

SUICIDE INTENT SCALE

(For Attempters)

| | |
|----|------|
| ID | Date |
|----|------|

Instructions: Interview the patient about his/her most recent suicide attempt to enable a reliable coding of the objective circumstances of the attempt, and the patient's perceptions of the attempt. The total score is computed by summing items 1-15. If an item is "Not applicable" code it "-8." Do not include "-8's" when calculating the total score.

| |
|--------------|
| Total Score: |
|--------------|

I. Objective Circumstances Related to Suicide Attempt

1. Isolation

- 0. Somebody present
- 1. Somebody nearby, or in visual or vocal contact
- 2. No one nearby or in visual or vocal contact

2. Timing

- 0. Intervention is probable
- 1. Intervention is not likely
- 2. Intervention in highly unlikely

3. Precautions against Discovery/Intervention

- 0. No precautions
- 1. Passive precautions (avoiding others but doing nothing to prevent intervention; alone in room with unlocked door)
- 2. Active precautions (locked door)

4. Acting to Get Help During/After Attempt

- 0. Notified potential helper regarding attempt
- 1. Contacted but did not specifically notify potential helper regarding attempt
- 2. Did not contact or notify potential helper

5. Final Acts in Anticipation of Death (e.g., will, gifts, insurance)

- 0. None
- 1. Thought about or made come arrangements
- 2. Made definite plans or completed arrangements

6. Active Preparation for Attempt

- 0. None
- 1. Minimal to moderate
- 2. Extensive

7. Suicide Note

- 0. Absence of note
- 1. Note written, but torn up; note thought about
- 2. Presence of note

8. Overt Communication of Intent Before the Attempt

- 0. None
- 1. Equivocal communication
- 2. Unequivocal communication

II. Self Report

9. Alleged Purpose of Attempt

0. To manipulate environment, get attention, revenge
1. Components of "0" and "2"
2. To escape, surcease, solve problems

10. Expectations of Fatality

0. Thought that death was unlikely
1. Thought that death was possible but not probable
2. Thought that death was probable or certain

11. Conception of Method's Lethality

0. Did less to self than he thought would be lethal
1. Wasn't sure if what he did would be lethal
2. Equaled or exceeded what he thought would be lethal

12. Seriousness of Attempt

0. Did not seriously attempt to end life
1. Uncertain about seriousness to end life
2. Seriously attempted to end life

13. Attitude Toward Living/Dying

0. Did not want to die
1. Components of "0" and "2"
2. Wanted to die

14. Conception of Medical Rescuability

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

15. Degree of Premeditation

0. None; Impulsive
1. Suicide contemplated for three hours or less prior to attempt
2. Suicide contemplated for more than three hours prior to attempt

III. Other Aspects (Not Included in Total Score)

16. Reaction to Attempt

0. Sorry about attempt; feels foolish, ashamed (circle which one)
1. Accepts both attempt and its failure
2. Regrets failure of attempt

17. Visualization of Death

0. Life-after-death, reunion with decedents
1. Never ending sleep, darkness, end-of-things
2. No conceptions of, or thoughts about death

18. Number of Previous Attempts

0. None
1. One or two
2. Three or more

19. Relationship between Alcohol Intake and Attempt

0. Some alcohol intake prior to but not related to attempt, reportedly not enough to impair judgment, reality testing
1. Enough alcohol intake to impair judgment, reality testing and diminish responsibility/impulse control
2. Intentional intake of alcohol in order to facilitate implementation of suicide attempt

20. Relationship between Drug Intake and Attempt (narcotics, hallucinogens, etc. drug is not the method used to suicide)

0. Some drug intake prior to but not related to attempt, reportedly not enough to impair judgment, reality testing
1. Enough drug intake to impair judgment, identity testing and diminish responsibility/impulse control
2. Intentional drug intake in order to facilitate implementation of suicide attempt

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Factor Composition of the Suicide Intent Scale

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An exploratory analysis of the Suicide Intent Scale was performed on a sample of 98 psychiatric inpatients who had made suicide attempts. The factor analysis was performed using a method for polychotomous data, and resulted in a two-factor solution. The Lethal Intent factor contained items pertaining to the subjective level of lethal intent, while the Planning factor contained items largely related to objective planning for the attempt. Preliminary analysis of these factors suggest that the Suicide Intent Scale can be used to evaluate two separate aspects of suicidal behavior.

The evaluation of suicide risk is a complex and difficult clinical challenge. In patients who have previously made suicide attempts, the evaluation of suicide intent and the medical lethality of past suicide attempts are two dimensions that are considered to be important in evaluating risk for future suicide (Beck, Beck, & Kovacs, 1975). Rating instruments have been developed to study these aspects of suicidal behavior. The measurement of medical lethality usually consists of an objective rating of the physical damage caused by the attempt using a rating instrument such as the Lethality Scale (Beck et al., 1975). Assessment of suicide intent is more difficult because of its reliance on self-report and the more subjective nature of the information assessed. A comprehensive assessment of suicide intent involves the analysis of an array of overt behaviors, thoughts, and feelings that may represent specific components of intent. Clinical assessment of suicide intent plays an important role in treatment decisions regarding patients who have recently made

an attempt. In order to study the causes and correlates of different aspects of suicidal intent, the multiple dimensions of intent must be distinguished.

The Suicide Intent Scale (SIS), developed by Beck, Schuyler, and Herman (1974), is widely used for the measurement of suicide intent. The scale was developed to measure suicide intent associated with a previous attempt. The SIS is comprised of 15 items selected from a pool of items generated by Beck and his colleagues as a result of their clinical investigations and review of the literature. Each item is rated on an ordinal scale of 0, 1, or 2, with the total score ranging from 0 to 30. The scale consists of two sections. Section 1 contains items dealing with the objective circumstances related to the suicide attempt (items 1 through 8), such as whether others were nearby or could possibly intervene, whether there were acts in preparation for the attempt, and whether there was communication of intent. Section 2 contains items based on the patient's self-report of their internal concept

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of intent (items 9 through 15), and includes items that tap expectation of fatality, seriousness of attempt, and attitude toward dying. The inter-rater reliability of the scale has been reported to be $r = .95$ on a sample of 45 suicide attempters (Beck, Schuyler, and Herman, 1974).

The validity of the SIS has been explored by several investigators. Beck, Schuyler, and Herman (1974) reported that the mean total score of Section 1 (items 1 through 8) was significantly higher for 31 completed suicides compared with 49 nonfatal attempts. The same results were found in a larger study (Beck, Morris, & Beck, 1974) comparing 194 completed suicides to 231 attempted suicides. The latter study also showed that the 19 patients who re-attempted suicide within 1 year after discharge had significantly higher 15-item total scores for the first attempt than those who did not re-attempt suicide.

Several factor analytic studies on the SIS have been reported. In all of these studies, standard factor analytic procedures were used: The number of factors was selected based on the number with eigenvalues greater than unity, extraction was by the method of principal components, and varimax rotation was employed. These studies analyzed the items of the SIS as though they were continuous variables, although they are rated on a polychotomous scale of 0, 1, and 2.

In their initial factor analysis of the SIS, Beck and Lester (1976) performed a factor analysis on the first section of the SIS (items 1 through 8) using a sample of 208 suicide attempters. They repeated the analysis using a sample of 235 completed suicides. A three-factor solution was found in each analysis, with the two solutions differing only with regard to items 4 and 6.

Beck, Weissman, Lester, and Trexler (1976) also performed a factor analysis on an 18-item version of the SIS. They included the 15 items of sections 1 and 2 as well as three additional items that are not typically included in calculating the total score of the SIS. When the analysis was

performed on 188 suicide attempters, six factors were extracted. The 15 items on the scale loaded on four of the factors: Factor 1 was identified as Attitudes toward the Attempt, Factor 2 reflected Planning Behavior, Factor 3, Precautions against Intervention, and Factor 6, Communication with Others. Factors 4 and 5 contained the three additional items.

Wetzel (1977) conducted a factor analysis on the 15-item SIS ratings of 48 suicide attempters. Using standard factor analytic procedures, four factors had eigenvalues greater than 1.0 and were thereby extracted. These four factors were defined as Serious Intent, Lethal Act, Precautions against Interference, and Notification.

Although there is no consensus across these previous studies as to exactly how many components, or factors, are sufficient to explain the variance of the 15-item scale, all of these factor analytic results suggest that there is more than one component of suicide intent. No prior factor analytic study of the SIS has taken into account the polychotomous nature of the item scores. This paper reports on an exploratory factor analysis of the SIS utilizing a method for polychotomous data. The factor analysis was performed on the matrix of polychoric correlation coefficients, the correlations between the continuous variables underlying the categorical ratings. The method of unweighted least squares was used for extraction, and an oblique rotation was used because there was reason to believe that components of the SIS would be intercorrelated. Analysis of the scale's internal reliability was also performed, and preliminary assessment of the validity of the factor subscores was conducted.

METHODS

Subjects

The sample consisted of 98 consecutively admitted psychiatric inpatients with a history of suicide attempt(s) with consequences that warranted medical evalua-

tion. All subjects were inpatients admitted to the Payne Whitney Clinic (New York City) or the Western Psychiatric Institute and Clinic (Pittsburgh) by the same group of investigators. Patients had been admitted to the hospital for assessment and treatment of depression and/or suicide attempt. Patients initially considered to have an affective disorder were admitted to the study after giving written informed consent. Patients were assessed within two weeks of admission, and on average, 26.7 ± 99.7 weeks after their most recent attempt. DSM-III-R diagnoses were made by a structured clinical interview using an expanded version of the Schedule for Affective Disorders and Schizophrenia (SADS; Spitzer, Endicott, & Robins, 1978). The sample consisted predominantly (93%) of patients with depressed mood, having diagnoses of major depression, dysthymia, or adjustment disorder. The mean age was 28 ± 10 years, 62.2% were females, and 78.6% were white. As to marital status, 41.8% were single, 27.6% were married, and 30.5% were separated, divorced, and widowed. The total scores of the SIS from the two samples did not differ (16.2 ± 6.1 versus 16.0 ± 5.6 , $t = 0.17$, $p = \text{n.s.}$) and the data sets from the two sites were therefore pooled. The intra-class correlation coefficient of the SIS total scores for the raters was 0.72 ($n = 16$ patients).

Analyses

Exploratory factor analysis was performed utilizing a method for polychotomous data. Polychoric correlation coefficients were estimated by maximum likelihood estimation utilizing Muthen's LISCOMP program (Muthen, 1987). These were computed by submitting each of the 105 distinct 3×3 contingency tables to the program to obtain the estimated polychoric correlation coefficients (Table 1). A polychoric correlation coefficient is defined as the product moment correlation between the two normally distributed latent variables that are assumed

to underlie the polychotomous variables (Kotz, Johnson, & Read, 1986). The resulting matrix of polychoric correlation coefficients was then factor analyzed with the Statistical Package for the Social Sciences (SPSS) using the method of unweighted least squares (ULS) for estimation of the factor loadings. The oblimin algorithm was utilized for oblique rotation of the factors to simple structure, and factor loadings reported are from the factor pattern matrix.

Factor subscale scores, based on the results of the polychoric factor analysis, were computed by summing the items that loaded on each of the factors. Subscale scores were used, as opposed to factor scores, because factor scores are likely to be unstable unless a large sample is used. Cronbach's alpha was used to measure the internal reliability of the total scale and each of the subscales.

In an initial effort to assess the validity of the factors, correlation analyses were carried out to test the association of the factor subscales to other variables of interest, including the Lethality Scale score (Beck et al., 1975), the Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974), and the Scale for Suicidal Ideation (Beck, Kovacs, & Weissman, 1979). In addition, to assess the relationships between suicide intent and clinical symptom severity, correlation analyses were performed with the 24-item total score of the Hamilton Depression Rating Scale (HDRS; Hamilton, 1960) and the scores on the Global Assessment Scale (GAS; Endicott, Spitzer, & Fleiss, 1976). Individual scales were not available for some cases; therefore the sample size varies for these analyses.

RESULTS

A two-factor solution was obtained from the SPSS factor analysis procedure using the method described above. Although four of the eigenvalues were greater than unity, a four-factor solution showed evidence of over-factorization. The solution

TABLE 1
Matrix of Polychoric Correlation Coefficients

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|----|-------------|------|-------------|------|-------------|-------------|-------------|-------------|------|------|------|------|------|------|-----|
| 1 | 1.0 | | | | | | | | | | | | | | |
| 2 | .717 | 1.0 | | | | | | | | | | | | | |
| 3 | .450 | .472 | 1.0 | | | | | | | | | | | | |
| 4 | .999 | .256 | .390 | 1.0 | | | | | | | | | | | |
| 5 | .189 | .139 | .412 | .432 | 1.0 | | | | | | | | | | |
| 6 | .018 | .377 | .543 | .199 | .709 | 1.0 | | | | | | | | | |
| 7 | .335 | .199 | .047 | .138 | .716 | .422 | 1.0 | | | | | | | | |
| 8 | <u>.007</u> | .145 | <u>.138</u> | .374 | <u>.300</u> | <u>.156</u> | <u>.053</u> | 1.0 | | | | | | | |
| 9 | .213 | .294 | .157 | .355 | .018 | .191 | .171 | .223 | 1.0 | | | | | | |
| 10 | <u>.019</u> | .267 | .341 | .272 | .011 | .274 | .072 | .226 | .531 | 1.0 | | | | | |
| 11 | .054 | .341 | .335 | .342 | .226 | .420 | .115 | .190 | .490 | .937 | 1.0 | | | | |
| 12 | .079 | .362 | .387 | .428 | .005 | .269 | <u>.022</u> | .270 | .568 | .870 | .837 | 1.0 | | | |
| 13 | .116 | .293 | .255 | .401 | <u>.008</u> | .230 | <u>.010</u> | .206 | .500 | .866 | .802 | .943 | 1.0 | | |
| 14 | .096 | .195 | .153 | .336 | .122 | .180 | <u>.028</u> | .089 | .336 | .840 | .831 | .673 | .785 | 1.0 | |
| 15 | .419 | .464 | .389 | .309 | .401 | .658 | .372 | <u>.038</u> | .306 | .386 | .284 | .418 | .373 | .118 | 1.0 |

Note. Underlined values represent negative coefficients.

resulted in the third and fourth factors having only two loadings greater than 0.50. In order to identify a factor from a sample correlation matrix, at least three significant loadings are required (Zwick & Velicer, 1986). A three-factor solution resulted in a similar over-factorization; the third factor had only two significant loadings. The two-factor solution was then obtained and resulted in each factor having a sufficient number of significant loadings (Table 2).

Factor 1 consists of items dealing with the largely subjective *intent to make a lethal attempt*. This factor contains high loadings on expectation regarding fatality (.97), seriousness of attempt (.93), ambivalence to living (.93), concept of lethality (.87), concept of reversibility (.79), and purpose of attempt (.50). Factor 2 consists of items dealing largely with objective aspects of *planning*. This factor contains high loadings on active preparation for attempt (.76), isolation (.76), final acts in anticipation of death (.73), degree of premeditation (.63), precautions against discovery (.56), presence of a suicide note (.56), acting to get help during or after the attempt (.55), and timing (.52). All of the above items had a factor loading of .50 or higher on one of the factors. Factors 1 and

2 were weakly correlated, $r(96) = .031$, $p = .002$.

Item 8, referring to overt communication of intent before the attempt, had low loadings on both Factor 1 (.30) and Factor 2 (-.14). Analysis of the corrected item-total correlations, defined as the correlation between each item and the sum of the remaining 14 items (Table 3), showed that Item 8 had a weak negative correlation with the remainder of the scale, $r(96) = -.10$, $p = .35$. This item did not load highly on either the Lethal Intent factor or the Planning factor, and was therefore not included in either subscale.

Reliability of Subscales

Lethal Intent and Planning subscale scores were calculated for each patient by summing the items that loaded on each of the two factors of the factor analysis solution. Reliability of the SIS was calculated using Cronbach's alpha, a measure of internal consistency. The reliability of the 15-item scale was $\alpha = .81$. The reliability of the Lethal Intent subscale was $\alpha = .90$ and of the Planning subscale was $\alpha = .74$. Corrected item-total and item-subscale total correlations were calculated as the cor-

TABLE 2
Factor Loadings

| Item Description (Item Number) | Communality | Eigenvalue | Factor Loadings | |
|-------------------------------------|-------------|------------|-----------------|----------|
| | | | Lethal Intent | Planning |
| Isolation (1) | .562 | 5.932 | -.082 | .763 |
| Timing (2) | .353 | 2.990 | .188 | .524 |
| Precautions (3) | .377 | 1.715 | .154 | .562 |
| Act to Gain Help (4) | .415 | 1.131 | .240 | .547 |
| Final Acts (5) | .509 | 0.961 | -.175 | .731 |
| Degree of Planning (6) | .589 | 0.685 | .051 | .755 |
| Note (7) | .294 | 0.632 | -.141 | .556 |
| Communication (8) | .088 | 0.535 | .296 | -.136 |
| Purpose of Attempt (9) | .315 | 0.334 | .497 | .173 |
| Expectation Regarding Fatality (10) | .945 | 0.210 | .966 | .027 |
| Concept of Lethality (11) | .841 | 0.161 | .869 | .158 |
| Seriousness (12) | .905 | 0.100 | .926 | .094 |
| Ambivalence to Living (13) | .878 | 0.013 | .926 | .047 |
| Concept of Reversibility (14) | .624 | -0.037 | .786 | .018 |
| Degree of Premeditation (15) | .473 | -0.362 | .168 | .631 |

relation of each item with the total of the remaining items (see Table 3).

Validity of Subscales

A preliminary assessment was made of the validity of the Lethal Intent and Plan-

ning subscale scores. Ratings of the lethality of the index attempt, that is, medical damage resulting from the attempt, were significantly correlated with both the Lethal Intent subscale, $r(95) = .24, p = .02$, and the Planning subscale, $r(95) = .33, p = .001$. However, when regression analysis was performed with medical damage

TABLE 3
Corrected Item-Total and Item-Subscale Correlations of the SIS

| Item Description (Item Number) | r_{I-T} | r_{I-LI} | r_{I-PL} |
|-------------------------------------|-----------|------------|------------|
| Isolation (1) | .30 | - | .42 |
| Timing (2) | .43 | - | .46 |
| Precautions (3) | .44 | - | .45 |
| Act to Gain Help (4) | .33 | - | .28 |
| Final Acts (5) | .36 | - | .49 |
| Degree of Planning (6) | .52 | - | .59 |
| Note (7) | .24 | - | .35 |
| Communication (8) | -.10 | - | - |
| Purpose of Attempt (9) | .38 | .42 | - |
| Expectation Regarding Fatality (10) | .58 | .85 | - |
| Concept of Lethality (11) | .64 | .81 | - |
| Seriousness (12) | .60 | .80 | - |
| Ambivalence to Living (13) | .57 | .79 | - |
| Concept of Reversibility (14) | .48 | .67 | - |
| Degree of Premeditation (15) | .51 | - | .53 |

Note. r_{I-T} = Item-total correlation; r_{I-LI} = item-lethal intent correlation; r_{I-PL} = item-planning correlation.

as the dependent variable and Lethal Intent and Planning as the independent variables, only the Planning factor was a significant predictor of medical damage ($t = 2.76, p = .007$). Both subscales were correlated with suicidal ideation as measured by the Scale for Suicidal Ideation [Lethal Intent: $r(72) = .51, p < .0001$; Planning: $r(72) = .31, p = .01$]. However, neither the Lethal Intent subscale, $r(95) = -.01, p = .92$, nor the Planning subscale, $r(95) = -.04, p = .70$, were correlated with the total number of lifetime suicide attempts. There were no significant gender differences in Lethal Intent (males: 9.3 ± 3.2 , females: $8.0 \pm 3.6, t = 1.78, df = 96, p = .08$) or in Planning (males: 7.5 ± 3.9 , females: $7.0 \pm 3.9, t = 0.62, df = 96, p = .54$).

The distributions of the two subscales appear to be different (see Figure 1). The Lethal Intent subscale appears to be negatively skewed and somewhat truncated, with most of the scores clustered at the high end of the range of scores and few at the low end. The Planning subscale appears to be more normally distributed. The correlation of the subscales with the other variables of interest did not show different results when Spearman rank correlations were performed as compared to the Pearson correlations reported in this paper.

Relationship to Clinical Variables

Lethal Intent had a significant positive correlation with the total score on the Hopelessness Scale, $r(77) = 0.27, p = .02$. Planning, however, was not correlated with hopelessness, $r(77) = -.06, p = .59$. When a statistical test for the quality of these two dependent correlation coefficients (Steiger, 1980) was calculated, the two coefficients were found to be significantly different ($T_2 = 2.61, df = 76, p < .05$). Lethal Intent appeared to be weakly correlated with global functioning as assessed using the GAS, although this correlation did not reach significance, $r(96) = -.19, p = .06$. Planning was not

related to GAS scores, $r(96) = -.09, p = .40$. These two correlation coefficients were not significantly different ($T_2 = -.91, df = 95, n.s.$). Neither Lethal Intent, $r(96) = -0.01, p = .91$, nor Planning, $r(96) = 0.06, p = .57$, was significantly correlated with ratings of severity of depression using the HDRS.

DISCUSSION

Suicide is a complex behavioral phenomenon that is influenced by a wide range of social and biological factors. There are also several clinically distinct aspects of suicide attempts, such as medical lethality, impulsivity, and intent to die. To date, little empirical work has been undertaken to differentiate and measure distinct aspects of suicide attempts. As a result, it remains difficult to determine whether different risk factors for suicide are associated with distinct types of suicidal behavior. The development and validation of measures that assess clinically relevant dimensions of suicidal behavior are needed to differentiate causes or correlates of different types or aspects of suicide behavior.

Several studies have attempted to differentiate distinct aspects of suicide attempts by factor analyzing the SIS. These factor analytic studies have yielded up to four-factor solutions. The presence of factors with less than three significant loadings in these previous studies may indicate over-factorization. Additionally, factor analysis, when performed on the product-moment correlation matrix of discrete items often results in solutions that include more factors than are effectively needed to explain the relationships among the items (McDonald, 1985). In the present factor analysis of the SIS, using a factor analytic method which is more appropriate for polychotomous rating scale data, two clinically relevant dimensions of suicidal behavior were differentiated: the (subjective) Lethality of Intent and the (objective) degree of Planning as-

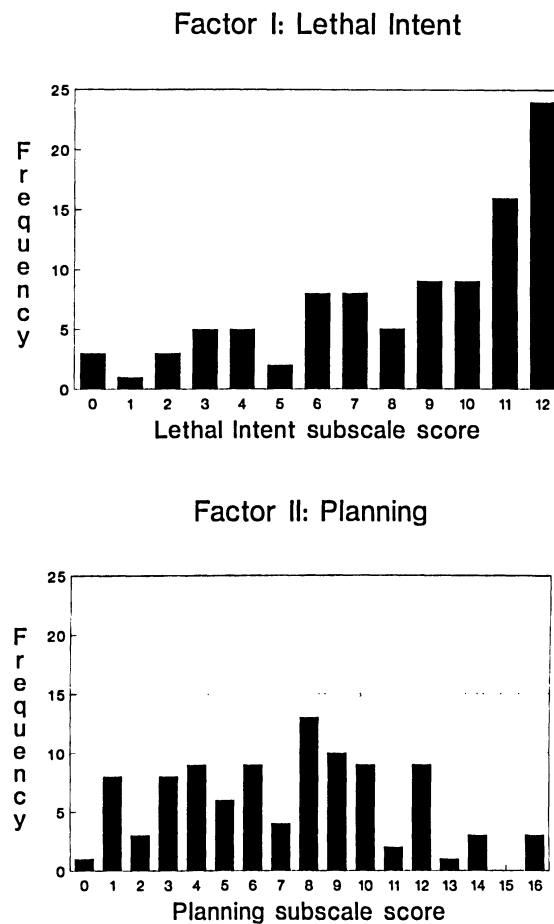


Figure 1. Distribution of the factor subscale scores of the Suicide Intent Scale.

sociated with attempts. Factor 1, the Lethal Intent factor, included items 9, 10, 11, 12, 13, and 14, and Factor 2, the Planning factor, included items 1, 2, 3, 4, 5, 6, 7, and 15.

The present study, as well as that of Beck and his colleagues (1976), noted that Item 8 (Communication) was not related to the other items. Beck's study suggested that communication of intent was not a general dimension underlying suicide intent but rather was a behavioral pattern, reflecting personal style more than intent. Consistent with Beck's finding, the results of our polychotomous factor analysis showed that this item had very low loadings on both factors. Therefore, it was

not considered a dimension that could be used to explain the variance of the two extracted factors of suicide intent.

The intent to make a lethal suicide attempt appears to be distinct in some ways from the planning of the attempt. Although the two components were significantly correlated, the correlation was relatively low, $r(96) = 0.31$, $p = .002$. This separation has clinical face validity because, for example, a person may extensively plan an attempt but not believe the means chosen to be lethal, whereas another person may plan very little, but impulsively use a very lethal method. The distribution of the factor subscale scores suggests that in suicide attempters mak-

ing serious attempts, the scores of Lethal Intent are often at the highest end of the scale. The scores for Planning appear to be more normally distributed, with some low and high scores, with most scores lying in the middle of the range. Scores on these specific components of intent may therefore be more informative than a total score of the scale.

The preliminary evaluation of the validity of the Lethal Intent subscale and the Planning subscale indicated that they were differentially related to variables of interest. Lethal Intent was correlated with ratings of hopelessness whereas Planning was not. This raised the possibility that while hopelessness may influence the lethal intent of an individual, other factors may more powerfully influence the extent of planning for the attempt. Both Lethal Intent and Planning subscales were correlated with objective ratings of the medical damage or lethality of the attempt. These correlations were low, which raises the question as to what variables, other than suicide intent, determine the actual medical damage resulting from the attempt. No clear relationship was found between severity of depression or global functional impairment (GAS) and either suicide intent subscore. These results are consistent with those reported by Beck and his colleagues who found that suicide attempters and nonattempters suffering from a major depressive disorder could not be distinguished on the basis of severity of depression (Beck, Steer, Kovacs, & Garrison, 1985). Similarly, severity of depression during an index hospitalization does not appear to predict future suicide (Fawcett, Scheftner, Clark, Hedeker, Gibbons, & Coryell, 1987).

Although factor analysis using the matrix of polychoric correlation coefficients is the more appropriate statistical analysis when the variables are polychotomous in nature, some limitations do exist and need to be considered in the interpretation of these results. The resulting matrix may not be positive definite, as was the case in this analysis. Further, the polychoric correlation coefficients are estimated and

therefore have a standard error associated with them. The larger the sample, the more precise the estimate and the less the estimation error. The sample size used in this analysis was not large; therefore there is likely some imprecision in the estimates of the correlation coefficients. The sample is also considered small for the calculation of stable factor loadings; we therefore used subscale scores as opposed to factor scores with the assumptions that the identification of subscales, items that cluster together, would be more stable than factor scores. A future study, using a larger sample size, would help to confirm these results.

Despite the fact that there was only a weak correlation between the objective suicide Planning factor and medical damage in this sample of suicide attempters, suicide completers have been found to have a higher score on the objective planning section of the SIS than suicide attempters (Beck, Schuyler, & Herman, 1974). Given that Beck, Schuyler, and Herman (1974) reported that higher SIS scores predicted future suicide attempts, and that higher objective intent scores based on the first part of the SIS distinguished suicide completers from attempters, it would be of interest to conduct a prospective study of the predictive properties of these two SIS subscales. Furthermore, given the finding of altered serotonin function in completers and attempters undertaking the more serious forms of suicidal behavior (Mann, Arango, Marzuk, Theccanat, & Reis, 1989), future studies might address the relationship of these biological changes to lethal intent and planning.

The Lethal Intent and Planning subscales identified by this study may be useful assessment tools for defining distinct components of intent. Knowledge of the extent of lethal intent in a previous suicide attempt and whether that attempt involved a high or low level of planning behavior may provide valuable information for research purposes and may eventually aid in making treatment decisions for individuals who may be at risk for future suicide attempts.

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