An Empirical Study of Seriously Disturbed Suicidal Patients

J. Christopher Fowler, Mark J. Hilsenroth and Craig Piers

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AN EMPIRICAL STUDY OF SERIOUSLY DISTURBED SUICIDAL PATIENTS

Aspects of unconscious processes in a group of seriously disturbed psychiatric patients are examined in an effort to predict near-lethal suicide attempts and explore psychoanalytic formulations of suicide. The Rorschach Inkblot Test, the most widely used projective measure in suicide research (Bongar 1991), was chosen for its potential to shed light on specific unconscious processes. Psychic states commonly associated with suicide were measured by psychoanalytic Rorschach analog scales and then subjected to a progression of statistical analyses in order to predict future occurrence and lethality of suicide attempts. On the basis of a priori hypotheses, the authors developed a suicide index comprising four psychoanalytic Rorschach signs that predicted, with considerable accuracy, which patients would later make near-lethal suicide attempts. The best predictors were unconscious processes indicative of penetrating affective overstimulation, disturbance in the capacity to maintain adequate ego boundaries, and depressive affective states characterized by a morbid preoccupation with death and inner decay. These findings provide empirical support for several well-known formulations of the unconscious motivations for suicide.

Undertaking the treatment of suicidal patients, whether in residential treatment or in outpatient psychoanalysis, is perhaps the ultimate challenge to the clinician's ability to bear the weight of professional responsibility. Therapists must contend with the fantasied and real loss of the patient (Buie 1981) and must consider when an interpretive approach should be supplemented with a locked hospital treatment, all

J. Christopher Fowler is a Clinical Research Associate at the Austen Riggs Center, Stockbridge, MA. Mark J. Hilsenroth is Assistant Professor of Psychology, University of Arkansas, and a research consultant for both the Austen Riggs Center and the Veterans Affairs Medical Center, Mountain Home, TN. Craig Piers is Assistant Director of Admissions and a staff psychologist at the Austen Riggs Center.

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the while managing and metabolizing powerful countertransference reactions (Maltsberger and Buie 1973). When a patient successfully commits suicide, the clinician is left to confront his or her limitations as a therapist (Havens 1965) and must reconstruct the antecedents and clues that may have presaged suicide. Similarly, clinicians who are shocked by a patient's near-lethal suicide attempt must grapple with the question of why the patient made the attempt and whether he or she is at risk for another. These questions arise all too frequently when working with depressed character-disordered and psychotic patients, whether in residential treatment settings and in outpatient psychotherapy.

Part of a larger study of suicidal and self-destructive behaviors, the current investigation was an effort to assess relative suicide risk in a population of hospitalized patients and to gain further understanding into the motivations and psychological precipitants underlying serious suicide attempts. An earlier study (Fowler et al. in press) examined the efficacy of a well-known Rorschach scale, the Suicide Constellation (S-CON; Exner 1993). While the S-CON demonstrated considerable predictive validity of near-lethal suicide, it could not address the underlying unconscious states that place patients at risk. The current investigation was therefore designed to address this issue, as well as to assess the viability of a new scale based on psychoanalytic formulations. While both studies drew from the same hospital population, the current study includes eighteen more subjects. The subject overlap between the two studies should not pose a significant problem, in light of the fact that both were undertaken simultaneously and that the hypotheses, scoring, and procedures were formulated at the same time.

The present article examines conscious and unconscious psychic phenomena, manifest in the patients' Rorschach protocols, in an effort to understand some of the intrapsychic risk factors for suicide. As it is impossible to assess all psychoanalytic formulations of suicide in a single study, attention was directed to observations and hypotheses susceptible to testing using Rorschach analogs. The second aim of this study was to examine the efficacy of psychoanalytic Rorschach signs in accurately predicting which seriously disturbed psychiatric patients would later engage in life-threatening suicide attempts within sixty days following Rorschach administration.

Efforts to understand the mechanisms and motivations of suicide are of great heuristic and practical value to clinicians, but are complicated by the fact that suicide is a complex behavior influenced by a

myriad of intrapsychic, interpersonal, environmental, and cultural factors (Kubie 1964; Litman 1970; Maltsberger 1992). Further, our capacity to perceive, distill, and measure the crucial factors promoting suicide is often limited by current methods of analysis and the degree to which others can replicate observations and findings. And still other problems arise in the study of suicide. By its nature, suicide is most often studied retrospectively, forcing clinicians and researchers to use reconstructive methodologies. As valuable as these approaches are, some aspects of affective and ideational life cannot accurately be re-created. Patients who have attempted and failed at suicide often experience sudden relief from the internal pressures that drove them to the act, a fact potentially limiting the validity of reconstructive methods (Farberow 1950; Maltsberger and Buie 1980; Menninger 1933; Novik 1984; Zilboorg 1975). Prospective studies assessing multiple psychological factors within sixty days of a serious suicide attempt may hold greater promise for clinicians and their patients, both in understanding the precipitants of suicide and in taking preventive measures.

Several generations of analysts have observed specific psychic states in their clinical work that appear to be associated with patient risk for suicide. These include depressive experiences of hopelessness and murderous rage directed at the self (Freud 1917; Havens 1965; Maltsberger and Buie 1980), punitive superego phenomena (Asch 1980; Blatt 1995; Fenichel 1945; Menninger 1933), boundary confusion that promotes fantasies of killing off hated parts of the self, and omnipotent fantasies of reuniting with a lost love object (Asch 1980; Lewin 1950; Maltsberger and Buie 1980; Menninger 1933).

DEPRESSION AND SELF-HATE

In "Mourning and Melancholia" Freud (1917) concluded that the loss of an ambivalently held narcissistic object leads to the creation of an unconscious identification with that object such that aspects of the ego are split off and come to represent the object. In turn, aggressive feelings toward the lost object are directed against the split-off aspect that now serves as a stand-in for the object. The outcome of this pathological identification is an unconscious confusion of self and object in which reproach and hostile feelings are directed against the self, giving rise to the depressed individual's expressed guilt, self-loathing, and self-destructive fantasies. A later reformulation of the pathological

identification in mourning took into account Freud's structural model of id, ego, and superego to explain the phenomenon of aggression against the self. Fenichel (1945) concluded that introjected aggression toward the original love object is enlisted by the superego, fueling attacks on the ego. In this formulation the superego, altered by depression, mounts a relentless attack on the ego. Guilt, self-reproach, and self-hatred are then viewed as a conflict between a punitive superego and a depleted ego: "In melancholia it seems as if the main emphasis of the personality has been shifted from the ego to the superego. The patient's conscience represents his total personality; the ego altered by the introjection is the mere object of this conscience and is entirely subdued by it" (Fenichel 1945, p. 398). From the perspective of the ego, fantasies of death might be viewed as a peaceful respite from the unremitting sadism of the superego.

Generations of analysts following Freud found in their case studies ample evidence for depressed and suicidal patients' self-attacks originating in the loss of a significant object tie (Asch 1980; Fenichel 1945; Havens 1965; Maltsberger and Buie 1980; Menninger 1933). Several large-scale empirical studies also confirmed the importance that depressive affects play in suicide. For example, Beck and colleagues (Beck et al. 1985; Brown et al. 2000) found that hopelessness and severity of depression are highly predictive of suicide. Chance et al. (1996) found that patients who had made a suicide attempt suffered more severe depressive symptoms and scored higher on measures of self-directed anger and guilt than did a group of nonsuicidal patients, suggestive of both depression and superego pathology in the former. In a follow-up to that study, Kaslow et al. (1998) found that patients who had made a recent suicide attempt were more likely than nonsuicidal patients to report a history of childhood loss combined with a recent loss in adulthood, thus supporting the link between object loss and suicide risk. And in a prospective study of completed suicides, Exner (1993) found patients excessively preoccupied with morbid images of death and decay prior to their suicide; such images were found to be moderately predictive of that outcome.

In clinical encounters with suicidal and depressed patients, self-hatred and sadistic superego phenomena are commonly reflected in fantasies of inner depletion, worthlessness, and hopelessness and in convictions of inner decay. It is hypothesized that both self-directed hate and fantasies of death will be reflected in Rorschach responses. Morbid

images of dead, damaged, decaying, and injured objects (Exner 1993; Schafer 1954) may best capture representations of the self as damaged, depleted, and attacked, all of which may be related to experiences of self-hatred, despair, and hopelessness. The morbid response is one element of the Suicide Constellation (Exner 1993) and has been empirically associated with completed and attempted suicides (Affra 1982; Exner 1993; Silberg and Armstrong 1992). A high number of morbid responses have also been linked to the presence of major depression (Exner 1993). The morbid response has therefore been chosen to assess the experience of despair and hopelessness associated with self-hatred.

BOUNDARY DISTURBANCE

According to Freud's formulation of complicated mourning, unconscious identification with the lost object creates a fundamental disturbance in the coherence and stability of the ego. As Freud (1917) observed, "We see how in him one part of the ego sets itself over and against the other, judges it critically and, as it were, takes it as its object. Our suspicion that the critical agency which is here split off from the ego might also show its independence in other circumstances will be affirmed by every further observation" (p. 247). If this process takes place in severely disturbed patients whose ego boundaries are vulnerable to fragmentation, the outcome will likely entail further boundary confusion and ego weakness. In more disturbed psychiatric patients, the onset of major depression may further erode the patient's capacity to maintain self-other boundary distinctions.

Later analysts (Asch 1980; Maltsberger and Buie 1980; Menninger 1933; Lewin 1950) found evidence for boundary disturbance and confusion of self and objects in their more disturbed patients' reactions to loss. Maltsberger and Buie, for example, point to early failures in identifications and internalization that result in ego deficits, leaving these individuals vulnerable to overwhelming feelings of loneliness, hopelessness, and worthlessness. These more disturbed patients have not achieved solid self-integration and suffer a kind of split inner existence. Maltsberger and Buie have observed that the weak and helpless aspect of the self feels victimized by a sadistic inner presence—one that may become so hateful and contemptuous of the weaker aspects that it demands an execution. Together with Asch (1980), these authors emphasize the heuristic value of formulating such sadistic self-attacks

as split-off self-representations, as opposed to emphasizing superego phenomena. They acknowledge, however, the fact that these split self-representations incorporate aspects of superego phenomena. For these seriously disturbed suicidal patients, death may represent fulfillment of a wish to destroy hated parts of the self while remaining intact and alive. Still other analysts have observed in patients suffering from self-other boundary confusion a tendency toward suicide fantasies of transcendent fusion with a lost object. These fantasies often incorporate elements of transcending the limitations of human existence by surviving suicide and being fused with an all-powerful other (Asch 1980; Lewin 1950; Maltsberger and Buie 1980; Roth and Blatt 1974; Zilboorg 1936). While the formulation of boundary disturbance may not apply to suicidal patients suffering from neurotic conditions, Maltsberger (1992) believes that such boundary disturbance is common in character-disordered patients who are suicidal.

The conceptual and empirical link between boundary disturbance and suicide has been explored with transparency and cross-section responses on the Rorschach. Roth and Blatt (1974) interpreted transparency images in dreams and Rorschach responses as representing failures in maintaining ego boundaries, particularly spatial boundaries. Their analysis of Rorschach and manifest dream content revealed that transparent objects were associated with suicide risk. Blatt and Ritzler (1974) confirmed this when they found a significantly higher number of transparency and cross-section responses in the Rorschach protocols of patients who had committed suicide. It may be that these responses indicate ego weakness and boundary disturbance particularly associated with suicide potential. For the purposes of this study, transparency and cross-section responses were considered representative of boundary confusion and were expected to be found more frequently in the records of patients who went on to attempt suicide.

AFFECT REGULATION

Finally, inadequate affect regulation and the incapacity to mount adequate defenses against overwhelming psychological conflict and pain may leave depressed patients particularly vulnerable to suicide as a means of gaining relief. According to Maltsberger (1992), the driving force behind almost every suicide, clinically speaking, is mental pain (p. 37). Prominent in Malstberger's assessment of suicidal patients

is the capacity to defend against narcissistic injury and to cope effectively with what he calls the lethal affects of self-hatred, aloneness, and murderous hate. When patients lack the resources to defend against these emotions, he concludes, the risk of suicide is alarmingly high. After decades of studying the precipitants and risk factors for suicide, Shneidman (1993) has come to a similar conclusion: "As I near the end of my career in suicidology, I think I can now say what has been on my mind in as few as five words: *Suicide is caused by psychache.* Psychache refers to the hurt, anguish, soreness, aching, psychological *pain* in the psyche, the mind. It is intrinsically psychological—the pain of excessively felt shame, or guilt, or humiliation, or loneliness, or fear, or angst, or dread of growing old or of dying badly, or whatever" (p. 145).

While there are various Rorschach indicators that assess the relative degree of a patient's capacity to modulate and regulate affective experience, the color-shading blend may be the most robust indicator of the failure to cope effectively with painful affect. Applebaum (Applebaum and Colson 1968; Applebaum and Holtzman 1962) hypothesized that patients' use of shading to create an image within the colored areas of the Rorschach blot reflects an immersion in affective experiences, with little capacity to erect defenses to dampen the level of affective arousal. When distressed, such patients may become so immersed in the immediate experience that they become emotionally overwhelmed and lose sight of the fact that their current affective state will not last forever (Applebaum and Holtzman 1962). If the color-shading blend functions as an analog to such affective experiences, it may serve as a powerful predictor of suicide attempts. In fact, several studies have explored the prediction of suicide using the color-shading blend as the sole predictor (Applebaum and Colson 1968; Applebaum and Holtzman 1962; Hansell et al. 1988) or as a component of the Suicide Constellation (Affra 1982; Exner 1993; Exner and Wiley 1977; Silberg and Armstrong 1992). The fact that the color-shading blend has predicted later completed suicides in some studies is a promising finding that will be explored further in this study.

By translating these clinical formulations into quantifiable data from the Rorschach protocols, we hope to test their relative merits in predicting suicidal activity. To provide a balanced and viable empirical test of psychoanalytic formulations of suicide, it was necessary to assess (1) the reliability of the lethality ratings made in classifying

patients into near-lethal, parasuicidal, and nonsuicidal groups; (2) the reliability of ratings of the Rorschach variables under investigation; (3) the capacity of individual psychodynamic Rorschach variables to distinguish psychiatric inpatients who later engage in near-lethal suicide attempts from both "parasuicidal" patients and those with no current history of suicidal activity; (4) the relative ability of a composite index, as compared to demographic, psychiatric, and Rorschach scales, in predicting lethality; and (5) the clinical efficacy of a composite index in correctly predicting which individuals will later engage in near-lethal suicidal behavior.

METHOD

Sampling and Group Classification

Once masked to disguise patient identity, all available patient records were then downloaded from the Austen Riggs database. These electronic files contained patient identification numbers, diagnostic codes, reports of all suicidal and self-destructive behavior, and detailed descriptions of suicidal behavior and any medical procedures performed in response to it, including emergency medical transfers. The initial sample consisted of all 287 patients admitted to the Austen Riggs Center from January 1993 to March 1999.

To create a reliable database, the initial sample was reduced through the use of several parameters. Patients with a length of stay less than six months who had not engaged in self-destructive behavior (n = 68) were excluded from the study as providing an inadequate sampling of behavior. An additional 55 subjects were excluded because their medical records and Rorschach protocols were incomplete or illegible, or because their suicidal behavior took place sixty days or more beyond administration of the Rorschach. The final sample of 122 adult inpatients consisted of 8 males and 114 females with a mean age at admission of 29.16 years (SD = 9.9). The average number of years of education completed by the patients was 14.6 (SD = 1.84). One hundred seven patients were single, ten were married and five were widowed or divorced.

Before the Rorschach protocols were scored, behavioral records were classified into three groups: nonsuicidal (clinical control), parasuicidal, and near-lethal suicidal. This blind analysis ensures that ratings for lethality were made without bias from Rorschach data. Criteria for

inclusion in the nonsuicidal group were no suicidal activity during index hospitalization, length of stay of six months or more, a complete Rorschach protocol, and a minimum age of eighteen years. Criteria for discriminating between parasuicidal and near-lethal suicidal patients were determined by rating the nursing reports of self-destructive behavior. The methodology used for categorization of patients into these two groups is similar to the Lethality of Suicide Attempt Rating Scale (LSARS; Smith, Conroy, and Ehler 1991), but differs in that our discriminations were dichotomous, while the LSARS makes finer discriminations. While this method required an integration of complex data, the clarity of the medical records made ratings of suicidal activity relatively straightforward. Assessments were based on a thorough evaluation of (1) actual suicidal behavior (ingesting toxins, drowning, hanging, cutting, etc.), (2) the likelihood of an attempt being interrupted by anyone (from timing the attempt so it can easily be interrupted, to ensuring that no interruption can take place), and (3) relative lethality of drug overdoses based on an extensive list of drugs and their relative lethality. Behaviors such as minor drug overdoses (10 mg of Ativan, mixed with alcohol) or self-inflicted lacerations requiring superficial stitches or steri-strips were coded as parasuicidal behavior. By contrast, behaviors such as ingesting 250 Tylenol (500 mg) capsules and deep medial wrist cutting requiring emergency transfer and blood infusions warrant inclusion in the near-lethal group. Independently coded ratings by the first (JCF) and third (CP) authors for all records demonstrated excellent reliability for classification of patients into parasuicidal and near-lethal groups (Kappa = .96). After reliability estimates were established, all disagreements in rating were discussed until consensus was reached between the two raters.

Procedure

The administration and original scoring of Rorschach protocols followed the procedures articulated by Exner (1993). All patients were administered the Rorschach within thirty days of admission. Rorschach protocols used in this study were drawn from an archival search of hospital psychological evaluation files. Rorschach protocols were then scored for morbid, color-shading blend, transparency, and cross-section responses. For the purpose of rater reliability (Weiner 1991), twenty Rorschach protocols were chosen at random and re-scored independently by the third author (CP), who was unaware of the first author's

scores or group assignment. The two sets of scored protocols were compared and Kappa values were calculated for morbid responses (Kappa = .99), color-shading blends (Kappa = .96), transparencies (Kappa = 1.0), and cross-sections (Kappa = 1.0). Rater agreement on scoring the four signs was very high, demonstrating that these psychodynamic Rorschach variables can be reliably scored.

RESULTS

Demographic variables and Rorschach productivity (R) were contrasted across patient groups in order to identify potential confounds or covariates in the prediction of suicidal behavior. Analysis of variance (ANOVA) contrasting the three clinical groups (see Table 1) revealed no significant differences in patient age (F [2, 119] = .03, p = .97), level of education (F [2, 119] = 1.05, p = .35), Full Scale IQ (FSIQ; F [2, 99] = 1.36, p = .26), or Rorschach productivity (R; F [2, 117] = .47, p = .62). The groups were well matched on gender (predominantly female) and marital status (predominantly single, never married). Level of psychopathology at the time of admission was investigated as a confound to the Rorschach findings. Comparisons of clinician-rated global assessment of functioning (GAF) scores were conducted. Average GAF scores for the three groups suggest that these patients were functioning with significant psychological and behavioral impairment at time of admission, yet the analysis demonstrates no significant differences among the three groups (F [2, 119] = .24, p = .79). Because previous research findings linked serious psychological impairment to multiple Axis I and Axis II disorders, contrasts of the total number of Axis I and Axis II disorders were carried out. Patients in this study were diagnosed with four Axis I and II disorders on average, suggestive of pervasive and serious psychological disturbance. Diagnostic characteristics of the sample highlight considerable similarities among the groups. Approximately 97 percent of the patients carried both a Major Depressive Disorder and a Cluster B Axis II disorder. Of these patients, 98 percent were diagnosed with at least three comorbid Axis I disorders. Each group had at least one patient and no more than five patients with a primary diagnosis of schizophrenia; only one patient in the entire sample carried a single Axis I disorder. The fact that there were no significant differences in total number of diagnoses (F [2, 119] = 2.35, p = .10) suggests severity of psychopathology was not a salient predictor or covariant for suicidal behavior.

Table 1. Analysis of Variance across Groups on Demographic Variables

	Non-suicidal (N = 44)		Parasuicidal (N = 41)		Near-lethal (N = 37)		df	F	P
	Mean	SD	Mean	SD	Mean	SD			
Age	29.15	10.61	29.41	10.35	28.89	8.73	2,119	.03	.97
Education	14.85	1.99	14.29	1.84	14.70	1.66	2,119	1.05	.35
FSIQ	110.67	12.28	107.94	13.94	113.31	12.87	2,119	1.36	.26
Rorschach R	25.37	13.75	22.98	9.9	23.22	12.81	2,119	.47	.62
Total # of Diagnoses	3.32	1.06	3.82	1.19	3.81	1.35	2,119	2.35	.10
GAF	39.20	7.73	38.14	6.72	38.31	7.34	2,119	.24	.79

Rorschach R = Total number of Rorschach responses

FSIQ = Wechsler Full Scale IQ

GAF = Global Assessment of Functioning

Table 2. Analysis of Variance across Groups on Rorschach Scores

	Nonsuicidal (N = 44)		Parasuicidal (N = 41)		Near-lethal (N = 37)		df	F	P
	Mean	SD	Mean	SD	Mean	SD			
Morbid	1.5	1.6	2.3	2.0	3.6	2.2	2,119	11.69	.001
Color-Shading Blend	.39	.89	.27	.50	.14	1.1	2,119	15.02	.0001
Cross-Section	.12	.33	.27	.15	.46	1.1	2,119	5.03	.008
Transparency	.15	.42	.34	.53	1.1	1.4	2,119	13.08	.001
Riggs Index	2.1	2.1	2.9	1.9	6.5	3.5	2,119	63.09	.00001

Next, ANOVA models were computed to determine whether patient groups differed on the psychoanalytic Rorschach signs. When analyses revealed significant differences ($p < .05$), post hoc analysis using Tukey's Honestly Significant Difference was calculated to investigate specific differences between groups. Contrasting the clinical groups on total number of morbid responses (see Table 2) revealed significant differences (F [2, 119] = 11.69, p = .001). Post hoc analysis confirmed that the near-lethal group had a significantly higher number of morbid scores than did the parasuicidal and clinical control groups. To determine the magnitude and relative importance of this difference, we calculated the effect size using a formula for Eta (Cohen and Cohen 1983). Eta (η) is a parameter estimate similar to a correlation coefficient derived from the ANOVA model. Cohen and Cohen note that the relative magnitude of correlations is equivalent to small, medium, and large effect sizes (r = .20, .50, and .80 respectively). Estimating the effect size for morbid responses revealed a small to medium effect size (η = .40). The contrasts for color-shading blends (F [2, 119] = 15.02, p = .0001; η = .45), transparency responses (F [2, 119] = 13.08, p = .001; η = .43), and cross-section responses (F [2, 119] = 5.03, p = .008; η = .28) all demonstrated significant differences ranging from small to medium effect sizes. In all cases, patients who later made a near-lethal suicide attempt produced the highest number of responses in each category. A post hoc logistic regression analysis revealed the relative contributions of individual variables in the prediction of near-lethal suicide attempts. All four variables combined to create a viable prediction model of such attempts. Color-shading blends emerged in the first step, followed by transparencies, morbid responses, and cross-sections.

These initial results made it feasible to construct a composite index (the Riggs Index) consisting of the psychoanalytic Rorschach variables. The rationale for creating an index rather than using single Rorschach signs is simple: the statistical instability and lack of statistical power of single variables in predicting any phenomenon has been a major methodological problem for Rorschach studies, including several studies of suicide. In theory, scales with numerous items from a pool of conceptually related items will be more valid and reliable than scales constructed from a single item or a few items from the same pool (Meyer 1996; Nunnally and Burnstein 1994). The Riggs Index was constructed by summing each instance of color-shading blend, transparency, morbid, and cross-sectional responses into a total score. For

example, a Rorschach protocol with two morbid responses, one color-shading blend, two transparencies, and zero cross-section responses would receive a Riggs Index score of five.

Contrasting the three clinical groups on total Riggs Index scores revealed that the near-lethal patients produced scores three times higher than the nonsuicidal and parasuicidal patients (F [2, 119] = 63.09, p = .00001). The effect size for this comparison (η = .59), indicates that the Riggs Index score can account for approximately 60 percent of the variance differentiating the groups. While this finding can be interpreted as evidence that the Riggs Index can differentiate among patient groups with differing levels of suicidal behavior, the critical test of the index's clinical utility is its ability to predict individual patient lethality with distinct cutoff scores.

To assess this ability, we examined the diagnostic efficiency statistics (Kessel and Zimmerman 1993) at scale points greater than or equal to four, five, and six. These comparisons follow a rational progression of determining whether the Riggs Index can differentiate (1) near-lethal suicidal patients from parasuicidal patients and (2) near-lethal patients from nonsuicidal patients. Five statistics were calculated to address these questions: (1) sensitivity—the ability of the index to correctly identify individuals exhibiting near-lethal suicide attempts; (2) specificity—the ability of the index to correctly identify individuals as not having near-lethal suicide risk when no future near-lethal attempts are made; (3) positive predictive power—the probability that an individual has indeed engaged in a near-lethal attempt when the index identifies him/her as having done so; (4) negative predictive power—the probability that an individual has not engaged in a near-lethal attempt when the index identifies him/her as not having done so; and (5) overall correct classification—the overall proportion of near-lethal suicide patients and individuals with no near-lethal suicide attempts correctly classified by the index. Results in Table 3 indicate that a total score of five or greater predicts those patients who later made a near-lethal suicide attempt, as against those who later engaged in parasuicidal activity or no suicidal activity. The overall correct classification rates of 80 percent for near-lethal versus parasuicidal and 81 percent for near-lethal versus nonsuicidal indicate strong predictive validity. A Riggs Index score of five or greater led to an 80 percent true positive rate (positive predictive power) for predicting near-lethal attempts versus parasuicidal activity and 82 percent accuracy for near-lethal

versus nonsuicidal patients. The high negative predictive power (the probability that an individual will not engage in a near-lethal attempt when the Riggs Index score is below five) indicates that few patients are misclassified as serious risks when in reality they are not. These diagnostic efficiency statistics demonstrate that overall the Riggs Index is a strong predictor of which patients are at high risk for making a near-lethal suicide attempt within sixty days following administration of the Rorschach.

With this severely disturbed sample, use of the Riggs Index to predict near-lethal suicide attempts is a marked improvement over guessing, from knowledge of the base rate, that all our patients will make such an attempt. In this case, the base rate for near-lethal attempts at the Austen Riggs Center from 1993 to 1998 was 14.5 percent. Thus, if a clinician estimated that all patients admitted to Riggs would make a near-lethal attempt, he or she would be incorrect approximately 85.5 percent of the time. The same clinician using the Riggs Index scores could correctly predict near-lethal attempts eighty times out of a hundred when a score of five or greater was present and would be incorrect only 20 percent of the time.

The Riggs Index is a good predictor of near-suicidal behavior, but can more traditional indicators provide better or additional predictive power to the accurate classification of suicidal patients? To answer this question, we analyzed a number of demographic and psychiatric variables known to be predictive of suicidality in past research. Logistic regression analysis (see Table 4) examined the relationship between the independent variables (age, sex, marital status, education, Wechsler Full Scale IQ score, clinician-rated severity of disturbance, total number of Axis I and II diagnoses, current major depressive disorder, borderline personality disorder, psychotic disorders, and current substance dependence/abuse disorder) and the incidence of near-lethal attempts. These eleven demographic and psychiatric variables were entered into the stepwise conditional analysis but failed to reach a significant threshold of prediction and did not make entry into the regression model, therefore failing to predict future near-lethal suicide attempts.

The most stringent psychometric test of the Riggs Index is to determine its incremental validity over and above the established standard of Rorschach scales for predicting suicide. The Suicide Constellation of the Comprehensive System for the Rorschach (S-CON) has been shown

Table 3. Diagnostic Efficiency Statistics for Various Levels of Lethality

		SN	SP	PPP	NPP	OCC
Near-lethal (n = 37) vs. Parasuicidal (n = 44)						
Riggs Index	>4	.87	.64	.67	.85	.74
	>5	.76	.84	.80	.80	.80
	>6	.54	.89	.80	.80	.73
Near-lethal (n = 37) vs. Nonsuicidal (n = 41)						
Riggs Index	>4	.87	.77	.76	.86	.81
	>5	.76	.85	.82	.80	.81
	>6	.54	.93	.87	.69	.74

SN *(Sensitivity):* ability of the Index to correctly identify individuals exhibiting near-lethal suicide attempts.

SP *(Specificity):* ability of the Index to correctly identify individuals with no near-lethal suicide attempts as not having made any.

PPP *(Positive Predictive Power):* the probability that an individual has engaged in a near-lethal attempt when the Index identifies him/her as having made one.

NPP *(Negative Predictive Power):* the probability that an individual has not engaged in a near-lethal suicide attempt when the Index identifies him/her as not having made one.

OCC *(Overall Correct Classification):* the overall proportion of near-lethal suicide patients and individuals with no near-lethal suicide attempts correctly classified by the Index.

Table 4. Logistic Regression Analyses of Near-Lethal Status as a Function of Demographic/Psychiatric Variables and Total Riggs Index Score

Step	Dependent Variable	-2 Log Likelihood	Model χ^2	Significance
1	Demographic & Psychiatric variables*			NS
2	Total Riggs Index	71.29	37.58	.00001

*Age, gender, education, marital status, Full Scale IQ, GAF scores, Total # of Axis I & II disorders, major depressive disorder, borderline personality disorder, psychotic disorders, and substance abuse diagnosis

Dependent Variables	B	Wald	P Level	R
Total Riggs Index	.5831	19.93	.00001	41

to be highly effective in predicting, within sixty days of administration, both successful suicides (Exner and Wiley 1977; Exner 1993) and near-lethal attempts (Fowler et al. in press). The S-CON is a statistically generated constellation that yields a single score from a composite of twelve Rorschach variables and ratios, including morbid responses and a color-shading blend variable that is somewhat different from that used in the current study. In their original study of fifty-nine completed adult suicides, Exner and Wiley found that a total S-CON score of seven positive indices correctly identified 75 percent of patients who died as a result of the suicide attempt. In a follow-up study, Exner (1993) added a twelfth variable, finding a cutoff score in which eight positive indices correctly identified 74 percent of those who completed suicide. Follow-up studies have generally yielded positive results, making the suicide constellation the benchmark for measuring other Rorschach indicators for suicide risk.

To assess the incremental validity of the Riggs Index, the total S-CON score was first entered into a prediction equation. The initial equation revealed that the S-CON predicted, with 75 percent accuracy, which patients were in the near-lethal and nonsuicidal groups. Next, the total Riggs Index score was entered into the equation under a stepwise conditional process to determine if it contributes to the prediction of near-lethal attempts. Using a stepwise conditional process ensures that if the Riggs Index enters the equation, it in fact contributes above and beyond the predictive utility of the S-CON. The Riggs Index entered the equation and improved the prediction of group classification by 5 percent, creating a prediction model with 80 percent accuracy. Post hoc logistic regression analyses revealed that Applebaum's color-shading blend variable differed significantly from that of the S-CON color-shading blend score, in that the former was predictive of near-lethal suicide attempts and the latter less so. The S-CON color-shading blend resulted in only two accurate predictions of near-lethal attempts in a sample of thirty-seven patients, whereas the Applebaum color-shading blend predicted eighteen of these attempts. It appears that in some cases the S-CON color-shading blend score is overinclusive, calculating a color-shading blend even when the shading determinant did not appear in the colored area of the blot. This calculation misses the central importance Applebaum placed on shading as a feature of the chromatic response. He held that the combination of shading and color determining the perceived object may indicate a person sensitive to a

mixture of painful affect and anxiety. Shading responses to the achromatic areas do not appear predictive of suicide (Applebaum and Holtzman 1962).

These findings provide some evidence that the new index improves prediction above and beyond the capacity of the S-CON, but they should not be taken as evidence that it should replace the S-CON in predicting near-lethal suicidality. Instead, the Riggs Index may be used as an adjunctive measure to the S-CON in the prediction of near-lethal attempts. The S-CON remains the only Rorschach scale to predict completed suicide and has been replicated, whereas the Riggs Index awaits replication to establish the stability and generalizability of this finding.

DISCUSSION

The path to understanding any single suicide attempt is astonishingly complex. Each deserves an analysis of the widest array of intrapsychic, biological, and environmental variables as is possible. But even when intrapsychic, diagnostic, biological, and familial predictors are combined, absolute prediction will often fall short in answering the critical question, Is my patient going to commit suicide? We cannot accurately gauge the relative importance of the patient's past experience, adjustment to various life events, or the mind's conscious and unconscious adaptation to events (Maltsberger 1992). For the moment, we must content ourselves with exploring a relatively narrow band of psychic processes that may broaden our understanding of the inner world of suicidal patients and may aid in the assessment of their potential risk for suicide.

In light of these limitations, we explored the empirical link between the attempt to take one's life and a set of psychic conditions manifest in a patient's Rorschach responses. In our search for intrapsychic risk factors for serious suicide attempts, we found that marked disturbance in patients' capacity to regulate affective experiences, particularly overwhelming feelings of self-hatred and perceptions of the self as damaged, when combined with vulnerability to ego boundary disturbance places patients at risk for attempting suicide. Perhaps the most important finding from this study is the fact that this confluence of psychological states led in many patients to near-lethal suicide attempts within sixty days following the assessment. The brief period between assessment and suicide attempt increases the likelihood that

these psychological factors in fact contributed to the patients' motivation and press to commit suicide. This finding may allow clinicians to estimate suicide risk for patients within two months of being administered the Rorschach. If this finding can be replicated at other sites with different patient groups, the Riggs Index could become an important tool in assessing relative risk for suicide attempts so that clinicians and treatment staff may take necessary precautions.

Building on insights from a previous generation of analysts and Rorschach researchers (Applebaum and Colson 1968; Applebaum and Holtzman 1962; Blatt and Ritzler 1974; Exner and Wiley 1977), we created a psychoanalytic Rorschach index that aids in the identification of patients at high risk of making a life-threatening suicide attempt. The fact that this composite model performed better than single variables in differentiating near-lethal attempts from low-risk activity reflects the psychometric superiority of a multi-sign index. A more complex model may more closely approximate the complex psychic processes that result in serious suicide attempts. In the discussion to follow, we will reflect on the individual variables comprising the Riggs Index, their meaning, and their interconnection. Our aim here is to integrate our findings into existing psychoanalytic formulations of suicide, not to proffer an entirely new formulation.

Mental anguish or psychic pain brought on by object loss, betrayal, failures, humiliation, and a host of other experiences is believed to be the driving force behind most suicides (Maltsberger 1992; Shneidman 1993). Studying suicide for decades has convinced Shneidman that psychological pain is the actual cause of suicide: "All our past efforts to relate or to correlate suicide with simplistic non-psychological variables, such as sex, age, race, socioeconomic level, case history items (no matter how dire), psychiatric categories (including depression), etc., were (and are) doomed to miss the mark precisely because they ignore the one variable that centrally relates to suicide, namely, intolerable psychological pain; in a word, psychache" (p. 147). Independently, Maltsberger (1992) concurs that psychic pain is the driving force behind almost every suicide. Both authors discuss the critical link between psychic pain and defensive functioning—inadequate defensive functioning puts patients at greater risk for experiencing unbearable pain. Assuming this is true, a patient's greatest psychological asset against suicide may be the ability to cope effectively with psychic pain and to diminish its impact through various defenses.

Patients who cannot mount adequate defenses against emotional pain may be at greatest risk for feeling trapped in endless despair and hopelessness about their future. The color-shading blend response may approximate the experience of intolerable affective arousal and the inability to escape such an experience. Patients with a high number of color-shading blends later made near-lethal attempts with greater frequency than did those with no such responses. This result provides further support for Applebaum's hypothesis that the color-shading blend response reflects an immersion in painful affective experience with little capacity to erect adequate defenses to dampen the level of painful arousal. This finding lends support also to Shneidman's and Maltsberger's contention that unbearable and inescapable psychic pain is a serious risk factor for suicide.

Psychic pain does not, however, appear to be the sole intrapsychic phenomenon associated with near-lethal suicidality. In this study, three additional factors are shown to contribute to the prediction of near-lethal attempts. This is further confirmed by clinical observation that depressed patients, not all of whom make a serious suicide attempt, suffer from psychological pain and have inadequate defenses against the dysphoria and anxiety related to psychological conflict (Brenner 1991).

Analysts studying suicide (Asch 1980; Hendin 1991; Maltsberger and Buie 1980; Menninger 1933) have explored the clinical observations that more disturbed suicidal patients suffer from varying degrees of boundary disturbance. According to these authors, suicidal patients frequently harbor fantasies that suicide is a transcendent solution whereby the hated, weak parts of their personality and body are killed off, while the favored and idealized aspects of the self are preserved. Other patients with similar boundary disturbance express fantasies that suicide brings about reunion or fusion with a potent other, thus creating a perfect union (Asch 1980; Hendin 1991; Maltsberger and Buie 1980). While this formulation may appear speculative and at considerable distance from patients' experience, a recent encounter with a suicidal patient highlights how close to conscious awareness such fantasies can be. A middle-aged woman was admitted to Austen Riggs suffering from an agitated depression and suicidal impulses. Once industrious and athletic, Ms. A. had lost the use of her right hand in an auto accident and was faced with significant physical limitations. Her primary complaint upon admission was that since her accident her body was no longer perfect; she was tortured by the thought that she

might never regain use of her hand. Her life history revealed a marginal adaptation to the early death of her father and then later to the death of an idealized male mentor, but the loss of function in her hand resulted in a debilitating depression and revealed an underlying vulnerability to loss and shame. For Ms. A., the loss of her hand came to symbolize other losses in her life, and she became unable to tolerate separations from her outpatient therapist, her family, or friends. In an early psychotherapy session with her new therapist, she spoke wistfully of her plan to die by overdosing on pain medications after leaving the hospital. Over the course of several sessions, she revealed her belief that following her death she would wake up from her overdose to find her father and her hand returned to her. She believed she could return to her apartment with her father and her restored hand and then go on to fulfill her life's ambitions. When questioned about the nature of this fantasy, she was puzzled by the therapist's use of the term *fantasy* because she believed this chain of events might be within the realm of possibility. While this patient did not suffer from a formal thought disorder, her vulnerability to boundary disturbance was encapsulated in her temporary inability to distinguish wish-fulfilling fantasy from potential reality.

In the mind of such a patient, death is not an end but rather an escape from untenable living that can be survived and transcended. When these fantasies of transcending or surviving death are acted on, we may assume that some failure of reality testing is involved. As such, some degree of boundary disturbance and disordered thinking should be apparent in the Rorschach records of patients on the verge of committing suicide. The transparency response may well represent this boundary disturbance and the transcendent fantasy. Roth and Blatt (1974) interpret transparency images in the dreams and Rorschach responses of patients as indicative of a primitive level of psychic organization marked by boundary disturbance that leaves these patients vulnerable to the collapse of their sense of self. With this collapse, patients may experience the fragmentation of self as timeless and inescapable. Roth and Blatt conclude that such ego fragmentation and inadequate defensive structures press patients to take drastic measures to escape the intolerable experience of fragmentation.

In clinical encounters with suicidal patients it is often the case that experiences of fragmentation and boundary disturbance occur at the moment of great affective arousal, especially in the face of conflict and narcissistic injury. Interestingly, transparency responses occur most fre-

quently on the color cards of the Rorschach, long considered the most affectively stimulating cards in the set. It may be that transparency responses occur most frequently when the patient's limited defenses are overwhelmed by affective experiences stimulated by the complex color cards.

In the context of ego fragmentation, patients may develop various compensatory fantasies in an effort to escape their pain. We have begun to explore the possibility that elements of compensatory fantasies may be embedded in some transparency responses. Responses such as "Two women wearing black tuxedos. I can see their hearts pumping and blood coursing through their bodies" not only indicate serious boundary disturbance but may also hint at a wish to see beyond the confines of normal human sight. Such responses may parallel the wish in suicidal patients to know what awaits them after they die. In the case of Ms. A., her fantasy of knowing what pleasures and relief awaited her served as a temporary relief of her pain.

The results of this study suggest that psychological states and specific painful affects are associated with disturbances in affect regulation that increase the risk of a suicide attempt. Patients who later made a near-lethal attempt perceived damaged, decaying, and dead images on their Rorschach protocols. The morbid response has been linked to the symptomatic expression of major depression and to suicide (Exner 1993). While we can postulate that morbid responses in the records of near-lethal suicidal patients reflect their preoccupation and experience of self as damaged and beyond repair, comprehending the precipitants to the onset of depression requires further investigation.

Empirical studies and clinical observations have brought about a growing recognition that depression can be usefully differentiated into anaclitic and introjective types (Blatt 1974, 1995, 1998). In an impressive synthesis of psychoanalytic theory (including ideas of Freud, Balint, Loewald, Bowlby, and Kohut) and empirical research across a range of psychoanalytic, cognitive, and developmental psychology, Blatt (1998) distilled two essential developmental trajectories with corresponding types of depression. The anaclitic type is characterized by marked vulnerability to disruptions of gratifying interpersonal relationships and is expressed primarily in dysphoric feelings of loss, abandonment, and loneliness. Patients suffering from anaclitic depression are highly dependent people who often experience their depression in the form of somatic symptoms and complaints, and who then seek

out solace and care from others, including physicians and therapists. The anaclitic character's depression is often precipitated by loss or ruptures in important relationships; these patients often make suicide attempts in response to loss by overdosing on medications (Blatt et al. 1982). By contrast, the introjective character is focused primarily on issues of self-definition, independence, and self-esteem. When introjective characters fail to live up to self-imposed standards, their self-esteem is seriously challenged and they become vulnerable to depressive experiences marked by feelings of worthlessness, guilt, and self-hatred. Vulnerability to punitive self-recrimination places them at serious risk for suicide, and they are at greater risk at moments when they fail to meet their own perfectionistic standards or the perceived perfectionistic standards of others (Blatt 1995, 1998).

When we reviewed the Rorschach protocols of near-lethal patients with Blatt's distinction in mind, we discovered that in some cases morbid responses reflected the sense of inner depletion, dysphoria, and longing associated with object loss, while other responses seemed to reflect self-criticism and self-loathing. Responses such as "baby birds falling from the sky . . . their little mouths open screeching for their mother" may reflect a dependent longing for an early maternal object and a sense of self as weak, dependent, and despairing. This type of response might be viewed as signifying a high degree of anaclitic despair. A second type of morbid response involves solitary figures, often human or animal representations that reflect a highly critical, negativistic evaluation of the figure: "In the center . . . a fat woman with bulging thighs, she's disgusting. She's also missing a head." While the image of a headless, disgusting woman might also reflect the patient's derision and devaluation of others, it is likely that such devaluation is turned back upon the self in the face of failures. The morbid response may capture the self-representations of both types of depressive experience—that related to reactions to object loss and that associated with superego pathology, both of which were elements in Freud's analysis of depression (1917). This view is particularly interesting when we consider the possibility that morbid self-perceptions are in part responsible for the intolerable psychic pain that leads to near-lethal attempts in this patient group. Future studies may help us test the viability of these hypotheses.

The final Rorschach variable to consider is the cross-section response. While earlier investigators have not drawn distinctions

between the transparency response and cross-sections, the results of this study suggest that the two do not assess the same phenomena. Distinction between the responses should help us differentiate the responses and their significance. First, cross-sections do not involve translucent images, but they do often violate the integrity of boundaries by penetrating realistic outer boundaries of the object. We may therefore assume that an aspect of the cross-section response reflects some degree of boundary disturbance. The primary distinction that we can identify is that cross-section responses more often incorporate the entire inkblot, whereas transparencies occur most frequently in smaller detail areas of the same blots. The greater frequency of whole responses, in the context of faulty or improbable percepts, may represent a failure of boundary integrity and an overzealous effort to account for all aspects of the stimulus, even when the effort is more than the patient can synthesize.

In summary, the primacy of overwhelming emotional pain and the inability to defend against it appears to be a central characteristic of patients who make near-lethal suicide attempts. These patients also appear unable to erect adequate defenses, leaving them vulnerable to fragmentation when overwhelmed by painful feelings. Under internal duress they may develop compensatory fantasies in an attempt to protect themselves, but because of poor reality testing they may enact these fantasies, culminating in a suicide attempt. For some suicidal patients the primary conflicts involve feeling damaged and deprived in consequence of object loss and ruptures in relationships, while other patients, suffering from superego pathology, may respond to failures to live up to their own perfectionistic standards by sadistically attacking themselves.

While these findings are encouraging, we view the Riggs Index as one source of data among many and discourage clinicians from relying solely on the Rorschach to assess potential lethality. Maltsberger's psychodynamic formulation for assessing suicide risk (1992) is an excellent guide for clinicians because it emphasizes the importance of environmental and intrapsychic risk factors that place patients at risk for suicide. If the Rorschach can be used in conjunction with a thorough clinical assessment of personal and environmental risk factors to identify patients at risk, there is some chance of making clinical interventions that might alter their course toward self-destruction.

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J. Christopher Fowler
The Austen Riggs Center
25 Main Street
Stockbridge, MA 01262
E-mail: Christopher.fowler@Austenriggs.net