Can Adolescent Suicide Attempters Be Distinguished From At-Risk Adolescents?

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ABSTRACT. Psychiatric disorders, psychosocial dysfunction, family pathology, and environmental stressors are thought to be risk factors for adolescent suicide attempts. Variables from each of these categories were examined, by means of a structured interview and questionnaires, to determine whether a group of 21 adolescent suicide attempters could be differentiated from a group of 34 normal control subjects and a group of 15 at-risk adolescents (teenagers with known risk factors but without recent suicide attempt). The attempters differed significantly from control subjects on a large number of variables, particularly in the areas of substance abuse, depression, self-image, interpersonal relationships, communication patterns, family support, and problem behaviors. Only three items—the Beck Hopelessness Scale score, the SCL-90-R Positive Symptom Distress Index, and a history of suicidal ideation—differentiated the attempters from the at-risk adolescents. A discriminant analysis revealed that hopelessness and suicidal ideation were able to identify 93% of the suicide attempters. Pediatrics 1991;88:620–629; suicide attempt, risk factors, adolescence.

ABBREVIATIONS. OSIQ, Offer Self-image Questionnaire; MANOVA, multivariate analysis of variance.

Suicide is the third leading cause of death for youths aged 15 through 24 years in the United States.1 Suicide attempts, defined as self-destructive acts with intent to die, occur 40 to 220 times more frequently than completed suicides2–5 and conservative estimates suggest that more than 250,000 American youths attempt suicide annually.6,7 Although suicide attempts differ from suicide completions in many respects,8–10 the risk factors for the two have been considered to be similar.11–15 These risk factors have been grouped into five categories—psychiatric disorders, personality traits, and familial, biological, and psychosocial factors.16

Psychiatric disorders, particularly affective disorders, psychosis, and substance abuse, convey an increased risk of suicide, in some cases more than 20 times greater than the general population.16–24 Adolescent suicide attempts are associated with major depressive disorder, conduct disorder, substance abuse, attention deficit disorder, learning disabilities, and borderline personality disorder.13,15,25–34

Reported psychological risk factors include, among others, poor self-image, impulsivity, depressed mood, and feelings of hopelessness.12,13,16,21,22,31,35–41 These variables not only increase the likelihood, but also the lethality, of suicide attempts.5,13,16 The severity of the hopelessness is thought to be the best predictor of lethality and repeated attempts.42–47 In addition, suicidal adolescents are reported to have inadequate adaptive stress management and coping skills12,23,48 and an external locus of control12,42 which leave them vulnerable to anticipated failure or perceived loss.

Suicide attempts are frequently precipitated by an environmental stress, such as loss (eg, a breakup of an important relationship), interpersonal discord, humiliating life event, sexual abuse, or impeding disciplinary crisis.16,20,40–51 These acute events often overlay a chaotic background of increased life stress and behavior problems, such as juvenile delinquency, sexual promiscuity, or sub-
stance abuse. In addition, the suicidal adolescent often is considered to be a “loner” with few or impaired peer relationships. Early parental loss through death, divorce, or separation and poor family communication are also thought to play a role in adolescent parasuicide (suicide gestures and attempts). Further, the parents of the attempters have been described as mentally ill, indifferent, emotionally unreachable, and/or abusive. In rare cases, the adolescent attempter is seen as the “expendable child” whose suicidal behavior is a reaction to implicit and explicit parental wishes for him or her to die.

Because many adolescents have one or more of these risk factors and yet do not attempt suicide, the principal question for clinicians is “Who should we worry about?” i.e., which of the large number of known risk factors are the most closely associated with adolescent suicide attempt and might predict suicidal behavior. The purpose of this study was to examine risk factors in four categories (psychiatric, familial, psychosocial, and environmental) to determine the contribution of each to adolescent suicide attempts. We compared a group of suicide attempters with a control group of healthy volunteers and a contrast group of “at-risk” adolescents (those with known risk factors for suicide, such as depression or substance abuse but without known suicide attempts) to investigate not only the factors associated with suicide attempt, but also any protective factors that might prevent at-risk teenagers from attempting suicide. We hypothesized that the group of suicide attempters would differ qualitatively and quantitatively from normal control subjects in all four of the categories examined. We further predicted that impulsivity, acute precipitants, and feelings of hopelessness would differentiate the suicide attempters from the at-risk subjects.

METHODS

Subjects

All suicide attempters hospitalized in the Pediatrics Unit of Evanston Hospital during the 24-month study period agreed to participate in the study. It is hospital policy that any pediatric patient presenting to the emergency room following a self-harming act must be admitted to the Pediatrics Unit; thus the sample represents all adolescent suicide attempters presenting to the hospital during this period.

In addition to patients hospitalized for medical or surgical conditions, the at-risk and control groups included outpatients of the Child and Adolescent Center (an in-hospital, private pediatric practice) and physician and peer referrals. Because of time constraints, not every adolescent hospitalized during the study period was included as a control or at-risk subject; however, all who were asked to participate, agreed to do so. Potential control subjects were screened with a brief clinical interview for current suicidal ideation, history of suicide attempt, depression, and problem behaviors.

All subjects and their parents gave written consent to participate in a study of the psychology of adolescents. Three potential subjects (one from each group) were excluded because of lack of parental consent. Four control subjects (two males and two females) and two attempters, who originally agreed to participate but failed to complete both the questionnaires and the interview, were excluded. Three control subjects (9%), one at-risk subject (7%), and one attempter (5%) did not complete the interview, but information from their completed questionnaires is included on those data analyses.

The study was approved by the Evanston Hospital Institutional Review Board. The subjects received a $25.00 gift certificate to their choice of local retail stores, and a $10.00 donation was made to the charity indicated by their parent(s), in return for participation.

Twenty-one adolescents comprised the suicide attempters group. Psychiatric evaluation was not offered as part of this study, but each attempter was seen by a psychiatrist during his or her hospitalization and the Diagnostic and Statistical Manual of Mental Disorders (3rd ed) diagnoses included the following: adjustment disorder with depressed mood (n = 7), major depression (4), conduct disorder (socialized nonaggressive) (2), borderline personality disorder (1), identity disorder with depressed mood (1), and substance abuse (3).

The at-risk contrast group was composed of 15 pediatric and psychiatric patients known—through admission history (8 subjects), physician referral (5), or screening interview (2)—to have a personality characteristic, experience, or psychiatric disorder that put them at increased risk for suicide attempt, but not known to have made a suicide attempt. Three of the subjects had been sexually abused, 3 reported frequent depressive episodes with suicidal ideation, 4 were receiving treatment for a major depressive episode, and 5 were being treated for substance abuse.

All parents were urged to participate in this study. Parents of 25 adolescents in the control group (74%, 18 mothers, 3 mothers and fathers, and 4 fathers) and 10 at-risk teenagers (67%, all mothers) were interviewed and completed questionnaires. However, only 8 (38%) of the attempters’
parents participated (5 mothers, and 3 mothers and fathers). Because of inadequate parent participation, particularly among the suicide attempter group, these results were thought to be unreliable and are not included.

Assessment Measures

Offer Self-image Questionnaire (OSIQ). The OSIQ is a 130-item self-descriptive personality test that measures the psychological adjustment of adolescents aged 13 to 19 years. Previous studies have shown that self-image can be reliably measured in adolescents and that clear boundaries exist between normality and pathology. Norms have been well established for younger (ages 13 through 15) and older (ages 16 to 19) adolescent males and females on each of the 12 scales: Impulse Control, Emotional Tone, Body Image, Social Relationships, Morals, Sexual Attitudes, Family Relationships, Mastery, Vocational and Educational Goals, Emotional Health, Superior Adjustment, and Idealism.

SCL-90-R. The SCL-90-R is a multidimensional self-report of psychopathological symptoms. The subject rates his or her level of distress for each of 90 items from zero (not at all) through five (extremely) and the responses are standardized for age and gender. Reported symptoms, such as “feeling blue,” are arranged into three global dimensions and nine personality dimensions: Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism. The Global Severity Index provides an overall view of the subject’s distress by considering both intensity and number of psychological symptoms. The Positive Symptom Distress Index is an indication of the intensity of symptoms and the positive Symptom Total represents the number of symptoms felt to be distressing to the subject.

Norms have been established for adolescents aged 13 years and older. The SCL-90-R demonstrates satisfactory internal consistency (α = .77 to .90 for nine symptom dimensions), test-retest reliability (r² = .78 to .90), and validity with other symptom assessments, such as the Minnesota Multiphasic Personality Inventory.

Rotter’s Test of Locus of Control. Rotter’s Test of Locus of Control has been used as a general measure of locus of control. If the subject perceives that life events result from his or her own behavior and characteristics, he or she is said to have internal control; in contrast, if the subject believes that outcome is determined not only by his or her actions, but also by fate, chance, or luck, he or she is said to have an external locus of control. Reliability and validity data are satisfactory for the 29-item questionnaire.

Beck Hopelessness Scale. The 20 true-false items of the Hopelessness Scale quantify the subject’s sense of pessimism. Higher scores on the 0 to 20 scale indicate greater hopelessness. The Hopelessness Scale has been widely used with reliability and validity and has been shown in several studies to be superior to ratings of depression in predicting suicidal behavior.

Behavior Problem Questionnaire. Twenty-one true-false items, adapted from the Delinquency Check List, provided information about the presence or absence of a number of problem behaviors including cheating, school problems, truancy, alcohol and drug use, “dealing,” fighting with parents, running away from home, stealing, and prostitution. Differences among groups on individual items, such as “Have you ever been arrested?” can be analyzed, as can differences in total scores.

Interview. A structured interview was administered, in a 1-hour session separated from questionnaire completion, to 31 control subjects, 14 at-risk adolescents, and 20 attempters. The interview elicited information about the family constellation; personal and familial medical and psychiatric histories; physical, sexual, and emotional abuse; familial and personal alcohol and drug use; sexual activity; pregnancy or fathering a child; boyfriend/girlfriend(s); friendships; school performance; extracurricular activities; and home life including communication and relationships with parents. Subjects were asked a number of questions about suicide, including circumstances under which they would consider suicide, perceived resources and rescuers, past or present suicidal thoughts or intent, threats of suicide, suicide attempts, and exposure to attempted or completed suicide. Those individuals who acknowledged self-harming acts were asked for details regarding the precipitants, circumstances, method of attempt, and outcome.

Although the reliability of the entire interview was not assessed, correlations were performed between identical items appearing on the interview and elsewhere. For example, responses to the question “Have you ever used drugs?” posed in the interview and on the behavior problem questionnaire were highly correlated (r = .73). For items included on both the interview and a written adolescent history, the intraclass correlation coefficients ranged from .62 to .95.

Statistical Analysis

Comparisons of group means for the demographic variables and individual items from the history and
The adolescent interview revealed that two adolescents in the at-risk group had previously attempted suicide: a 17-year-old female who took a handful of pills at age 15 and immediately informed her family members and an 18-year-old female who admitted to several suicide gestures, the latest of which was 7 months prior to interview, when she took an unknown number of acetaminophen and codeine phosphate (Tylenol No. 3) tablets after a fight with her boyfriend, went to sleep without telling anyone of the ingestion, and "woke up feeling better." These two subjects were initially deleted from the data analyses; but because prior suicide attempts are a major risk factor for suicidal behavior, they were later included in the at-risk group and the data reanalyzed. Because results of the two analyses were equivalent, only the latter data are reported here.

Comparisons of the control, at-risk, and attempter groups demonstrated significant differences on the SCL-90-R symptom profiles and global dimensions, the Beck Hopelessness Scale, the Behavior Problem Questionnaire, and many of the scales of the OSIQ. Scores on the Beck Hopelessness scale demonstrated that the attempters were significantly more hopeless than the other two groups and the Behavior Problem Questionnaire revealed more delinquent behaviors among the suicide attempt group than among the members of the control and at-risk groups. No significant between-group differences were seen on the Rotter Test of Locus of Control. These results are summarized in Table 1 and in Figures 1 and 2.

The OSIQ showed response pattern differences among the three groups and the overall MANOVA was significant (subsamples × group, F = 2.64, df = 22.88, P = .0007); individual scale differences are shown in Figure 1. As is graphically depicted in Figure 1, the OSIQ scale scores for the attempters and at-risk subjects showed the greatest deviance from the reference group (mean = 50 for all scales) on the Family Relationships scale. Attempters responded more negatively (although not always significantly so) than the control subjects on every scale except Sexual Attitudes and were more negative than the at-risk group for all scales except Impulse Control and Idealism, although the response patterns of the two groups were similar (MANOVA for subscales × group, F = 0.80, df = 11,14, P = .64). These OSIQ results suggest that the average attempter feels lonely and isolated, has obvious psychopathology, is unable to make reasonable plans for the future or finish tasks, and has poor affective control. In addition, he or she is not getting along well with parents and lives in a home filled with tension.
### Table 1. Demographic Characteristics and Questionnaire Responses of 21 Suicide Attempters, 34 Control Subjects, and 15 At-Risk Adolescents

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Attempters (n = 21)</th>
<th>At-Risk (n = 15)</th>
<th>Control (n = 34)</th>
<th>ANOVA (F) or χ²</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender, no.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>17</td>
<td>10</td>
<td>19</td>
<td>3.63†</td>
<td>NS</td>
</tr>
<tr>
<td>Male</td>
<td>4</td>
<td>5</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, yr (mean ± SD)</td>
<td>15.3 ± 1.3</td>
<td>16.2 ± 2.0</td>
<td>15.6 ± 1.7</td>
<td>0.66</td>
<td>NS</td>
</tr>
<tr>
<td>GPA (mean ± SD)</td>
<td>2.4 ± 0.8</td>
<td>2.4 ± 0.7</td>
<td>2.9 ± 0.8</td>
<td>3.05</td>
<td>NS</td>
</tr>
<tr>
<td>Race, no.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>14</td>
<td>11</td>
<td>25</td>
<td>9.29†</td>
<td>NS</td>
</tr>
<tr>
<td>Black</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I &amp; II</td>
<td>8</td>
<td>6</td>
<td>19</td>
<td>2.22†</td>
<td>NS</td>
</tr>
<tr>
<td>III</td>
<td>6</td>
<td>6</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV &amp; V</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beck (mean ± SD)</td>
<td>9.3 ± 4.2</td>
<td>5.0 ± 4.4</td>
<td>2.4 ± 2.4</td>
<td>25.60</td>
<td>.0001††</td>
</tr>
<tr>
<td>Behav Prob (mean ± SD)</td>
<td>8.8 ± 3.2</td>
<td>9.6 ± 4.2</td>
<td>5.0 ± 3.2</td>
<td>11.80</td>
<td>.0001††</td>
</tr>
<tr>
<td>Rotter (mean ± SD)</td>
<td>11.9 ± 3.7</td>
<td>11.4 ± 3.0</td>
<td>10.7 ± 2.8</td>
<td>0.89</td>
<td>NS</td>
</tr>
</tbody>
</table>

* GPA, grade point average; SES, socioeconomic status by Hollingshead estimation; Beck, Beck Hopelessness Scale; Behav Prob, Behavior Problem Questionnaire; Rotter, Rotter’s Test of Locus of Control; NS, not significant; ANOVA, analysis of variance.
† χ² analysis.
‡ Attempters different from normal control subjects, P < .05.
§ At-risk subjects different from normal control subjects, P < .05.
∥ Attempters different from at-risk subjects, P < .05.

Figure 2 is a plot of the standardized scores for the symptom profile dimensions and global dimensions of the SCL-90-R by group (higher scores indicated greater psychopathology). Here, the overall response pattern did not differ significantly by group (MANOVA, subtest × group, F = 1.24, df = 22.96, P = not significant); however, there was a significant difference in the overall level of psychopathology (F = 12.19, df = 2.58, P = .0001). As can be seen in the figure, on nearly all dimensions, but particularly depression and symptom intensity, the attempters had significantly more psychopathology than the control group. The attempters had significantly higher scores on the Obsessive-Compulsive subscale than both the at-risk and control groups. The at-risk group’s responses fell midrange between those of the control subjects and the attempters, ie, they were more negative than the control subjects, but more positive than the attempters, on all profile dimensions except Hostility, where their score equaled that of the attempters.

The Positive Symptom Distress Index of the SCL-90-R measures the intensity of the adolescent’s reported distress and was the only global dimension to distinguish among the three groups. The adolescent attempters had significantly higher Positive Symptom Distress Index scores than did the at-risk adolescents (t = 3.65, df = 58, P < .001), who in turn had significantly higher scores than the control adolescents (t = 4.69, df = 58, P < .0001). The Positive Symptom Total and Global Severity Index were higher for the attempters than for the other two groups, but not significantly so. This suggests that the adolescent attempter may experience greater distress from each symptom, feeling each more intensely and finding it more difficult to manage these negative feelings.

The adolescent history and interview revealed significant differences among the three groups for the majority of queries. As summarized in Table 2, these differences were usually between the control group and the at-risk and attempter groups. Significant differences were seen between all three groups for only two items: “Have you ever considered killing yourself?” and “Have you ever felt that life wasn’t worth living?” with the attempters having the greatest degree of suicidal ideation.

The attempters’ responses were more negative than those of the at-risk group for the majority of items, but the differences were not statistically significant. For example, the suicide attempters had significantly greater alcohol and drug use, sexual abuse, and school, home, and social stress than the control subjects, but they did not differ from the at-risk subjects on these variables. Interestingly, there was also no difference in the number of suicide threats that had been made by the attempters and the at-risk subjects, although both had made...
Fig 1. Offer Self-Image Questionnaire. Comparison of scale scores for suicide attempters (n = 14), at-risk adolescents (n = 12), and normal control subjects (n = 31). Increased distance from the reference group mean (+/−SD) of 50 (±5) (shown in shaded region) indicates greater self-image disturbances. * Indicates significant (P < .05) difference from control subjects by Bonferroni t statistic.

significantly more than the normal control subjects. Several queries failed to distinguish between groups, most notably a history of sexual molestation (attempters 4/21, at-risk subjects 4/15, and control subjects 3/34).

Discriminant analyses were performed initially on three blocks of data. Although some subscales of the SCL-90-R and OSIQ scales demonstrated between-group differences, they were not included in the analysis in order to maximize the number of subjects included. The discriminant analysis revealed eight variables that could distinguish group classifications: grade point average, Behavior Problem Questionnaire total score, punishment in past 2 weeks, poor relationship with father, and several questions from the interview: “Have you ever been touched in a way that made you uncomfortable?” “Have you ever wished you were dead?” “Have you ever felt that life wasn’t worth living?” (life-worth-living question) and “If you were feeling really low, and thinking about suicide, what would you do?”

Fig 2. SCL-90-R. Comparison of T scores for the suicide attempters (n = 16), at-risk adolescents (n = 15), and normal control subjects (n = 32), with higher scores indicating greater psychopathology. GSI, Global Severity Index; PSDI, Positive Symptom Distress Index; PST, Positive Symptom Total. * Indicates significant (P < .05) difference from control subjects by Bonferroni t statistic. † Indicates significant (P < .05) difference between at-risk adolescents and attempters by Bonferroni t statistic.

These discriminative variables, as well as age, sex, and the Beck Hopelessness Scale score, were then entered into a single discriminant analysis. The two measures found to discriminate best between groups were the Beck Hopelessness Scale and the life-worth-living question from the interview. Together, these two variables correctly classified 28 (93%) of 30 of the control subjects, 2 (18%) of 11 of the at-risk group, and 11 (85%) of 13 of the suicide attempters. The overall ability of these two variables to discriminate between the groups was 76%.

When control subjects were excluded from the analysis and the program was run to discriminate solely between the at-risk and the attempters group, only the Beck Hopelessness Scale was selected. The Beck effectively distinguished 8 (73%) of 11 at-risk patients and 11 (85%) of 13 suicide attempters.

DISCUSSION

We had hypothesized that differences would be found between the control subjects and the attempters in all four areas of risk; and indeed, in comparison with the control subjects, the attempters had more psychopathology, greater psychosocial dysfunction, more family pathology, and increased environmental stress. Constraints of the study, including small sample sizes and potential ascertain-
TABLE 2. Comparison of Responses of 20 Attempters (Group 1), 14 At-Risk Adolescents (Group 2), and 31 Control Subjects (Group 3) to Interview Queries

<table>
<thead>
<tr>
<th>Query</th>
<th>Response</th>
<th>Groups</th>
<th>1 vs 2 vs 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you ever considered killing yourself?</td>
<td>No</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Passing thought</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Serious thought</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Made plans</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Acted on plans</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>Have you ever felt that life wasn’t worth living?</td>
<td>No</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Yes with plans</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>Are you often blue (depressed)?</td>
<td>No</td>
<td>23</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Have you ever had serious emotional problems?</td>
<td>No</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>Has anyone in family been treated for an emotional problem?</td>
<td>No</td>
<td>24</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Do you feel part of/wanted by your family?</td>
<td>No</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>29</td>
<td>9</td>
</tr>
<tr>
<td>How is your relationship with your mother?</td>
<td>Great/good</td>
<td>29</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Not good/bad</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>How is your relationship with your father?</td>
<td>Great/good</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Not good/bad</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>Have you been punished in the last 2 weeks?</td>
<td>No</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Have you ever had an alcoholic drink?</td>
<td>No</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>18</td>
<td>12</td>
</tr>
<tr>
<td>Have you ever tried marijuana?</td>
<td>No</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Have you ever been touched in a way that made you uncomfortable?</td>
<td>No</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Do you use marijuana?</td>
<td>No/ tried only</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Use/ abuse</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>If you were feeling low and thinking of suicide, would you tell your mother?</td>
<td>Yes</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>If you were feeling low and thinking of suicide, would you tell your father?</td>
<td>Yes</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>If you were thinking of suicide, what would you do?</td>
<td>Make plans/ tell no one</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Talk to someone</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Can’t imagine</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Have you ever wished you were dead?</td>
<td>No</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Yes/no plans</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Yes/plans</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td>Have you ever threatened suicide?</td>
<td>No</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>

* Attempters different from normal control subjects, Fisher’s Exact Test or χ², P < .05.
† At-risk subjects different from normal control subjects, Fisher’s Exact Test or χ², P < .05.
‡ Attempters different from at-risk subjects, Fisher’s Exact Test or χ², P < .05.

ment bias, should be considered when interpreting these results. In addition, although the adolescents in this report seem to be similar to previously examined normal and suicidal adolescents in our area, these samples may not be representative of all adolescents.

The psychological risk factors that distinguished the attempters from the control subjects were poor self-image, impulsivity, inadequate coping skills, emotional lability, inability to adapt to environmental change, immature moral development, a depressed mood, and hopelessness. The SCL-90-R revealed that the attempters had significantly greater global psychopathology than the control subjects. In addition, the attempters were frequently found to have psychiatric disorders includ-
ing, among others, major depressive disorder and adolescent adjustment disorder.

The environmental stresses that differentiated attempts from control subjects included loss, life change, strained interpersonal relationships (particularly between the attempter and his or her parents), school failure, delinquency, and sexual abuse. Other commonly reported precipitants, such as a fight with a friend or parent, breakup with boyfriend/girlfriend, and recent punishment, were reported as frequently by the control subjects as by the attempters. These results suggest that stressful life events, including disagreements with family members and friends, are common to all adolescents but for suicidal adolescents the repercussions may include a self-harming act.

We were unable to find a link between familial depression or suicide and adolescent suicide attempt. This may have been because of our small sample size or the study design, which depended on a single adult informant for family history rather than direct interviews.36 We did find that the family plays an important role in adolescent suicide by contributing to the adolescent’s stress and failing to provide necessary emotional support. Two thirds of the parents of the adolescent attempters refused to participate in this study and so information about family life was limited to adolescent reports. The attempters, in contrast to the control subjects and at-risk subjects, described their parents as non-communicative, uninvolved, and withdrawn. Based on the parents’ lack of hospital visitation, seeming lack of concern about their child’s condition, and refusal to participate in postdischarge therapy,37 the attempter’s portrayal seems accurate.

Our second hypothesis was that hopelessness, impulsivity, and acute precipitants would discriminate between attempters and at-risk subjects; however, only hopelessness was found to do so. The suicide attempters were found to be slightly more impulsive than the at-risk group, but this failed to reach significance, perhaps because of the lack of a specific, sensitive impulsivity measure or because of our small sample size.

There is an extensive literature supporting the role of acute precipitants in adolescent suicide attempt,8,10,15,22,11,32,49,57 and so we were surprised to find that there were no differences in acute precipitants, including disagreements and recent punishment, between the attempt and at-risk groups, particularly because so many attempters had identified these as the precipitant of their self-harming act. In fact, we were unable to find any psychosocial variables uniquely associated with suicide attempt. A recently published report suggests that a screening instrument, using a few key variables (previous mental health care, previous attempt, dependence on emergency room for routine care, marijuana use, and school failure), might distinguish suicidal adolescents from nonsuicidal adolescents.58 The results of our multidimensional study suggest that such an instrument would indeed be helpful in identifying troubled teens, but, because the suicidal and nonsuicidal at-risk adolescents are so similar, it might fail to distinguish between these individuals.

Hopelessness, as measured with the Beck Hopelessness Scale, appears to be able to differentiate suicidal adolescents from those considered to be at-risk for suicide. The mean score for the suicide attempt group was nearly twice as high as that of the at-risk adolescents and four times higher than that of the control subjects. Beck suggests that the intensity of hopelessness during one depressive episode is predictive of the level emerging during future episodes and as such is a valuable predictor of future suicidal behavior.45,46,74 While our cross-sectional study design limits the predictive value that can be attributed to the Hopelessness Scale, the data do suggest that the Beck Hopelessness Scale, which is widely available and easy to administer, may be a valuable adjunct to the assessment of the at-risk adolescent.

In summary, despite the large number of variables that differentiated the attempters and the at-risk adolescents from the normal control subjects, there were only two that separated the attempters from the at-risk subjects—the Beck Hopelessness Scale and the question “Have you ever felt that life wasn’t worth living?” It is possible that the life-worth-living question distinguished between the two groups because of the way the groups were initially defined. Similarly, the high scores of the attempters on the Beck Hopelessness Scale may have been a reflection of the recent failed suicide attempt, and repeated administration of the questionnaire at a time more distant from the attempt might have failed to show any between-group differences. However, the results of this cross-sectional study suggest that questioning troubled adolescents about suicidal ideation and hopelessness can discriminate suicidal adolescents from nonsuicidal teenagers. A longitudinal, follow-up investigation, which identifies a group of at-risk individuals and then repeatedly ascertains their suicidal ideation, hopelessness, and subsequent suicidal behaviors, could determine the predictive value of these variables.

CONCLUSION

Suicide attempt appears to be one point of a continuum of adolescent problem behaviors. This
continuum is clearly separated from normality on all risk categories examined, but it has blurred distinctions between at-risk behaviors, suicide attempt, and completed suicide. Adolescents at risk for suicidal behavior may be distinguishable by suicidal ideation and feelings of hopelessness.

The results of this investigation suggest that physicians should routinely inquire about suicidality when evaluating a troubled adolescent. Because normal adolescents deny suicidal ideation, those who respond affirmatively should be questioned further about present ideation and feelings of hopelessness.

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