Hopelessness, Depression, and Attempted Suicide

BY KENNETH MINKOFF, M.D., ERIC BERGMAN, AARON T. BECK, M.D., AND ROY BECK

The authors have identified a component of the syndrome of depression—the cognitive element of negative expectations—as a stronger indicator of suicidal intent than depression itself. This not only suggests a solution to the puzzling question of why there is a relationship between depression and suicide, but also indicates that approaches specifically designated to alleviate hopelessness may be successful in preventing suicide.

The question of what motivates an individual to attempt or to commit suicide has puzzled the lay public and professionals alike. Laymen are prone to state emphatically that such an individual "was at the end of his rope," "could see no other way out"—was, in a word, hopeless.

On the basis of clinical observation of suicidal persons, several investigators have reached similar conclusions. Beck (1), in an intensive study of 50 depressed suicidal patients in psychotherapy, noted, "Suicidal preoccupations seemed...related to the patient's conceptualization of his situation as untenable or hopeless..." The suicidal patients generally stated that they regarded suicide as the only possible solution for their desperate or hopeless situations." These patients were later able to regard their hopelessness as cognitive distortions or as derived from erroneous or unrealistic premises. Farber (2) observed, "It is when the life outlook is of despairing hopelessness that suicide occurs." Similar observations have been made by Kobler and Stotland (3).

The paucity of systematic research to test and explore these clinical observations of the relationship between hopelessness and suicide is striking. One explanation is the entrenched belief of many clinical investigators that hopelessness is a diffuse feeling state and therefore too vague and unquantifiable to be systematically investigated. Stotland's review of the literature on hopelessness (4), arguing eloquently against this belief, proposed that hopelessness can be readily objectified by defining it as a system of cognitive schemas whose common denominator is negative expectations about the future. Thus, a pessimistic or hopeless individual expects or believes that nothing will turn out right for him, nothing he does will succeed, his important goals are unattainable, and his worst problems will never be solved. This definition of hopelessness (or pessimism) as a set of negative expectations about the future is used in this paper.

Another possible explanation for the sparse research on the relationship of hopelessness to suicide is that the main thrust of clinical research in this area has explored the link between depression and suicide. However, although the relationship of depression and depressive illness to attempted and completed suicide has been fairly well established by a variety of studies (5–10), there are few data to suggest the nature of this relationship. At least three possibilities should be considered. One possibility is that suicidal behaviors are an intrinsic part of depression, just as fever is an intrinsic part of pneumonia...


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HOPELESSNESS, DEPRESSION, AND ATTEMPTED SUICIDE

TABLE 1
Demographic Characteristics of 68 Suicide Attempters

<table>
<thead>
<tr>
<th>Category</th>
<th>White</th>
<th>Black</th>
<th>Puerto Rican</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 35</td>
<td>14</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Over 35</td>
<td>8</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Female</td>
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<tr>
<td>Under 35</td>
<td>11</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Over 35</td>
<td>3</td>
<td>1</td>
<td>0</td>
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</tbody>
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(although it is not always present). Another possibility is that the statistical association between depression and suicide is merely an artifact resulting from a joint attachment to a third variable, such as age, to which each is directly statistically related. Finally, there is the possibility that depression and suicide are related because each has an underlying causal factor in common.

Menninger (11), one of the major proponents of the third hypothesis, utilized Freud's classical theory of depression to argue that both depression and suicide were expressions of introverted unconscious hostility. This thesis has not been supported by experimental work (7). Newer theoretical constructs of depression by Beck (7, 12, 13), Birbring (14), Gaylin (15), and others have de-emphasized the role of repressed rage and have focused on what Beck (7) has termed the "Cognitive Triad of Depression," i.e., "negative attitudes of the depressed individual toward himself, the outside world, and his future" (12). This triad is viewed as a key underlying the other phenomena of depression.

Several empirical studies support the statistical relationship between hopelessness and suicide. In a systematic investigation of suicide notes, Bjerg (16) reported that in 81 percent of the notes the writer regarded himself "as having a desire... which could not, cannot, or will not be fulfilled." Farnham-Diggory (17) reported that suicidal patients showed a significantly constricted subjective view of the future, compared with the nonsuicidal patients. Ganzler (18) compared six groups (ten men and ten women in each group) on various social and interpersonal perceptions: one group in life crisis who were suicidal; one group in life crisis who were not suicidal; one group of noncrisis, nonsuicidal psychiatric outpatients; and three groups of normal subjects. He found that, although all three psychiatric groups described their current life situations in negative terms, only the suicidal group rated the future negatively, in particular by anticipating and fear of social isolation in the future.

In a factor analysis of the Beck Depression Inventory (19), Pichot and Lempréiere (20) isolated a factor with high loadings for only two items: hopelessness (.40) and suicide (.34). Cropley and Weckowicz (21) reported an identical factor with even higher loadings on hopelessness (.53) and suicidal wishes (.57). Beck's analysis of the intercorrelations of individual items on the Depression Inventory showed that suicidal wishes correlated more highly with hopelessness than with any other item (7).

In the present study, using quantitative measures of hopelessness, depression, and the seriousness of intent of a suicide attempt, we attempted to investigate the relationship of hopelessness and suicide by testing the following hypotheses:

1. A significant correlation exists between negative expectancies (hopelessness) and seriousness of intent of suicide attempters.
2. Seriousness of intent of suicidal attempts is more closely related to hopelessness than to the syndrome of depression in general.

METHOD

The sample consisted of 68 consecutive suicide attempters admitted to Philadelphia General Hospital over a period of six months. There were 37 men and 31 women (two of whom were pregnant); 36 were white, 30 were black, and two were of Puerto Rican descent. The range of ages was from 14 to 63, and the mean age was 29.4 years. The demographic characteristics of the sample are presented in Table 1.

With regard to social variables in the sample, 38 were single, 19 separated, six divorced, one widowed, and only four married. There were 28 Catholics, 28 Protestants, six Jews, and six with no religious affiliation. The mean educational level was 10.47 years of schooling.

Each patient in the sample was assigned a psychiatric diagnosis in accordance with the Diagnostic and Statistical Manual of Mental Disorders, second edition (22). The diagnosis was related to the acute reason for the current admission and was based on a combination of evaluation by the house staff (for those patients admitted to psychiatric wards) and clinical evaluation by our research staff. The distribution of acute psychiatric diagnoses in the sample was as follows: 45 (66.2 percent) had a depressive disorder (neurotic or psychotic) and 23 (33.8 percent) were diagnosed as schizophrenic. Ten patients were admitted to medical wards and the remainder (88.5 percent) to the psychiatric inpatient service.

Forty-seven patients attempted suicide by ingestion of some dangerous substance; 44 of these (65 percent of the total) ingested coma-producing drugs. Nineteen (28 percent) had used cutting or piercing instruments and the rest had used a variety of methods including hanging, jumping, and drowning; six (nine percent) had used more than one method.

The decision to include a patient in the sample was based primarily on the determination that he actually was a suicide attempter, as opposed to a threatener or ideator, to a self-mutilator with no intention of killing himself, or to a patient who had accidentally inflicted self-injury or unintentionally taken an overdose of a drug. For this determination, we used the criteria of Silver and his co-workers (10): 1) a patient was included if he stated that he had deliberately harmed himself in order to terminate his life; 2) a patient was included regard-
less of how slight or how great his injury was; and 3) a patient was not included if he had threatened or considered suicide but stopped short of carrying it out (such as standing on a bridge but not jumping).

Each patient in the study was seen within 48 hours of admission to the hospital on two separate occasions by members of our research staff. In one interview, conducted by an experienced clinician, the patient was evaluated clinically and a comprehensive history, including the circumstances and state of mind at the time of the suicide attempt, was taken. In addition, data regarding medical, social, and family history were collected. The second interview, conducted by a psychological technician, elicited a large amount of detailed personal information from the patient, including in particular demographic data and patterns of alcohol and drug use. In this interview, the patient was given the Beck Depression Inventory (BDI) (7) and the Generalized Expectancies Scale (GES) (23).

The major findings of the present study are based on the results of the BDI, GES, and Suicidal Intent Scale for each patient. The BDI was used as a means of measuring the intensity of depression (irrespective of primary diagnosis); it includes cognitive, affective, motivational, and vegetative elements of depression. The possible range of scores is 0–63 (7). The GES consists of 20 statements about the future, which the patient marks as true or false. The score ranges from 0, representing no hopelessness, to 20, representing maximum hopelessness. There is considerable evidence of the concurrent and construct validity of this scale: it correlates well with other scales intended to measure future time perspective; the scores correlate well with clinical ratings of hopelessness; and the scores correlate with ratings of depression and reflect changes in depression (23).

The Suicidal Intent Scale, developed by our research unit (24), is a 15-item scale that evaluates the seriousness of the patient's psychological intent by assessing the circumstances surrounding the attempt and the patient's post-attempt description of his intentions and expectations during the attempt. The scale does not rely on the physical damage resulting from the attempt or on any demographic or historical data. The range of scores is from 0 to 30. The score on the Suicidal Intent Scale is determined by the clinical interviewer on the basis of data elicited in the interview. The first section of the scale (items 1-9), "Circumstances related to suicide attempt," deals with factual aspects of the attempt (e.g., timing, planning, suicide note). The informants are the patient and another reliable person. The second section (items 10-15), "Self-report," is used to record retrospectively the patient's thoughts and feelings at the time of the attempt.

Thirty-one of the patients in our sample were compared for interrater reliability on the Suicidal Intent Scale by two independent raters, and the correlation was found to be .95. The correlation between the "Circumstances" subscale (items 1-9) and the "Self-report" subscale (items 10-15) was .43 (p < .01) on a sample of 68 patients.

The construct validity of the scale is supported by the finding of Silver and his associates (10) of a significant positive correlation between depression and intent in 45 suicide attempters and by the finding of Beck and associates (24) that the mean intent score on the "Circumstances" subscale was significantly higher in a group of 31 successful attempters than in a group of 49 unsuccessful attempters.

It should be noted that the BDI and GES were administered and scored in a separate interview by an interviewer other than the clinician who conducted the clinical interview, completed the Suicidal Intent Scale, and made the diagnosis.

RESULTS

The mean score on the BDI for the full sample was 21.93, with a standard deviation of 13.2; the mean GES score was 7.87, with a standard deviation of 6.1; and the mean Suicidal Intent Scale score was 12.87, with a standard deviation of 6.2.

A correlation matrix was calculated using the following variables: age, Suicidal Intent Scale score (Intent), GES score, and BDI score. It was found that age showed no significant correlation with any of the other variables.

As expected, the BDI and GES scores showed a highly significant positive correlation (r = .68). The positive correlation of Intent and GES (r = .47) was significant at the .001 level, while the correlation of BDI and Intent (r = .26) was significant only at the .05 level. Using Hotelling's test of the difference between two dependent correlation coefficients, we found that the correlation between Intent and GES was significantly higher than that between Intent and BDI (p < .001). Further computations revealed that the partial correlation of Intent with GES (holding BDI constant) was .41 (p < .001), while the partial correlation of Intent with BDI (holding GES constant) was .09 (nonsignificant).

Additional analyses were conducted in order to determine whether scores on the two subscales, "Circumstances" (items 1-9) and "Self-report" (items 10-15), were consistent with the findings of the whole Suicidal Intent Scale. This was particularly important since only the first subscale had been validated in comparisons with completed suicides (24). We found that the analyses of the subscales conformed to the findings reported above. The correlation of "Circumstances" with the BDI was r = .13 (nonsignificant) and with the GES was r = .31 (p < .01); the significance of difference between these was p < .10. The correlation of "Self-report" with the BDI was r = .30 (p < .01) and with the GES was r = .64 (p < .001); the difference between these was significant (p < .001).

The sample was divided into three groups of roughly equal size according to the BDI score, and a one-way analysis of the variance of the mean Intent scores for each group was performed. The analysis revealed a positive nonlinear variation of Intent with BDI, but this was not significant (p < .10). A similar analysis was per-

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formed on the variance of Intent with GES. The analysis showed a positive linear variation that was statistically significant (p < .01).

The data were further analyzed by dividing the sample into two roughly equal groups according to both GES (0-7 and 8-20) and BDI (0-19 and 20-63) scores and then comparing the mean Intent scores in the four paired groups: low hopelessness-low depression (N = 26, mean Intent score = 10.27); low hopelessness-high depression (N = 9, mean score = 9.11); high hopelessness-low depression (N = 8, mean score = 16.38); and high hopelessness-high depression (N = 25, mean score = 15.80).

Whether the BDI (depression) scores were high or low, the groups with high GES (hopelessness) scores had the higher mean Intent scores. Using t tests of the differences between the mean Intent scores in the various groups, the following results were obtained: 1) between high GES-low BDI and low GES-high BDI, t = .88 (p < .025); 2) between high GES-low BDI and low GES-low BDI, t = 1.93 (p < .10); and 3) between high GES-high BDI and low GES-high BDI, t = 3.24 (p < .005). The results indicate that intent varies with hopelessness regardless of whether depression is high or low; however, when depression is high, the difference is very significant, but when depression is low the difference does not quite attain significance.

The data were then analyzed for each of the two diagnostic groups in the sample: schizophrenia (N = 23) and depressive disorder (N = 45). Though each patient fell into one of these groups of the diagnosis, some patients also had additional chronic problems, such as alcoholism, drug abuse, or a character disorder. In the group of schizophrenics, mean Intent = 13.46, mean BDI = 24.17, and mean GES = 8.12. In the group of depressives, mean Intent = 12.55, mean BDI = 21.34, and mean GES = 7.66. The differences in means between the diagnostic groups and between each group and the total sample were not significant.

The difference between the two diagnostic groups was striking. In the depressive group, with schizophrenics eliminated, the correlation between the BDI and Intent became highly significant (r = .44, p < .005). However, the correlation between GES and Intent was even more highly significant (r = .64, p < .001); using Hotelling's test, we found that the difference between the correlation coefficients for GES-Intent and BDI-Intent was as significant (p < .001) for depressives alone as it was for the whole sample.

In the schizophrenic group, the correlation of BDI and Intent (r = .07) was negative and insignificant. The correlation of GES and Intent was positive (r = .27), but it was not significant, perhaps because of the small number. There was a difference between the correlation coefficients that was certainly suggestive of a trend, but this was not significant either.

**DISCUSSION**

The findings supported the hypotheses. We found a highly significant positive correlation between the level of hopelessness (as measured by the Generalized Expectancies Scale) and the seriousness of suicidal intent (as measured by the Suicidal Intent Scale) over the total sample. This significance was retained in the nonschizophrenic diagnostic group, but the correlation was positive though not significant in the schizophrenic diagnostic group. We also found a significant positive correlation between depression and intent in the total sample, especially in the depressed group. The latter result replicates the findings of Silver and his co-workers (10) in a similar study: 90 percent of their sample consisted of depressed patients and they also found a significant positive correlation between depression and intent.

Further, hopelessness showed a closer relationship to intent than did depression. In the total sample, this was indicated by the significantly higher value for GES versus Intent (r = .47) than for BDI versus Intent (r = .26), by the significant partial correlation of Intent with GES, by the highly significant positive variance of Intent with GES, and by the significantly higher mean Intent scores in the groups with high hopelessness scores than in those with low hopelessness scores, whatever the level of depression.

It is interesting to note that schizophrenics, despite their small number, showed a positive (though nonsignificant) correlation between intent and hopelessness and a noticeably (though not significantly) closer relationship of hopelessness to intent than of depression to intent. This indicates that, although the research is oriented more toward nonschizophrenics, the hypotheses have been supported to some extent regardless of diagnostic group.

We have thus identified one factor in the syndrome of depression—the cognitive factor of negative evaluation of the future (pessimism or hopelessness)—as apparently being more closely related to the seriousness of intent than to depression itself. In examining this finding, we must consider whether the data might be biased by the fact that the sample consisted only of suicide attempters admitted to the hospital. We must also question whether there might be a bias due to the fact that Philadelphia General Hospital tends to serve a population of lower socioeconomic background. There is no a priori reason to assume that, even if such biases do exist, they exert a significant influence on the results. However, at present, the generalizability of the findings is limited to suicide attempters of low socioeconomic status who are admitted to a general hospital.

It is also important to observe that, although we have suggested a relationship between hopelessness and suicidal intent, this does not prove that hopelessness causes suicidal behavior. In fact, the correlation between the measures of hopelessness and intent accounts for only 22 percent of the variance. Thus, although the results support the clinical and theoretical hypothesis that hopelessness is the common causal factor linking depression and suicide, further work is necessary to show how hopelessness leads to suicidal behavior.
CONCLUSIONS

Studies by other workers have already identified depression as a danger sign of possible suicide and have indicated that the danger increases as the degree of depression increases. The present study suggests that hopelessness is another danger sign, perhaps more sensitive than depression, of the seriousness of suicidal intent. This finding suggests that, if we focus on reducing a patient’s hopelessness, we may be able to alleviate suicidal crises more effectively than in the past. This might, for example, be accomplished by a psychotherapeutic approach in which negatively distorted expectations for the future are corrected. On the other hand, if the patient’s hopelessness is based on objective factors, appropriate social intervention may provide the necessary environmental changes to alleviate the reality situation.

REFERENCES