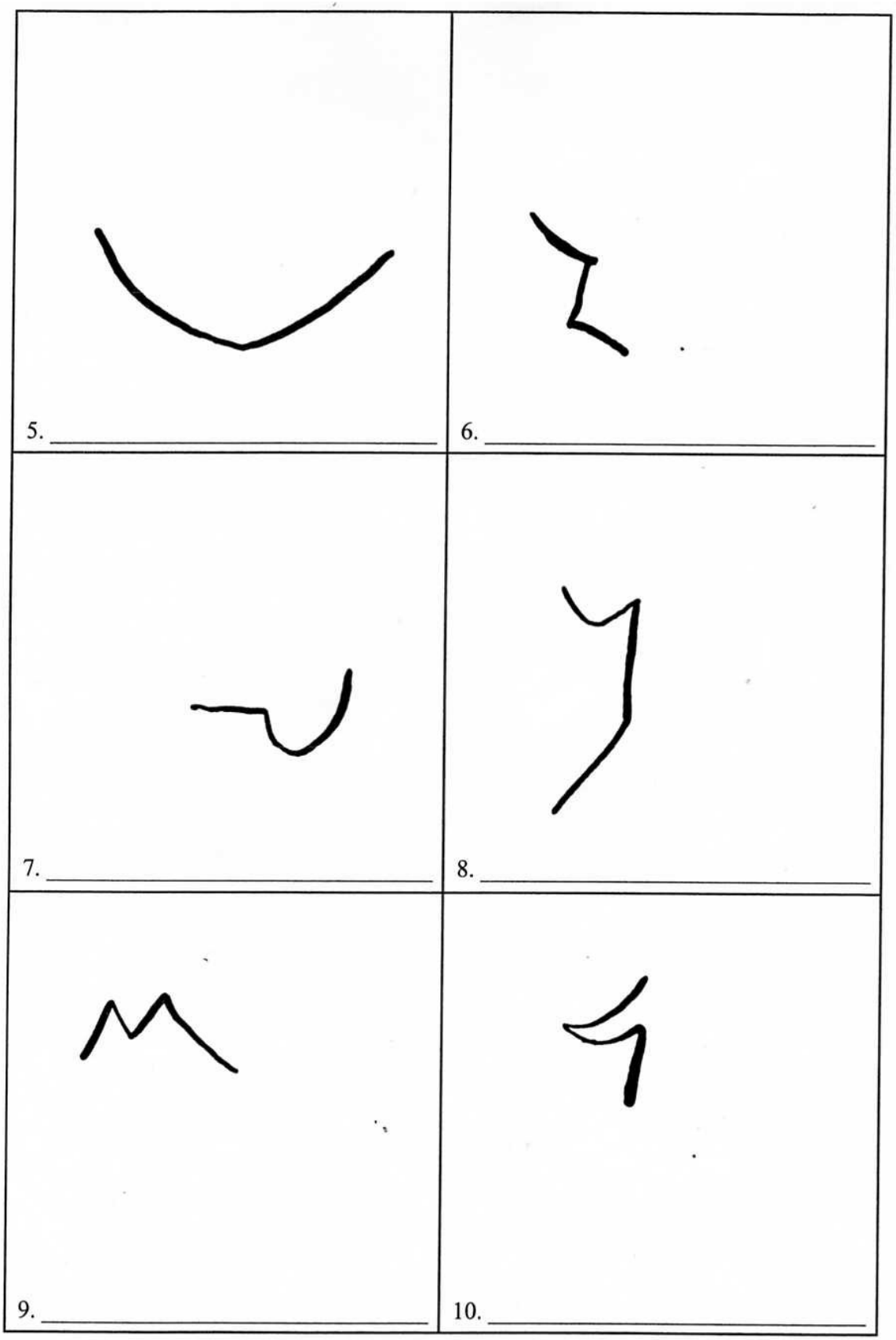


1. _____

2. _____

3. _____

4. _____



5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

DEPRESSION SCREENING TEST

Check the one response to each item that best describes you for the past seven days.

During the past seven days…

1. Falling Asleep:	I never take longer than 30 minutes to fall asleep.	O	0
	I take at least 30 minutes to fall asleep, less than half the time.	O	1
	I take at least 30 minutes to fall asleep, more than half the time.	O	2
	I take more than 60 minutes to fall asleep, more than half the time.	O	3
2. Sleep During the Night:	I do not wake up at night.	O	0
	I have a restless, light sleep with a few brief awakenings each night.	O	1
	I wake up at least once a night, but I go back to sleep easily.	O	2
	I awaken more than once a night and stay awake for 20 minutes or more, more than half the time.	O	3
3. Waking Up Too Early:	Most of the time, I awaken no more than 30 minutes before I need to get up.	O	0
	More than half the time, I awaken more than 30 minutes before I need to get up.	O	1
	I almost always awaken at least one hour or so before I need to, but I go back to sleep eventually.	O	2
	I awaken at least one hour before I need to, and can't go back to sleep.	O	3

During the past seven days…

4. Sleeping Too Much:	I sleep no longer than 7-8 hours/night, without napping during the day.	O	0
	I sleep no longer than 10 hours in a 24-hour period including naps.	O	1
	I sleep no longer than 12 hours in a 24-hour period including naps.	O	2
	I sleep longer than 12 hours in a 24-hour period including naps.	O	3
5. Feeling Sad:	I do not feel sad.	O	0
	I feel sad less than half the time.	O	1
	I feel sad more than half the time.	O	2
	I feel sad nearly all of the time.	O	3
Please complete either 6 or 7 (not both)			
6. Decreased Appetite:	There is no change in my usual appetite.	O	0
	I eat somewhat less often or lesser amounts of food than usual.	O	1
	I eat much less than usual and only with personal effort.	O	2
	I rarely eat within a 24-hour period and only with extreme personal effort or when others persuade me to eat.	O	3
	-OR-		
7. Increased Appetite:	There is no change from my usual appetite.	O	0
	I feel a need to eat more frequently than usual.	O	1
	I regularly eat more often and/or greater amounts of food than usual.	O	2
	I feel driven to overeat both at mealtime and between meals.	O	3

During the past seven days…

Please complete either 8 or 9 (not both)			
8. Decreased Weight (Within the Last Two Weeks):	I have not had a change in my weight.	O	0
	I feel as if I have had a slight weight loss.	O	1
	I have lost 2 pounds or more.	O	2
	I have lost 5 pounds or more.	O	3
-OR-			
9. Increased Weight (Within the Last Two Weeks):	I have not had a change in my weight.	O	0
	I feel as if I have had a slight weight gain.	O	1
	I have gained 2 pounds or more.	O	2
	I have gained 5 pounds or more.	O	3
10.Concentration/ Decision Making:	There is no change in my usual capacity to concentrate or make decisions	O	0
	I occasionally feel indecisive or find that my attention wanders	O	1
	Most of the time, I struggle to focus my attention or to make decisions.	O	2
	I cannot concentrate well enough to read or cannot make even minor decisions.	O	3
11. View of Myself:	I see myself as equally worthwhile and deserving as other people.	O	0
	I am more self-blaming than usual.	O	1
	I largely believe that I cause problems for others.	O	2
	I think almost constantly about major and minor defects in myself.	O	3

During the past seven days…

12. Thoughts of Death or Suicide:	I do not think of suicide or death.	O	0
	I notice that life is empty or wonder if it's worth living.	O	1
	I think of suicide or death several times a week for several minutes.	O	2
	I think of suicide or death several times a day in some detail, or I have made specific plans for suicide or have actually tried to take my life.	O	3
13. General Interest:	There is no change from usual in how interested I am in other people or activities.	O	0
	I notice that I am less interested in people or activities.	O	1
	I find I have interest in only one or two of my formerly pursued activities.	O	2
	I have virtually no interest in formerly pursued activities.	O	3
14. Energy Level:	There is no change in my usual level of energy.	O	0
	I get tired more easily than usual.	O	1
	I have to make a big effort to start or finish my usual daily activities (for example, shopping, homework, cooking, or going to work).	O	2
	I really cannot carry out most of my usual daily activities because I just don't have the energy.	O	3

During the past seven days…

15. Feeling Slowed Down:	I think, speak, and move at my usual rate of speed.	O	0
	I find that my thinking is slowed down or my voice sounds dull or flat.	O	1
	It takes me several seconds to respond to most questions and I'm sure my thinking is slowed.	O	2
	I am often unable to respond to questions without extreme effort.	O	3
16. Feeling Restless:	I do not feel restless.	O	0
	I'm often fidgety, wringing my hands, or need to shift how I am sitting.	O	1
	I have impulses to move about and quite restless.	O	2
	At times, I am unable to stay seated and need to pace around.	O	3

ADQ

In the past 2 weeks, have you had any alcohol? **NO** **YES**

In the past 2 weeks, how many drinks (*i.e. beer, wine, cocktail*) did you have per week?

Number per week _____

In the past 2 weeks, have you had 3 or more alcoholic drinks within a 3 hour period on more than one occasion? **NO** **YES**

In the last 2 weeks have you ever taken any drugs to get high, to feel better, or to change your mood? **NO** **YES**

In the last 2 weeks what drugs have you ever taken? *(circle all drinks on the list below)*

In the past 2 weeks, how many times did you use (*see list below*) per week?

Number of times per week _____

CIRCLE EACH DRUG TAKEN:
Stimulants: amphetamines, "speed", crystal meth, "rush", Dexedrine, Ritalin, diet pills.
Cocaine: snorting, IV, freebase, crack, "speedball".
Narcotics: heroin, morphine, Dilaudid, opium, Demerol, methadone, codeine, Percodan, Darvon, OxyContin.
Hallucinogens: LSD ("acid"), mescaline, peyote, PCP ("Angel Dust", "peace pill"), psilocybin, STP, "mushrooms", ecstasy, MDA, or MDMA.
Inhalants: "glue", ethyl chloride, nitrous oxide ("laughing gas"), amyl or butyl nitrate ("poppers").
Marijuana: Hashish ("hash"), THC, "pot", "grass", "weed", "reefer"
Tranquilizers: Quaalude, Seconal ("reds"), Valium, Xanax, Librium, Ativan, Dalmane, Halcion, barbiturates, Miltown.
Miscellaneous: steroids, nonprescription sleep or diet pills, GHB. Any others?

Specify MOST USED Drug(s): _____

SEPI – Adult Version (Revised)

		Rarely/Never	Occasionally	Often	Almost Always
1.	The expectations that people have of me are unattainable.	○	○	○	○
2.	My family demands too much of me at this time.	○	○	○	○
3.	Different members of my family want me to do different things.	○	○	○	○
4.	People around me are pressuring me, but I don't know exactly what would make them happy.	○	○	○	○
5.	My family does not treat me with respect.	○	○	○	○
6.	I would have to be a different person in order to make my family happy.	○	○	○	○
7.	If I were well, there would be more stress between my family members.	○	○	○	○
8.	When I am in trouble, my family members are more relaxed.	○	○	○	○
9.	When I solve one problem, another one seems to pop up right away.	○	○	○	○
10.	It is my responsibility to make my family members happy.	○	○	○	○
11.	My family thinks there is something wrong with me, but they don't talk to me about it.	○	○	○	○
12.	My problems make my family feel better about themselves.	○	○	○	○
13.	I have to protect my family from hurting each other.	○	○	○	○
14.	I have very few rights of my own any more.	○	○	○	○
15.	I cannot meet the goals that people have set for me.	○	○	○	○
16.	If I were healthy, my family would actually be more unhappy.	○	○	○	○
17.	The problems I have with my family will never be solved.	○	○	○	○
18.	I am not able to make my own decisions any more.	○	○	○	○
19.	I am in charge of making sure my family members are happy.	○	○	○	○

		Rarely/Never	Occasionally	Often	Almost Always
20.	Most of the big problems in my life will never be fixed.	O	O	O	O
21.	Some of my family members want me to do one thing, while other family members want me to do the opposite.	O	O	O	O
22.	Every time I fix one problem, another one comes up.	O	O	O	O
23.	My family members act like there is something wrong with me, but don't talk to me about it.	O	O	O	O
24.	I have to keep my family members from harming each other.	O	O	O	O
25.	My family is happier when I have problems.	O	O	O	O
26.	I am responsible for making sure that my family members aren't angry with each other.	O	O	O	O
27.	I am carrying a great burden.	O	O	O	O
28.	I am a burden to the people around me.	O	O	O	O
29.	My boss demands too much of me.	O	O	O	O
30.	I cannot satisfy my coworkers.	O	O	O	O
31.	I am under a great deal of stress at work.	O	O	O	O
32.	I have more responsibilities at work than I can handle.	O	O	O	O
33.	Every solution that I come up with causes a new problem.	O	O	O	O
34.	I feel that there is no way to eliminate the trap in which I am caught.	O	O	O	O
35.	Every solution that I have for my problems will still result in great loss to me.	O	O	O	O
36.	I can resolve some of my problems only at great cost to me.	O	O	O	O
	Please answer #37 OR #38				
37.	I cannot live up to the role of husband/father.	O	O	O	O
38.	I cannot live up to the role of wife/mother.	O	O	O	O

SPSI (Revised)

Below are some ways that you might think, feel, and act when faced with problems in everyday living. In this questionnaire, a problem is something important in your life that bothers you a lot, but you don't immediately know to make it better or stop it from bothering you so much. Please read each statement carefully and choose one of the numbers below that best shows how much the statement is true of you.

		Not at all true of me	Slightly true of me	Moderately true of me	Very true of me	Extremely true of me
1.	I feel threatened and afraid when I have an important problem to solve.	○	○	○	○	○
2.	When making decisions, I do not evaluate all my options carefully enough.	○	○	○	○	○
3.	I feel nervous and unsure of myself when I have an important decision to make.	○	○	○	○	○
4.	When my first efforts to solve a problem fail, I know if I persist and do not give up too easily, I will eventually find a good solution.	○	○	○	○	○
5.	When I have a problem, I try to see it as a challenge, or opportunity to benefit in some positive way from having the problem.	○	○	○	○	○
6.	I wait to see if a problem will resolve itself first, before trying to solve it myself.	○	○	○	○	○
7.	When my first efforts to solve a problem fail, I get very frustrated.	○	○	○	○	○
8.	When I am faced with a difficult problem, I doubt that I will be able to solve it on my own no matter how hard I try.	○	○	○	○	○
9.	Whenever I have a problem, I believe that it can be solved.	○	○	○	○	○
10.	I go out of my way to avoid having to deal with problems in my life.	○	○	○	○	○
11.	Difficult problems make me very upset.	○	○	○	○	○
12.	When I have a decision to make, I try to predict the positive and negative consequences of each action.	○	○	○	○	○
13.	When problems occur in my life, I like to deal with them as soon as possible.	○	○	○	○	○
14.	When I am trying to solve a problem, I go with the first good idea that comes to mind.	○	○	○	○	○
15.	When I am faced with a difficult problem, I believe that I will be able to solve it on my own if I try hard enough.	○	○	○	○	○

		Not at all true of me	Slightly true of me	Moderately true of me	Very true of me	Extremely true of me
16.	When I have a problem to solve, one of the first things I do is get as many facts about the problem as possible.	O	O	O	O	O
17.	When a problem occurs in my life, I put off trying to solve it for as long as possible.	O	O	O	O	O
18.	I spend more time avoiding my problems than solving them.	O	O	O	O	O
19.	Before I try to solve a problem, I set a specific goal so that I know exactly what I want to accomplish.	O	O	O	O	O
20.	When I have a decision to make, I do not take the time to consider the pros and cons of each option.	O	O	O	O	O
21.	After carrying out a solution to a problem, I try to evaluate as carefully as possible how much the situation has changed for the better.	O	O	O	O	O
22.	I put off solving problems until t is too late to do anything about them.	O	O	O	O	O
23.	When I am trying to solve a problem, I think of as many options as possible until I cannot come up with any more ideas.	O	O	O	O	O
24.	When making decisions, I go with my "gut feeling" without thinking too much about the consequences of each option.	O	O	O	O	O
25.	I am too impulsive when it comes to making decisions.	O	O	O	O	O

BECK

1.	I look forward to the future with hope and enthusiasm.	***TRUE***	FALSE
2.	I might as well give up because I can't make things better for myself.	**TRUE**	**FALSE**
3.	When things are going badly, I am helped by knowing they can't stay that way forever.	**TRUE**	**FALSE**
4.	I can't imagine what my life would be like in 10 years.	**TRUE**	**FALSE**
5.	I have enough time to accomplish the things I most want to do.	**TRUE**	**FALSE**
6.	In the future, I expect to succeed in what concerns me most.	**TRUE**	**FALSE**
7.	My future seems dark to me.	**TRUE**	**FALSE**
8.	I expect to get more of the good things in life than the average person.	**TRUE**	**FALSE**
9.	I just don't get breaks, and there's no reason to believe I will in the future.	**TRUE**	**FALSE**
10.	My past experiences have prepared me well for my future.	**TRUE**	**FALSE**
11.	All I can see ahead of me is unpleasantness rather than pleasantness.	**TRUE**	**FALSE**
12.	I don't expect to get what I really want.	**TRUE**	**FALSE**
13.	When I look ahead to the future, I expect I will be happier than I am now.	**TRUE**	**FALSE**
14.	Things just won't work out the way I want them to.	**TRUE**	**FALSE**
15.	I have great faith in the future.	**TRUE**	**FALSE**
16.	I never get what I want so it's foolish to want anything.	**TRUE**	**FALSE**
17.	It is very unlikely that I will get any real satisfaction in the future.	**TRUE**	**FALSE**
18.	The future seems vague and uncertain to me.	**TRUE**	**FALSE**
19.	I can look forward to more good times than bad times.	**TRUE**	**FALSE**
20.	There's no use in really trying to get something I want because I probably won't get it.	**TRUE**	**FALSE**

SCS-Revised

Instructions: The following 20 statements are intended to assess your beliefs about your current problems. Please read each statement carefully and circle the number that best describes you right now. How **you feel right now**. Remember to rate each item and circle only one number for each item.

Item		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
21.	The world would be better off without me.	1	2	3	4	5
22.	Suicide is the only way to solve my problems.	1	2	3	4	5
23.	I can't stand this pain any more.	1	2	3	4	5
24.	I am an unnecessary burden to my family.	1	2	3	4	5
25.	I've never been successful at anything.	1	2	3	4	5
26.	I can't tolerate being this upset any longer.	1	2	3	4	5
27.	I can never be forgiven for the mistakes I have made.	1	2	3	4	5
28.	No one can help solve my problems.	1	2	3	4	5
29.	It is unbearable when I get this upset.	1	2	3	4	5
30.	I am completely unworthy of love.	1	2	3	4	5
31.	Nothing can help solve my problems.	1	2	3	4	5
32.	It is impossible to describe how badly I feel.	1	2	3	4	5
33.	I have driven away everyone in my life.	1	2	3	4	5
34.	I can't cope with my problems any longer.	1	2	3	4	5
35.	I can't imagine anyone being able to withstand this kind of pain.	1	2	3	4	5
36.	There is nothing redeeming about me.	1	2	3	4	5
37.	Suicide is the only way to end this pain.	1	2	3	4	5
38.	I don't deserve to live another moment.	1	2	3	4	5
39.	I would rather die no than feel this unbearable pain.	1	2	3	4	5
40.	No one is as loathsome as me.	1	2	3	4	5

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