A Comparison of Life Events Between Suicidal Adolescents With Major Depression and Borderline Personality Disorder

Netta Horesh, Jonathan Sever, and Alan Apter

The current study compared the correlations of different types of stressful life events (SLE) between suicidal adolescents with major depressive disorder (MDD) and suicidal adolescents with borderline personality disorder (BPD). Both groups were referred following an attempted suicide. Twenty adolescents with MDD and 20 adolescents with BPD who were consecutively referred to an outpatient clinic following a suicide attempt were evaluated. A community control group of adolescents with no lifetime history of suicidal behavior was also assessed. The following measurements were employed: the Suicide Risk Scale (SRS) Beck Depression Inventory (BDI), the Life Events Checklist (LEC), and the Childhood Sexual Abuse Questionnaire (CSEQ). Both groups of suicidal subjects reported more SLE in general and more physical abuse than community controls in the 12 months before the suicide attempt. The MDD adolescents had more lifetime death-related SLE than the BPD and control groups, while the BPD adolescents reported more lifetime sex abuse-related SLE than the other two groups. Thus, suicidal behavior in general may be related to the amount of SLE. However, different disease-specific life events may precipitate suicide attempts in adolescents with MDD and BPD.

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IT IS NOW generally accepted that approaches to the understanding of psychiatric disorders based on the assumption that factors from a single domain (i.e., biologic, psychological, or social) are responsible for its occurrence are untenable. Stress diathesis interactions form the basis of most views on suicidal behavior. Nonshared environmental factors in the pathogenesis of mental illness are an intriguing area of research. These relate to those nongenetic and life stress factors that are specific to each individual. They are of major importance in the understanding of gene-environment interactions in the etiology of psychiatric disorders.

The environmental factors most widely studied have been those related to stress and more particularly stressful life events (SLE). The study of SLE is complex and controversial and several different approaches to this topic have been suggested. The “objective approach” espoused by Dohrenwend views stress as an environmental input independent of the person’s reaction or emotional state. In this approach, a detailed evaluation of each event by independent judges is made, attempting to circumvent biases stemming from the respondent by ignoring self-reports about responses to the event. Raters make judgments about what most individuals would likely feel in similar circumstances. This contrasts with the “relational-cognitive-orientation approach” suggested by Lazarus et al. that emphasizes the meaning attributed to the life event by the individual and the subjective impact of stress. It argues that an event cannot be identified as stressful independent of the person’s attitude towards it.

Three general theories about the relationship of SLE to psychiatric disease can be delineated. (1) The “general-quantitative” supposition proposes a cumulative model of stress, claiming that the amount of events and their weight, but not their quality and meaning, are related to psychopathology. (2) The “general-qualitative” hypothesis states that not change per se, but its undesirability or threatening quality causes stress and is responsible for its adverse consequences. Hence, an accumulation of negative events, but not positive, contributes to the disorder. (3) The “specific-qualitative” idea emphasizes the unique influence of special kinds of events on the occurrence of the disorder. Thus, events related to loss or uncontrollable stressors may be of special relevance to mood disorders.

Some of the most interesting work relating SLE to psychiatric disease has been done in the field of mood disorders. There is now accumulating support for the notion that episodes of depression and probably also of mania are associated with life events and the failure to adapt to them, a pheno-
There are, however, those who believe that some depressions occur independently of external life events, a view related to the concept of “endogenous,” “melancholic,” and “psychotic” depressions. These types of depression are sometimes felt to have a biological etiology. Clinical research into the validity of the endogenous-reactive dichotomy has been inconsistent, and indeed the term “endogenous depression” with its etiological implications has been dropped from the various nosologies such as DSM-IV. Thus, even “endogenous” depressions may well be related to SLE. In the current report, depression refers to those subjects meeting DSM-IV criteria for major depressive disorder (MDD).

Excess of general life events in depressed subjects supports the general quantitative approach. However, in accordance with the specific qualitative approach, there is evidence that certain specific stressors, such as those involving loss, bereavement, separation, disappointment, and parent-related traumata, may occur in excess before the onset of depression both in clinical and in nonpatient populations, especially when these stressors occur in childhood and when the depression is severe.

There is also increasing evidence that specific life stressors are common precursors of borderline personality disorder (BPD). These seem to be related to abuse by primary caretakers, rather than separations or loss. In addition, Stone et al. found that incest was relatively common in BPD, and Paris et al. reported higher incidences of serious sexual abuse rather than physical abuse in females with BPD. There may also be a relationship between sexual abuse and the gravity of the BPD. It is possible that in males with BPD, physical abuse may be more important than sexual abuse.

The purpose of this study was to study the relationship between life events, MDD, and BPD in adolescence. Since suicidal behavior is common in both groups and is in itself highly related to life events, it was decided to control for this factor by investigating only adolescents referred for treatment following a suicide attempt.

The specific hypotheses of the study were that: (1) Adolescents with psychopathology would show more life events than normal controls (general qualitative approach), both during their lifetime and in the year preceding the suicide attempt. (2) Suicidal adolescents would show more negative life events than normal controls (general qualitative approach) both during their lifetime and in the year preceding the attempt. (3) Suicidal depressed adolescents would show more loss related life events such as bereavement, separation, and disappointment than suicidal BPD adolescents and normal controls (specific qualitative approach) both during their lifetime and in the year preceding the attempt. (4) Suicidal BPD adolescents would show more traumatic life events than suicidal depressed adolescents and normal controls (specific qualitative approach) both during their lifetime and in the year preceding the attempt.

METHOD

Population

Three groups of adolescents took part in the study: (1) a group of 20 adolescents who had made a first suicide attempt and were diagnosed as meeting DSM-IV criteria for MDD; (2) a group of 20 adolescents who had made a first suicide attempt and met DSM-IV criteria for BPD; and (3) a sex- and age-matched group of 20 adolescents who did not meet criteria for any psychiatric illness and had never made a suicide attempt during their lifetime. They were recruited from a high school in the clinic catchment area.

The patient groups represented consecutive referrals to a Child and Adolescent Psychiatric clinic in a university-affiliated hospital. The diagnoses were the primary diagnosis. BPD patients with comorbid depressive disorder were excluded from the study as were subjects with a lack of knowledge of Hebrew or mental retardation. Comorbid diagnoses for the MDD group were anxiety disorder (n = 6) and eating disorders not otherwise specified (NOS) (n = 3). Comorbid diagnoses for the BPD group were anxiety disorder (n = 3), eating disorders–NOS (n = 4), bulimia nervosa (n = 2), and oppositional defiant disorder (n = 2). None of the subjects had a diagnosis of substance abuse. Only two patients refused to participate in the study.

Mean ages of the MDD, BPD, and control groups were 16.73 ± 1.72, 16.72 ± 1.41, and 17.50 ± 2.76 years, respectively. There were 11 girls and nine boys in each group. There were no differences between the groups on demographic factors. All subjects were Jewish and Israeli. All subjects were of middle-class socioeconomic status and were high school students. Illness severity of the psychiatric groups was between 40 and 60 on the Global Assessment of Functioning scale, with no significant differences between the groups. This range involves moderate to severe symptom severity with some impairment in functioning in a few cases. All suicide attempts were of low lethality and involved self-poisoning with prescription drugs. None of the patients used other means to attempt suicide.
Subjects of the control group had no lifetime history of mental illness. All patients and their parents gave informed consent to participate in the study.

Assessment

The Life Events Checklist (LEC). This is a 51-item self-report questionnaire relating to events experienced during one’s lifetime. These include items relating to bereavement, loss in the more general sense of the term, and physical abuse. The respondent must check off whether or not the event occurred and what the impact was on a four-point Likert scale. The scale has been shown to have sound psychometric properties and was slightly modified in this study for Israeli conditions. Thus, events related to terrorist incidents, immigration, and war were added. Cronbach’s alpha for this instrument was 0.84 in the present study.

Childhood Sexual Abuse Questionnaire (CSEQ). This questionnaire has been adapted for use in Israel. The instru-

ment was translated and back-translated several times until a satisfactory Hebrew version was attained. Some items were slightly modified in order to make the wording acceptable for immigrant and religious populations. In this study, Cronbach’s alpha for the instrument was 0.8 and it was found to distinguish between psychiatric and nonpsychiatric populations. The scale covers four categories of sexual abuse: verbal, touching, exposure, and full penetration or actual rape. It consists of 17 multiple-choice statements per category.

Suicide Risk Scale (SRS). This is a 26-item self-report questionnaire that lists factors relating to suicide risk. Both Hebrew and English versions have sound psychometric properties. In this study, Cronbach’s alpha for this instrument was 0.84 in the present study.

Procedure

Following an initial diagnostic evaluation by a senior child and adolescent psychiatrist, the subjects and their parents signed informed consent forms. Diagnoses were then confirmed by structured interviews, the Hebrew version of the Childhood Version of the Schedule for Schizophrenia and Affective Disorder for Major Depression, and the revised version of the Diagnostic Interview for Borderline (DIB-r) for the BPD subjects. The subjects then filled out the questionnaires in the presence of research assistance. The CSEQ was filled out last in every case. Twenty age- and sex-matched controls from the local high school were then recruited and went through the same procedure.

RESULTS

On analysis of variance (ANOVA) \(F(2, 57) = 474.53, P < .001\), the BDI significantly differentiated between the MDD group (52.91 ± 5.64), the BPD group (12.33 ± 4.58), and the controls (4.04 ± 6.09). A post hoc Scheffé test showed that the MDD group was higher than the BPD group \((P < .05)\), which in turn was significantly higher than the control group \((P < .05)\).

On ANOVA, SRS significantly distinguished between the groups \([F(2, 57) = 366.21, P < .001]\). The SRS scores were not significantly different for MDD and BPD subjects (12.86 ± 1.17 and 12.56 ± 1.10, respectively), which were significantly higher than for the controls (1.45 ± 2.09) on the Scheffé post hoc analysis.

Comparison of both the suicidal patients with normal controls for number of SLE showed a non-significant difference between any of the groups. Suicidal subjects had a mean of 12.15 ± 4.14 SLE and controls 14.10 ± 8.54 \((t = 0.97, P > .05)\). Results for negative SLE were significant: 10.73 ± 3.90 and 6.60 ± 5.86 for suicidal subjects and controls, respectively \((t = 2.78, P < .05)\). There was no significant difference between the suicidal MDD and the suicidal BPD adolescents.

Comparison of the suicidal patients with normal controls for number of SLE in the 12 months before the suicide attempt showed a significant difference for both total SLE and negative SLE. Suicidal subjects had a mean of 7.84 ± 3.14 SLE and controls 4.84 ± 3.52 \((t = 2.86, P < .01)\). Results for negative SLE were 7.05 ± 3.24 and 4.33 ± 3.42 for suicidal subjects and controls, respectively \((t = 2.78, P < .05)\). There was no significant difference between the suicidal MDD and the suicidal BPD adolescents.

The number of deaths of a first-degree relative during the subject’s lifetime was compared between the three groups. The means of the MDD, BPD, and control subjects were 0.86 ± 0.56, 0.17 ± 0.38, and 0.45 ± 0.76, respectively. ANOVA showed \([F(2, 57) = 7.03, P < .001]\). A post hoc Scheffé analysis showed that MDD subjects had experienced significantly more deaths of a first-degree relative than both the BPD and control groups \((P < .05)\). The latter two groups did not differ significantly on this variable (Table 1). There was, however, no significant difference for lifetime
loss events in the broad sense (deaths of or separation from relatives or friends) among the three groups, although the depressed group had higher values than the other two groups (Table 1). There were not enough death-related events in the year preceding the attempt to warrant analysis.

The number of sexual abuse incidents in childhood was then compared among the three groups. The means of the MDD, BPD, and control groups were 0.05 ± 0.21, 0.94 ± 0.11, and 0.05 ± 0.22, respectively. ANOVA showed \[F(2, 57) = 12.64, P < .001\]. A post hoc Scheffé analysis showed that the BPD subjects had experienced significantly more sexual abuse events than both the MDD and control groups (\(P < .05\)). The latter two groups did not differ significantly on this variable. The distribution of the number of events is shown in Table 2. There were not enough sexual abuse–related events in the year preceding the attempt to warrant analysis.

Twenty-four of the 40 suicidal adolescents reported having experienced lifetime physical abuse as children. In most cases, this was in the form of beatings by the parents or stepparents (usually the father). This was a significant difference from the control group where none of the subjects reported physical abuse (Cramer’s \(V = 0.58, P < .001\)). There was no significant difference in the proportion of MDD subjects (50%) versus the BPD subjects (30%) who underwent abuse (\(Z = 1.43, P > .05\)). There were not enough physical abuse incidences in the year preceding the suicide attempt to warrant a separate analysis.

DISCUSSION

Limitations

The study is a retrospective one and conclusions must necessarily be correlational and not causal. The memory of the subjects may be misleading and life events may often be the result of behaviors and not the cause. Thus, life events may be both a result as well as a cause of psychiatric illness.\(^{33}\) Patients with a major depressive episode and BPD may tend to be more argumentative and irritable, especially at the time close to a suicide attempt and, thus, influence some of their life events. It may also be argued that depressed persons tend to color their recollections negatively, although systematic research has tended not to support this notion.\(^{34}\)

This is not a random sample, but rather consists of patients referred for outpatient therapy. Some referral bias may have therefore been present. The sample size is also relatively small. Since all the patients were suicidal, it cannot be certain if the life events relate to the psychiatric diagnosis or to the suicidal behavior.

However, due to the complex nature of life event research, it is difficult to carry out prospective long-term studies that account for all methodolog-

<table>
<thead>
<tr>
<th>Specific Life Event</th>
<th>Major Depression (n = 20)</th>
<th>Borderline Personality Disorder (n = 20)</th>
<th>Controls (n = 20)</th>
<th>F (2, 57)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deaths (of first-degree relatives)</td>
<td>0.86 ± 0.56&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.17 ± 0.38&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.45 ± 0.76&lt;sup&gt;b&lt;/sup&gt;</td>
<td>7.03*</td>
</tr>
<tr>
<td>Losses (of other relatives, friends; separations)</td>
<td>4.73 ± 2.35&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.33 ± 1.82&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.40 ± 4.24&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.98</td>
</tr>
<tr>
<td>Sex abuse</td>
<td>0.05 ± 0.21&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.94 ± 0.11&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.05 ± 0.22&lt;sup&gt;a&lt;/sup&gt;</td>
<td>12.64*</td>
</tr>
</tbody>
</table>

NOTE. Different superscripts mean significant difference on post hoc Scheffé test after ANOVA.

*<sup>P</sup> < .001.

Table 2. Distribution of the Number of Sexual Abuse Events Between Suicidal Depressed, Suicidal Borderline, and Normal Control Adolescents

<table>
<thead>
<tr>
<th>No. of Sexual Abuse Events</th>
<th>None</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDD</td>
<td>19 (95)</td>
<td>1 (5)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>BPD</td>
<td>8 (40)</td>
<td>6 (30)</td>
<td>5 (25)</td>
<td>0</td>
<td>1 (5)</td>
</tr>
<tr>
<td>Controls</td>
<td>19 (95)</td>
<td>1 (5)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

NOTE. Percentages in parentheses.
tical pitfalls. As far as we were able to ascertain, this is the first systematic study of the relationship between SLE in two contrasting diagnostic groups of adolescents, while controlling for the presence of a suicide attempt as well as for suicide risk on a well-validated instrument. It is also the first systematic study of BPD in adolescents who are not clinically depressed and do not have a history of major depression. Thus, despite its limitations, the results are worthy of consideration.

Our study does not wholly confirm the “generalized quantitative hypothesis” of Holmes and Rahe6 in that the number of SLE over the subjects’ lifetime did not distinguish between suicidal adolescents and controls. This is contrary to the findings of Kanner et al.35 and DeWilde et al.36 but similar to the conclusions reached by Better-Poker.37 However, the year preceding the suicide attempt did show a significant increase for both suicidal groups, in line with a recent study by Kirmayer et al.,38 so that the hypothesis does have some validity. Thus, irrespective of the nature of the life events, it appears that accumulation of SLE over a period of 1 year can precipitate a suicide attempt. It would be important in this regard to look at control groups of depressed and borderline adolescents who are not suicidal.

The “generalized qualitative hypothesis” was supported by this study in that both negative lifetime and year-preceding-attempt SLE differentiated suicidal from nonsuicidal adolescents. This is very similar to the findings of DeWilde and Kienhorst,39 although in that study, events were assigned negative valence a priori, while in this study the subjects themselves rated the event valence.

The “specific qualitative hypothesis”40 stresses the specificity of certain SLE for specific entities. In this study, the depressed suicidal adolescents had significantly more lifetime death-related SLE than those with BPD. Thus, death may be meaningful in predisposing children to the development of depression, much in line with the classical theories of Bowlby.41

Many studies have documented the relationship between death-related SLE and suicidal behavior in adolescents. Examples are reports by Larsson and Ivarsson42 and Peltzer et al.43 In these reports, diagnostic considerations were overlooked and suicidal behavior was regarded as a homogenous behavior. Our findings also highlight the great influence of death-related events in early childhood for adolescent development. It seems that deaths of close relatives in early childhood, before the onset of puberty, are specific risk factors for suicidal behavior in depressed adolescents. In contrast, the triggers for the suicide attempt (those events in the year preceding the attempt) are more general in nature and are not disease specific.

Further support for the “specific qualitative hypothesis” comes from the finding that the BPD subjects recalled significantly more sex abuse–related events than the MDD subjects and controls, although both patient groups recalled an excess of past physical abuse than the controls. Again, the relationship between sexual abuse and suicidal behavior is well known.44–47 Sexual abuse is an important factor in the development of BPD per se.23,49,50 It seems, therefore, that sexual abuse appears to specifically relevant for BPD but not for MDD. Recently, Liotti and Pasquini48 found that loss incurred by the attachment figure within 2 years of the patient’s birth and patient’s early traumatic experiences may influence the development of BPD. This means that the influence of life events on parents may have important modulating effects on how children react to subsequent life events and that future studies should take these factors into account.

Thus, the relationship between SLE and suicidal behavior in adolescence is complex and cannot be explained by one approach. It appears that nonspecific and negative life events can predispose to suicide attempts in vulnerable subjects irrespective of their underlying psychopathology, especially in the period immediately before the attempt. However, predisposition is dependent on more specific kinds of events occurring in early childhood. Further investigations of the relationship between environment and suicidal behavior are important for the development of suicide prevention programs and may have implications for the therapy of suicidal adolescents. In addition to the biological foundations for suicidal behavior,51 depression, and BPD52 the investigation of the relationship between SLE and suicidality may provide an insight into gene-environment interactions.

Clinical Implications

Apart from the possible etiological significance of these results, they also pinpoint areas of focus...
for psychotherapy that seem to be different in the two conditions. Thus, even if the results are influenced by recall bias, the subjective truths of these two different groups of suicidal adolescents seem to be different and thus each may have a unique psychodynamic basis.

REFERENCES

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