Prediction of Suicide Intent in Hospitalized Parasuicides:
Reasons for Living, Hopelessness, and Depression

Kirk Strosahl, John A. Chiles, and Marsha Linehan

This study examined the risk prediction efficiency of the Reasons for Living Inventory, Survival and Coping Beliefs Scale, Beck Hopelessness Scale, Beck Depression Inventory, and the Life Experiences Survey with a sample of 51 newly hospitalized parasuicides. The index of suicidal potential chosen for this study was suicide intent as measured by Beck's Suicide Intent Scale. Regression analyses indicated that the Survival and Coping Beliefs Scale emerged as the single most important predictor of suicide intent. Hopelessness and depression made secondary and nonsignificant contributions. Hopelessness was a significant predictor of suicide intent when analyzed apart from Survival and Coping Beliefs, but not among a subsample of 43 repeat parasuicides. Classification analyses showed that neither hopelessness nor survival and coping beliefs were accurate at classifying low- or high-intent parasuicides. Factors contributing to the efficacy of survival and coping beliefs as a risk prediction index are discussed, as is the false-negative dilemma in suicide risk assessment and prediction.

Copyright © 1992 by W.B. Saunders Company

Previous investigations into the risk assessment and prediction of suicidal behavior have consistently shown that hopelessness not only predicts various indices of suicide potential, but also mediates the indirect relationship between depression and suicide potential.1-4 The nature of the relationship between hopelessness, depression, and suicidal potential has led researchers to conclude that various cognitive/evaluative processes play an instrumental role in determining the form and intensity of suicidal behavior. Characteristics of these cognitive processes may explain why suicidal behavior does not occur simply because depression is present and why individuals engage in a wide variety of dysfunctional coping responses (e.g., alcohol and/or drug abuse, binge eating), rather than necessarily engaging in suicidal behavior.

The state of hopelessness involves a set of global, pessimistic beliefs about oneself and the future, which are not suicide-specific in content.5 Suicide-specific beliefs and expectancies may be even more powerful mediators of the form and intensity of suicidal behavior. Theoretically, it is sensible to argue that, as an individual reaches the point of engaging in suicidal behavior, cognitive processes focus on appraising both the positive and negative consequences of suicide. At this point, generalized thoughts of hopelessness may give way to evaluations of suicide as a way of solving one's psychological problems. The outcome of these suicide-specific evaluations will in part determine the severity of suicidal behavior. In one test of this hypothesis, several subscales of the Reasons for Living Inventory6 were found to be more effective than the Beck Hopelessness Scale8 in discriminating between psychiatric patients hospitalized for a suicide attempt, serious suicide ideation, or other serious non-suicide-related complaints. The most efficient discriminating scale was Survival and Coping Beliefs. This scale assesses the importance of beliefs about one's ability to cope with life's problems, belief in the intrinsic value of life and faith that things inevitably will change as reasons for not committing suicide. This discriminating power was retained even among patients who reported clinically significant levels of hopelessness, indicating that survival and coping beliefs are not synonymous with hopelessness, at least with respect to the prediction of suicidal behavior.9

This investigation tested a number of hypotheses about the characteristics that directly influence level of suicidal intent in a sample of hospitalized parasuicides: (1) suicide-specific beliefs and expectancies would be the most efficient predictors of suicide intent; (2) hopelessness would predict suicidal potential and to a greater extent than depression; (3) the predictive power of hopelessness would remain with the influence of depression partialled out, but
PREDICTION OF SUICIDE INTENT

not vice versa. Suicide intent ratings were used as the criteria in this study because of the empirically established relationship between level of suicide intent and risk of a subsequent completed suicide.10

This investigation also examined the clinical utility of depression, hopelessness, and reasons for living as risk prediction variables by conducting classification analyses of low, average, and high-intent suicide attempters. Briefly, the concept of clinical utility involves the extent to which false-negative classification errors (i.e., misclassifying high-risk suicidal patients) are reduced by the inclusion of various risk assessment instruments.11 Clinicians in applied settings who must conduct an assessment and prediction of suicidal potential on a case-by-case basis cannot afford an excessively high rate of false-negative cases. Thus, research is needed to identify those measures which are best able to accurately classify high-risk patients.

METHOD

Subjects

Subjects were 16 males and 35 females admitted to University Hospital or Harborview Medical Center, teaching hospitals affiliated with the University of Washington. To be eligible for the study, subjects were required to have no evidence of mental retardation, organic brain syndrome, organic mental disorder, or major psychosis. Prospective participants were sampled from a weekly list of consecutive admissions, and 86 patients were originally deemed eligible for the study. From this subject pool, 26 patients were excluded for a variety of reasons, including refusing to participate (6), being in suicide restraint (3), suffering physical after-effects of the index parasuicide (3), having other ward commitments at the time of testing (3). Other reasons for exclusion involved language difficulties, early hospital discharge, and age restrictions. Sixty-three patients elected to participate, but 12 of these subjects failed to complete two or more of the research instruments and were excluded from the data analyses. For the most part, patients were tested as soon as possible after admission. Twenty-two were assessed within 24 hours. 28 within 48 hours, and one within 72 hours of admission. The mean age of the sample was 25.4, with a range of 14 to 46. The ethnic composition of this group was as follows: 90% white, 2% black, 2% Native American, 2% Mexican American, and 4% Asian American. A large majority of the subjects were single (88%); less than half (45%) were employed at the time of hospital admission. Only 34% of the patients had failed to complete high school or a GED equivalent. The principal DSM-III discharge psychiatric diagnoses, as determined by attending psychiatrists, were distributed as follows: 31% dysthymic disorder, 4% schizophrenic disorder, 12% major affective disorder, major depressive episode, 6% major affective disorder, bipolar type, 28% adjustment reaction, 8% substance use disorder, and 6% personality disorder. In 6% of the cases, diagnosis was deferred.

Suicidal behavior was verified on the basis of responses to certain items of the Suicidal Behaviors Questionnaire; a clinical interview, and information obtained by chart review. Among parasuicides, 86% reported a history of at least one prior suicide attempt. The numerical distribution of the method used in the index suicide attempt was as follows: 75% drug overdose, 4% attempted drowning, 16% cutting with a sharp object, and 2% hanging. The remaining 3% of parasuicides could not be classified according to a single method.

Measures

Suicide Intent Scale. The Suicide Intent Scale (SIS)13 is a 13-item research instrument designed to assess the factual aspects of a parasuicide, the circumstances surrounding it, and the patient's thoughts and feelings at the time of the attempt. Individual responses are coded on a 0 to 2 Lickert scale and total SIS scores can range from 0 (extremely low intent) to 30 (extremely high intent). In the initial phase of this study, SIS items were administered verbally as part of a structured clinical interview. So that time demands could be lessened on participants, a paper-and-pencil version of the SIS was constructed.12 With a sample of 20 patients who completed both forms, the coefficient of equivalence was 87, indicating that the interview and paper-and-pencil versions produce very comparable scores.

Survival and Coping Beliefs. The Reasons for Living Inventory (RFL) is a 48-item scale that asks the respondent to rate the importance of various reasons for not committing suicide, if the thought were to occur. Each item is rated on a 1 (not important at all) to 6 (extremely important) scale. Factor analytic research indicates that the RFL is comprised of six subscales: Survival and Coping Beliefs, Child-Related Concerns, Family-Related Concerns, Fear of the Act of Suicide, Fear of Social Disgrace, and Moral Concerns. Because of its demonstrated efficiency in previous research, the Survival and Coping Beliefs Scale was the primary scale selected for use in this study. The scale is composed of 24 items, with a higher mean score indicative of stronger reasons for living.

Beck Hopelessness Scale. The Hopelessness Scale is a 20-item true-false questionnaire assessing negative expectations and pessimism about one's future. One half of the items are reverse-scored. Total scores can range from 0 to 20 and are obtained by summing the individual items.

Beck Depression Inventory. The Beck Depression Inventory14 is a 21-item inventory that asks the respondent to indicate which of a series of statements best describes how he or she has felt over the last several days. Responses are coded on a 0 to 3 Lickert scale and summed to provide a global depression score. A score of 18 or greater is indicative of clinically significant depression.

Life Experiences Survey. The Life Experiences Survey15 is a 64-item measure of life stress that allows the respondent to indicate which events listed have occurred in the previous year. For each event endorsed, valence (good, bad) and impact ratings (1 = no impact to 4 = great impact) are
obtained. The scale selected for use in this study was the absolute number of negative life events experienced in the past year. This scale was included to control for life stress as a mediating influence on suicide intent.

RESULTS

Preliminary Analyses

Analysis of sex differences in suicide intent showed that male (13.22) and female (14.23) suicide attempters did not differ significantly on level of suicide intent. Further analyses showed that age was not significantly related to suicidal intent ($r = .11$). Male (mean, .72) and female (mean, .85) parasuicides reported a comparable number of previous suicide attempts.

Regression Analyses

The results of this study were first analyzed using a series of multiple regression analyses to identify the most efficient predictors of suicide intent. One subject failed to complete the life stress measure and was excluded from this phase of the regression analyses ($n = 50$). Table 1 presents the group means on the dependent variables and Table 2 presents the correlations among the predictor and criterion variables. A stepwise regression analysis was used on the criterion of suicide intent, using survival and coping beliefs, depression, hopelessness, and negative life events as predictors. The results of this procedure are summarized in Table 3, along with unique $R^2$ values obtaining by regressing each predictor directly on the suicide intent criterion. As can be observed, survival and coping beliefs emerged as the single significant predictor of suicide intent. Although life stress, depression, and hopelessness pass the tolerance test for entrance into the prediction equation, they do not add significantly to the observed prediction effect. However, when hopelessness was analyzed apart from survival and coping beliefs, a significant prediction effect was obtained ($P < .05$). Inspection of the unique $R^2$ values indicate that survival and coping beliefs, hopelessness, and depression are the most important prediction variables with the total sample of suicide attempters. An additional regression analysis examined survival and coping beliefs, in comparison to the other RFL scales, using the suicide intent criterion. Results indicated that survival and coping beliefs was the most efficient predictor and no other scales added significantly to the observed prediction effect.

To assess the internal validity of the regression coefficients, a random split-sample cross-validation procedure was performed. This analysis involved using a direct regression analysis with survival and coping beliefs as the predictor to generate an analysis of variance of the split-sample regression coefficients (BMDP). A significant $F$ ratio indicates that the slopes and/or intercepts of the two regression lines differ beyond the chance level. This analysis showed that the two regression lines did not differ significantly, $F(2,47) = .28$, $P < .77$.

Table 1. Group Means on Dependent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Low Intent (n = 12)</th>
<th>Moderate Intent (n = 26)</th>
<th>High Intent (n = 13)</th>
<th>All Patients (n = 51)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide Intent Scale</td>
<td>5.67</td>
<td>13.88</td>
<td>21.53</td>
<td>13.95</td>
</tr>
<tr>
<td>RFL Survival &amp; Coping Beliefs</td>
<td>4.70</td>
<td>3.44</td>
<td>2.74</td>
<td>3.56</td>
</tr>
<tr>
<td>Hopelessness</td>
<td>6.66</td>
<td>10.48</td>
<td>12.99</td>
<td>10.14</td>
</tr>
<tr>
<td>Depression</td>
<td>18.41</td>
<td>22.80</td>
<td>26.53</td>
<td>22.72</td>
</tr>
<tr>
<td>Negative Life Events*</td>
<td>9.08</td>
<td>11.28</td>
<td>8.53</td>
<td>10.04</td>
</tr>
</tbody>
</table>

NOTE. Fifty subjects completed the Life Experiences Survey.

Table 2. Correlation Matrix of Dependent and Criterion Measures

<table>
<thead>
<tr>
<th>Suicide Intent</th>
<th>Coping Beliefs</th>
<th>Depression</th>
<th>Hopelessness</th>
<th>Negative Life Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survival</td>
<td>-.42*</td>
<td>.24*</td>
<td>-.68*</td>
<td>-.71*</td>
</tr>
<tr>
<td>and</td>
<td></td>
<td>.31*</td>
<td>.72*</td>
<td></td>
</tr>
<tr>
<td>Coping</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beliefs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hopelessness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Life</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Events*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*$P < .05$.

$\ddagger P < .01$.

Table 3. Regression Summary: Prediction of Suicide Intent for All Patients and Repeat Parasuicides

<table>
<thead>
<tr>
<th>Group and Variable</th>
<th>$R^2$ Unique</th>
<th>$R^2$ Change</th>
<th>$\beta$</th>
<th>$F$ to Enter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sample (n = 51)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survival and Coping Beliefs</td>
<td>.17</td>
<td>.17</td>
<td>.18</td>
<td>1.93</td>
</tr>
<tr>
<td>Hopelessness</td>
<td>.18</td>
<td>.01</td>
<td>.10</td>
<td>21</td>
</tr>
<tr>
<td>Negative Life Events</td>
<td>.17</td>
<td>.00</td>
<td>.01</td>
<td>-.77</td>
</tr>
<tr>
<td>Depression</td>
<td>.17</td>
<td>.00</td>
<td>.06</td>
<td>-.59</td>
</tr>
<tr>
<td>Repeat Parasuicides (n = 43)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survival and Coping Beliefs</td>
<td>.12</td>
<td>.12</td>
<td>.12</td>
<td>-.20</td>
</tr>
<tr>
<td>Negative Life Events</td>
<td>.12</td>
<td>.01</td>
<td>.01</td>
<td>-.12</td>
</tr>
<tr>
<td>Depression</td>
<td>.13</td>
<td>.01</td>
<td>.06</td>
<td>.14</td>
</tr>
</tbody>
</table>

*$P < .05$.

$\ddagger P < .01$. 
indicating that these results possess adequate split sample validity.

A second series of regression analyses were employed using a subsample of repeat parasuicides \( n = 43 \). As can be seen in Table 3, the results of this analysis are similar to those observed with the entire sample, with the exception of hopelessness, which fails to enter the prediction system. Analyzed apart from the survival and coping beliefs, hopelessness does not emerge as a significant predictor with this sample of repeat attempters.

To assess the applicability of the regression solution as a function of sex, survival and coping beliefs and hopelessness were used in a stepwise regression analysis for males and females separately. The remaining predictors were excluded because they did not exhibit significant unique \( R^2 \) values. Table 4 summarizes the results of these analyses. For males, hopelessness emerged as a marginally significant predictor of suicide intent, whereas survival and coping beliefs is highly significant for females. Analysis of variance of the regression coefficients generated in these two analyses did not reveal a significant difference in the slope or intercept of the regression lines, \( F(3,45) = .98, P < .41 \), indicating that these two predictors may also share substantial common prediction variance.

So that the relationship of depression and hopelessness to one another and to the suicide intent criterion could be examined, partial correlations were computed between hopelessness and suicide intent with the influence of depression removed, and between depression and suicide intent with the influence of hopelessness removed. For hopelessness, the partial correlation was .09, whereas for depression the partial correlation was .13. Neither partial correlation was statistically significant, indicating that depression and hopelessness are highly intercorrelated and share common prediction variance with the suicide intent criterion, at least among this sample of parasuicides.

Table 4. Regression Summary: Prediction of Suicide Intent for Male and Female Parasuicides

<table>
<thead>
<tr>
<th>Group and Variable</th>
<th>( R^2 )</th>
<th>( \Delta R^2 )</th>
<th>( \beta )</th>
<th>( F ) to Enter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males ( n = 16 )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hopelessness</td>
<td>.22</td>
<td>.22</td>
<td>.48</td>
<td>3.85*</td>
</tr>
<tr>
<td>Survival and Coping Beliefs</td>
<td>.22</td>
<td>.00</td>
<td>.13</td>
<td>.28</td>
</tr>
<tr>
<td>Females ( n = 35 )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survival and Coping Beliefs</td>
<td>.22</td>
<td>.22</td>
<td>.24</td>
<td>2.49</td>
</tr>
<tr>
<td>Hopelessness</td>
<td>.23</td>
<td>.01</td>
<td>.06</td>
<td>.11</td>
</tr>
</tbody>
</table>

\*\( P < .10 \).

\*\( P < .01 \).

Classification Analyses

Suicide intent scores were divided into low-, average-, and high-intent groups. Assignment to the low: \( (n = 12) \) or high- \( (n = 13) \) intent groups occurred if an individual’s score was greater than 1 SD below or above the sample mean (mean, 13.95), respectively. The moderate intent group \( (n = 26) \) contained all suicide at-
tempters within 1 SD of the sample mean on suicide intent. While this procedure creates discrepancies in group size, it classifies subjects according to their probable population status. To assess whether a pattern of significant differences existed among the three suicide intent groups, a series of $1 \times 3$ univariate analysis of variance analyses were conducted on the dependent measures. Inspection of the results indicated that significant differences existed among the groups on survival and coping beliefs, $F(2,48) = 7.48, P < .002$, and hopelessness, $F(2,48) = 3.22, P < .05$. The groups did not differ on depression or negative life stress.

Discriminant function analyses were conducted to assess the capacity of survival and coping beliefs and hopelessness to correctly identify low-, average-, and high-intent suicide attempters on a case-by-case basis. These analyses examined both the unique and combined classification accuracy of hopelessness and survival and coping beliefs. A second 50% holdout analysis was used to estimate shrinkage in classification accuracy when classification coefficients were derived using one sample and used to classify the second sample. All analyses were adjusted for the prior probability of classification based on group size. As can be seen in Table 5, the results are very disappointing both from the standpoint of overall classification accuracy and the rate of false-negative errors.

Table 5. Classification Analysis of Suicide Intent Level UsingSurvival and Coping Beliefs and Hopelessness

<table>
<thead>
<tr>
<th>Variable and Intent Group</th>
<th>% True-Positive (Total Sample)</th>
<th>% False-Positive (Holdout Sample)</th>
<th>% False-Negative (Total Sample)</th>
<th>% False-Negative (Holdout Sample)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide and Coping Beliefs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low intent</td>
<td>.54*</td>
<td>66.7</td>
<td>25.0</td>
<td></td>
</tr>
<tr>
<td>Moderate intent</td>
<td>.20</td>
<td>70.9</td>
<td>00.0</td>
<td></td>
</tr>
<tr>
<td>High intent</td>
<td>.65†</td>
<td>00.0</td>
<td>00.0</td>
<td></td>
</tr>
<tr>
<td>All attempters</td>
<td>-.42†</td>
<td>54.9</td>
<td>38.5</td>
<td>100.00</td>
</tr>
<tr>
<td>Hopelessness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low intent</td>
<td>-.26</td>
<td>8.3</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>Moderate intent</td>
<td>.14</td>
<td>96.2</td>
<td>90.0</td>
<td></td>
</tr>
<tr>
<td>High intent</td>
<td>-.17</td>
<td>00.0</td>
<td>00.0</td>
<td></td>
</tr>
<tr>
<td>All attempters</td>
<td>.31†</td>
<td>51.0</td>
<td>38.5</td>
<td>100.00</td>
</tr>
<tr>
<td>Survival and Coping Beliefs and Hopelessness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low intent</td>
<td>66.7</td>
<td>25.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate intent</td>
<td>57.7</td>
<td>80.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High intent</td>
<td>38.5</td>
<td>00.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All attempters</td>
<td>54.9</td>
<td>38.5</td>
<td>60.5</td>
<td>100.00</td>
</tr>
</tbody>
</table>

NOTE. N's for the low-, average-, and high-intent groups are 12, 26, and 13, respectively. False-negatives are high-intent subjects who are incorrectly classified.

*P < .05.
†P < .01.
Both predictors exhibit modest classification accuracy, which is affected by considerable shrinkage. Most importantly, there is a 100% false-negative error rate with high-intent subjects. When hopelessness and survival and coping beliefs are combined, the false-negative error rate is reduced for the total sample, but that reduction is lost in the holdout analysis.

**DISCUSSION**

The results of this study suggest that the importance attached to survival and coping beliefs as reasons for not committing suicide is a more direct predictor of suicide intent than hopelessness, depression, and negative life stress. This study provides support for the hypothesis that suicide-specific beliefs and expectancies may directly mediate the form and intensity of suicidal behavior. What aspects of the survival and coping beliefs scale make it a useful adjunct to the assessment of hopelessness and depression? In addition to the suicide-specific nature of scale items, perhaps these beliefs extend beyond the cognitive “scope” of hopelessness. For example, scale items may also tap beliefs about self-efficacy, the intrinsic value of living, and the inevitability of change with the passage of time. In this perspective, survival and coping beliefs are positive personality attributes of an individual. Their absence may remove an important bulwark against the suicidogenic influence of hopelessness and depression.

These results do not argue against the role of depression and hopelessness in suicidal behavior, but they illustrate that other cognitive processes play an important role as well. Individuals may possess complex belief systems about the potential long- and short-term consequences of completed and attempted suicide that directly mediate (1) whether suicidal behavior will occur in preference to some other form of coping behavior, and (2) the severity of suicidal behavior that is engaged in. While clinical experience as well as research suggests that parasuicides are often poorly planned and impulsive, the presence of prior suicidogenic cognitive expectancies may establish a “readiness to respond” with suicidal behavior under certain conditions. This approach is similar to problem-solving models of suicidal behavior (cf. Applebaum, Schotte and Clum), but stresses that suicidal patients have favorable expectations about the probable consequences of suicidal behavior, i.e., they believe it is an effective solution to one’s problems.

Among the 50% highest-intent parasuicides, results suggested a trend toward negative relationships between depression, hopelessness, and suicide intent. Conversely, a positive relationship was noted between survival/coping beliefs and suicide intent. This pattern is more intriguing when one considers that the high suicide intent group has been statistically linked to a greater probability of completed suicide. What factor(s) might explain this unexpected finding? The reduced sample size may have led to an unstable correlational pattern, and the reversals noted may have reflected chance statistical fluctuations. The main argument against this rival hypothesis is that the same trend is noted in survival and coping beliefs, hopelessness, and depression, rather than unexpected changes in only one variable (as might be expected by chance). Further, the discriminant function results derived from the total sample clearly produced an “averaging” effect, which is consistent with a nonlinear trend. However, only replication studies using a larger sample can directly test this idea.

A second explanation is that suicide intent ratings were obtained after the index parasuicide. The act of parasuicide may temporarily alter the nature of the mediating relationships between these variables and suicidal behavior, especially among those who overcome their ambivalence about living versus dying and engage in very serious suicidal behavior. Unfortunately, this premise would be difficult to verify experimentally, since there are obvious ethical problems associated with testing parasuicides before the act.

A third hypothesis is that parasuicide may possess both a functional (problem-solving) and expressive (statement of emotional pain and hopelessness) component, and each may vary independently. Perhaps a defining characteristic of high-intent parasuicides (some of whom will go on to kill themselves) is their singular focus on the problem-solving effects of suicide which, paradoxically, may result in reduced depression or hopelessness. Clinically, it is not unusual to hear high intent parasuicides speak...
of an emotional "blunting" before and at the time of a suicide attempt, as well as a sense of hopefulness that suicide will create a more peaceful existence in the hereafter. This may also explain why the classification of high-intent subjects produced such disappointing results (100% false-negative rate), even using the best suicide risk prediction instruments currently available. This theory suggests that a direct assessment of the individual's perception of suicide as a problem-solving behavior might be a valuable prediction tool, especially among high-risk patients.

The accurate risk assessment and prediction of suicidal potential is a vital component of effective clinical intervention with suicidal patients. These results amply demonstrate the pitfalls associated with applying nomothetic decision rules to the single case involving prediction of suicidal potential. Despite their value as measures of suicidal potential, hopelessness and survival and coping beliefs are not accurate at classifying high-risk patients on a case-by-case basis. Since this is the group in which eventual suicide completers are most likely to be nested, these results are extremely disappointing. However, similar results have been obtained in both longitudinal12 and cross-sectional13 studies of suicide risk prediction. While it would be ill advised to jettison suicide risk assessments, practitioners are advised to interpret these scores with extreme caution and to focus on the special problem of false-negative errors.

Caution must be exercised in generalizing from the results of this study. First, we examined hospitalized suicide attempters, and results may not generalize to the population of completed suicides. Research suggests that the rate of attempters to completers may be as high as 1000:1, and the two groups may differ in many important respects.11,18 While parasuicide is a major public health problem in the United States and is worthy of study as a distinct phenomenon, it is important to remember that different risk indices may exist for suicide ideators, parasuicides, and suicide completers. For example, a 10-year longitudinal study of patients hospitalized for suicide ideation showed that hopelessness was efficient at classifying completed suicides.22 Second, repeat parasuicides were the majority of subjects in this study. Whether these results generalize to the population of first-time attempters remains an empirical question. Finally, a relatively large number of eligible patients (35) either were excluded from the study or failed to provide complete data. We have no way of knowing whether this produced an unobserved selection bias, which conceivably could have skewed results. Therefore, further studies are needed to replicate the results obtained in this study.

REFERENCES

12. Linehan M, Nielsen S. Assessment of suicide ideation


