Childhood Diagnoses and Later Risk for Multiple Suicide Attempts

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The relationship between childhood diagnosis, personality psychopathology and suicidal behavior in young adulthood was explored in a sample of 327 suicide ideators, single attempters, and multiple attempters. Of the total sample, 174 received at least one childhood diagnosis; the 153 without a diagnosis provided a comparison group. Results suggest that a childhood history of an anxiety disorder or major depression predispose a person to both later multiple suicide attempts and personality psychopathology. Gender was found to play a significant role, with females being predisposed to multiple attempts in young adulthood but only as a function of childhood anxiety, not major depression. Additionally, childhood anxiety disorders were found to predispose to multiple attempts as a function of personality psychopathology, with distinctly different paths for males and females. Implications are discussed in terms of etiology, prevention, and treatment.

The relationship between psychiatric diagnoses (both Axis I and II) and risk for suicidal ideation and behavior have been well documented across the life span. Little emphasis, though, has been placed on the relationship between childhood psychiatric diagnoses and later risk for suicidal ideation and attempts. Previous studies have consistently found affective disorders, substance abuse disorders, and their comorbid occurrence to be more frequent among those completing suicide, regardless of age (e.g., Conwell & Brent, 1995). This relationship has also extended to suicidal ideation and attempts. A previous or current psychiatric diagnosis (Axis I and/or II) has routinely been found to elevate risk for suicidal ideation and attempts among young adults, the middle-aged, and the elderly alike (e.g., Fawcett et al., 1990; Murphy & Wetzel, 1990; Rudd, Dahm, & Rajab, 1993; Tanney, 1992). Results have been almost identical for adolescents, with the addition of conduct disorder as a significant predictor (Beautrais, Joyce, & Mulder, 1996; Brent et al., 1993; Brent, Perper, & Allman, 1987; Brent et al., 1988; Frances & Blumenthal, 1989; Shaffer, Garland, Gould, Fisher, & Trautman, 1988; Shaffi, Carrigan, Wittinghill, & Derrick, 1985).

The consistency of available findings addressing psychiatric diagnosis and suicidality supports a number of basic conclusions about those engaging in suicidal behavior across the life span. First, given the nature of psychiatric diagnosis, they clearly evidence disproportionate rates of psychological or emotional dysfunction. This is true not only in comparison to the general population, but those engaging in suicidal behavior also pre-
sent a more severe clinical picture in comparison to other psychiatric samples. Second, the observed dysfunction most frequently involves some form of affective disturbance. Third, they evidence not only higher rates of dysfunction but greater breadth as suggested by observed comorbidity (both Axis I and II). And, finally, it would appear that those engaging in suicidal behavior present a more chronic picture of disturbance given the consistency of findings across all age groups.

As researchers and clinicians have focused more specifically on those engaging in chronic suicidal behavior; that is, those making multiple suicide attempts (i.e., more than one lifetime attempt), psychiatric diagnosis has continued to be a variable of critical interest. This is particularly true with respect to the emergence and persistence of personality psychopathology (i.e., Axis II diagnoses) (e.g., Clark & Fawcett, 1992; Clark & Gibbons, 1987; Rudd, Joiner, & Rajab, 1996). Although childhood experiences and psychiatric disorders provide a unique window of opportunity to better understand the etiology of suicidal behavior in later life, particularly young adulthood, this area has received relatively little attention in the existing literature (e.g., Beauvais et al., 1996). Actually, little is known about the childhood diagnostic picture presented by those making multiple suicide attempts during late adolescence and young adulthood. Whether or not it is distinctly different from those experiencing ideation or making single attempts, as well as whether or not it relates to an increase in risk for suicidal behavior in young adulthood, is simply not well understood.

In one of the first studies addressing the relationship between Axis II psychopathology in young adulthood and childhood Axis I disorders in a community sample, Lewinsohn, Rohde, Seeley, and Klein (1997) found a marked association between early-onset Axis I disorders and Axis II psychopathology in young adults. This relationship also extended to suicide attempts. Results were similar to those found with clinical samples. For example, Rey, Morris-Yates, Singh, Andrews, and Steward (1995) found a marked association between childhood disorders, particularly disruptive behavior disorders, and personality psychopathology as young adults. Bernstein, Cohen, Skodal, Bezirganian, and Brook (1996) reported comparable results. They noted that conduct disturbance, depression, anxiety, fear, and immaturity during childhood were all associated with personality disorder diagnoses 10 years later. Taken together, the consistency of these findings would suggest early childhood Axis I diagnoses are a substantial risk factor for the development of personality psychopathology in young adulthood. Whether or not this relationship extends to suicidal behavior has yet to be explored in a clinical sample.

Several investigators have suggested the need to shy away from viewing suicidal behavior in isolated fashion and emphasized the importance of considering the predictive and explanatory power of individual attributes (e.g., personality features, coping style, problem solving). They have essentially acknowledged the need to pay more attention to underlying vulnerability factors (i.e., diatheses) that may help explain the problem of chronic suicidal behavior (e.g., Clark & Gibbons, 1987; Rudd, Joiner, & Rajab, 1995, 1996). Rudd et al. (1996) found those evidencing chronic suicidal behavior to be characterized by not only a more severe symptomatic presentation but distinctive personality psychopathology in comparison to ideators and single attempters, which were essentially comparable. Additionally, they found some evidence to support the notion of chronic disturbance in multiple attempters, both in terms of earlier age of onset for psychiatric diagnosis and greater comorbidity. Consistent with most diathesis-stress models of suicidal behavior (e.g., Rudd, Rajab, & Dahm, 1994; Schotte & Clum, 1982, 1987), it would appear that early-onset or recurrent Axis I disorders represent a significant diathesis for chronically suicidal individuals, the manifestation of which may well be young-adult personality psychopathology. The nature of early Axis I diagnosis and disorder would provide important insight into the etiology of young-adult dysfunction across multiple domains, including cognitive (e.g., social cognition, attributional style), socioemotional (e.g., affect regulation, attachment, self-esteem, interper-
sonal coping, and problem solving), representational (e.g., self-schemata, self-cognitions, internal representations), and biological (e.g., neurotransmitter anomalies, neuroendocrine dysfunction).

The current study attempted to answer some fundamental questions about the relationship between childhood diagnoses and young adult suicidal behavior in a clinical sample of ideators, attempters, and multiple attempters. More specifically: Are early childhood Axis I diagnoses a risk factor for later suicidal ideation and behavior, particularly multiple attempts? What are the most frequent diagnoses encountered during childhood? What is the diagnostic pattern presented? Is it comparable across ideators, attempters, and multiple attempters? Do those with a childhood Axis I disorder diagnosis present with a significantly different young adult clinical profile in terms of symptom severity, stress, hopelessness, problem solving, markers of suicide risk, and personality psychopathology in comparison to those without? Do childhood diagnoses of young adults engaging in suicidal behavior offer us any insight into the etiology of the behavior consistent with existing empirically supported theories? Based on previous work (e.g., Rudd et al., 1996), we hypothesized that those exhibiting chronic suicidal behavior would be characterized by not only more frequent childhood Axis I diagnoses but also greater comorbidity. We also speculated that those with a childhood diagnosis(es) would present a more severe clinical picture in young adulthood than those without, and that this group would have a disproportionate representation of multiple attempters. Finally, we expected that those with childhood diagnosis(es), given the chronicity of disorder, would respond more poorly to time-limited treatment and would be disproportionately represented among those identified as treatment failures.

METHODOLOGY

Procedures

Study participants were part of a broader treatment outcome study addressing the efficacy of a time-limited, problem-solving intervention targeting high-risk suicidal young adults. A comprehensive summary of the study, including the treatment approach employed and outcome data is available in Rudd, Rajab et al., (1996). In general, three groups have consistently been identified in the clinical and epidemiological literature as being at high risk for eventual suicide or continued suicidal behavior and, accordingly, comprised the inclusion criteria for the study: (1) individuals who made an attempt precipitating referral, to include those with personality disorder diagnoses, (2) those suffering a mood disorder with concurrent ideation, to include mixed symptomatology and adjustment disorder diagnoses, and (3) those abusing alcohol episodically with concurrent ideation (see Maris, Berman, Maltsberger, & Yufit, 1992 for review). Although a minimum cutoff score on the suicidal ideation measures was not required for participant inclusion, the level or intensity of suicidal ideation was deemed clinically significant given that it precipitated referral, either by the participant or by referral from another provider within the medical community.

Exclusion criteria were limited and included: (1) substance dependence or chronic abuse requiring separate treatment, (2) a psychotic component to the patient’s presentation or diagnosable thought disorder, and (3) a personality disorder diagnosis of adequate severity to render outpatient group participation ineffective, disruptive, or inappropriate. Exclusion criteria one and two were assessed and implemented by clinical referral staff; in other words, exclusion was dependent on clinical diagnoses and subsequent treatment recommendations. For example, diagnosis with a thought disorder or severe alcohol abuse/dependence and subsequent referral for inpatient treatment or separate alcohol treatment resulted in exclusion. Criterion three was assessed and implemented by clinical treatment staff and was available to insure and maintain a manageable treatment environment. Only one patient was actually excluded following initial referral. In the case noted, it was an individual who proved disruptive, threatening, and simply unmanageable in a group setting (i.e., with a primary diagnosis of a severe per-
sonality disorder). Weekly monitoring, review, and coordination meetings between treatment and referral source staff insured reliable implementation of inclusion and exclusion criteria.

Subjects were active duty members of the military at a major installation in the southwestern United States with a catchment area of approximately 40,000. Those meeting inclusion criteria were referred for an initial evaluation and verification screening by program staff. Referral sources included two outpatient mental health clinics, a 22-bed inpatient service, and a hospital emergency room. Following referral and confirmation that inclusion criteria had been met, all subjects willing to participate reviewed and signed a statement of informed consent detailing the purpose, procedures, and goals of the study. Questions, concerns, or requests for clarification were addressed during this initial session.

For the most part, the initial diagnostic interview and related testing were completed during a single day, however, a range of variables such as intensity or severity of the current crisis, associated symptomatology, patient fatigue, and simple scheduling problems and time constraints required some initial assessment batteries to be completed over a two-day period. The length of time required to complete the initial evaluation varied depending on the length of the diagnostic interview, which naturally varied in accordance with the scope and intensity of reported symptomatology and associated psychopathology.

**Measures**

**Suicidal Ideation.** This was measured by the Modified Scale for Suicidal Ideation (MSSI; Miller, Norman, Bishop, & Dow, 1986) and the Suicide Probability Scale (SPS; Cull & Gill, 1989). The MSSI is an 18-item scale that is a modified version of the Scale for Suicide Ideation (SSI) developed by Beck, Kovacs, and Weissman (1979). It contains 13 items from the original SSI plus five new items and is designed as a semistructured interview to be administered by paraprofessionals. The MSSI has evidenced excellent internal consistency (coefficient alpha = .94 in previous studies) and interrater reliability, as well as good concurrent and construct validity (Miller et al., 1986). For the current study, coefficient alpha was estimated at .88.

The Suicide Probability Scale is a 36-item, self-report measure designed to aid in the assessment of suicide risk in adolescents and adults. In addition to an overall summary score, the SPS provides four clinical subscales: hopelessness, suicidal ideation, negative self-evaluation, and hostility. For the current study, only the suicidal ideation subscale was used. Both the full scale and individual subscales have evidenced sound psychometric properties across both clinical and nonclinical populations. For the current study, coefficient alpha was estimated at .91 for the full scale, with subscale alphas ranging from .66 to .87.

**Life Stress.** This was measured by the Life Experiences Survey (LES). This 57-item self-report measure of life stress allows the respondent to indicate the occurrence of any of the 57 events, distinguish negative or positive impact, and rate the impact accordingly (on a 7-point anchored scale ranging from −3 to 3) (Sarason, Johnson, & Siegel, 1978). Summary scores can be computed for positive, negative, and total life stress. The scale has evidenced adequate test-retest reliability (.63, .64) over 5- and 6-week intervals. Given its prominent use in the suicide literature, the negative life stress score was used for the current study (Rudd et al., 1994 for review).

**Hopelessness.** This was measured with the Beck Hopelessness Scale (BHS), a 20-item true-false scale designed to measure the degree to which one’s cognitions are dominated by negative future expectancies (Beck, Weissman, Lester, & Trexler, 1974). The BHS has evidenced high internal consistency reliability (KR-20 = .93 in previous research) as well as high levels of concurrent and construct validity. The KR-20 for the current study was .94.

**Depression.** Depressive symptomatology were measured with the Beck Depression Inventory (BDI), a 21-item self-report scale. The BDI has been widely used and accumulated a considerable research base (Beck & Steer, 1987). It possesses sound psychometric
properties with high internal consistency reliability (coefficient alpha = .89 in previous research) and associated high levels of concurrent and construct validity. Coefficient alpha for the current study was .92.

**Problem-Solving Behavior and Attitudes.** These were measured by the Problem-Solving Inventory (PSI). The PSI (Form B; Heppner, 1988) is a 32-item self-report measure of an individual’s perceptions of his or her own problem-solving behaviors and attitudes. Factor analysis indicates that the PSI is comprised of three factors: problem-solving confidence (11 items), approach-avoidance style (16 items), and personal control (5 items). The PSI has evidenced excellent reliability (coefficient alphas ranged from .72 to .90, test-retest reliability coefficients ranged from .83 to .89 over a 2-week period in previous research). For the current study, coefficient alpha for the total score was .93, with subscale alphas ranging from .76 to .87.

**Personality Traits, Characterologic Features, and Acute Symptomatology.** Personality traits, characterologic features, and associated acute symptomatology were assessed using the Millon Clinical Multiaxial Inventory (MCMI), a 175-item, true-false inventory designed for use with psychiatric patients (Millon, 1983). It has 20 clinical scales divided into three groups: basic personality scales, severe personality patterns, and clinical syndromes (i.e., moderately severe and markedly severe). The MCMI has been extensively used in the clinical literature and is thoroughly validated (Millon, 1983). For the current study, the MCMI provided a dimensional rating of personality psychopathology across a range of traits consistent with DSM-III-R, not a specific diagnosis of a personality disorder(s). More specifically, base rate scores of 75 or greater are deemed to be indicative of potentially disruptive or maladaptive traits and representative of personality psychopathology.

**Psychiatric Diagnoses.** These were made using the National Institute for Mental Health (NIMH) Diagnostic Interview Schedule (DIS), which was originally developed for use in the NIMH-sponsored Epidemiological Catchment Area (ECA) study (Regier et al., 1984). It has since been modified to incorporate DSM-III-R criteria, Version III-R (Robins, Helzer, Cottler, & Golding, 1989). The DIS is a highly structured interview which renders both lifetime and current psychiatric diagnoses according to DSM-III-R (Axis I; American Psychiatric Association, 1987), Research Diagnostic Criteria (RDC; Spitzer, Endicott, & Robins, 1978), and Feighner Criteria (Feighner et al., 1972). The DIS renders both lifetime and current diagnoses. Given the purpose of the current study, we utilized lifetime diagnoses. It is important to note that four categories of Axis I disorders on the DIS occur before age 18. These include: (a) major depressive disorder (i.e., even in the context of a young adult diagnosis of bipolar disorder), (b) any anxiety disorder, (c) a disruptive behavior disorder (e.g., conduct disorder), and (d) any substance abuse disorder.

A computerized version of the DIS (C-DIS; Blouin, Perez, & Blouin, 1988) in which each DIS item is presented verbatim, as well as the related complex probing sequence, was utilized in the current study. Although designed to be entirely self-administered, the C-DIS was used only in the computer-assisted mode, making use of a trained interviewer. Given the complexity of basic DIS administration and related probing sequences, it is believed that use of the computer-assisted version, which eliminated any related probing and psychiatric symptom determination sequences, reduced both administration and scoring errors subsequently reducing total error variance.

It is important to note that the lead author completed the extensive NIMH-sponsored DIS training conducted by faculty at Washington University in St. Louis prior to this study. The individuals administering the computer-assisted version of the DIS were individually trained and supervised for a period of approximately 2 months during which time they each administered an estimated 30 interviews prior to beginning the enrollment period for the present study.

**Psychosocial History.** This form provided for basic demographic information as well as information regarding individual and
Childhood Diagnoses and Later Suicide Attempts

family psychiatric history. Family and individual psychiatric history questions targeted depression, substance abuse, suicide, prior treatment, medications, and hospitalizations. Also included was an estimate of the number of previous suicide attempts for the 2-year period prior to treatment. A number of other questions also provided an opportunity for a qualitative appraisal of relationships with siblings and parents.

**Participants and Groupings for Analyses**

*Total Sample.* Participants included a total of 332 individuals (273 male, 59 female). The sample included 136 ideators, 128 reporting a single lifetime attempt, and 68 reporting multiple or more than one lifetime attempts. For those reporting more than one lifetime attempt, the mean number was four and the median two. Study participants were grouped in accordance with self-report data (i.e., clinical interview question of “have you ever attempted to kill yourself” and completion of both the SPS and MSSI). The majority of those with suicide attempts precipitating referral were evaluated and medically cleared prior to participation, either through the inpatient facility or the emergency room. Accordingly, there was documentation of the attempt in their medical record (i.e., simple documentation of the act in the medical record, not assessment of intent). Of the total sample, 133 individuals can be characterized as having made documented attempts in that simple verification of the self-report act was provided in the medical record and the reported attempt precipitated referral. Of the 196 (attempters and multiple attempters) reporting lifetime suicide attempts, 63 were grouped solely in accordance with self-report data. The distribution was as follows for those with documented attempts (n = 133): (1) cutting wrists, n = 32; (2) overdose with intoxication, n = 36; (3) overdose without intoxication, n = 33; (4) carbon monoxide poisoning, n = 1; (5) hanging, n = 3; (6) single car motor vehicle accident, n = 4; and (7) a range of other methods, n = 24. With respect to childhood diagnoses, a total of 174 had at least one lifetime diagnosis with onset during childhood (i.e., prior to age 13) and 153 without an early diagnosis. These two groups provided the basis for many of the comparisons presented in the results section. A total of 5 individuals had missing data and it was necessary to exclude them from subsequent comparisons. Accordingly, the total sample for analysis purposes was comprised of 327 participants, of which 131 were ideators, 128 single attempters, and 68 multiple attempters.

Mean age for the total sample was 22 (SD = ±2.7 years), consistent with the young adult group targeted. The sample included a total of 273 (82%) males and 59 (18%) females, not a surprising distribution given that the study was completed at a major military medical center. Most subjects where White, with fair representation of other ethnic groups (60.2% White [n = 200]; 25.3% Black [n = 84]; 10.5% Hispanic [n = 35]; 1.5% American Indian [n = 5]; 1.2% Pacific Islander or Asian [n = 4]; and 1.2% Other [n = 4]). Over 37 percent (n = 124) of subjects were married, 44% (n = 146) single (never married), 7.2% (n = 24) divorced, 10.8% (n = 36) separated, and less than 1 percent (n = 2) widowed. In terms of highest educational achievement, 71.0% (n = 235) reported completing high school, 10.0% (n = 33) year of college, 6.3% (n = 21) 2 years of college, 0.6% (n = 2) 3 years of college, and 1.8% (n = 6) 4 years of college. A total of 34 participants (10.3%) reported that they did not graduate from high school, but later received a GED certificate.

Ninety-six participants (29.0%) reported a history of previous psychiatric hospitalizations with the modal number cited as one and a range of one to three. Seventy-three (22.1%) reported a family history of depression, 127 (38.4%) a family history of alcohol abuse, and 39 (11.8%) noted a family history of suicide. Additionally, 78 (23.6%) subjects reported current use of psychotropic medication, predominantly antidepressants and anxiolytics. Potential between-group differences with respect to demographic characteristics are addressed below.
RESULTS

Demographic Differences

Comparisons between those with a childhood diagnosis(es) and those without revealed no significant differences with respect to age, sex, race, educational achievement, previous treatment history, or the family history variables noted previously. Gender was found to play a role with respect to early diagnosis of an anxiety disorder, an issue addressed in more detail below.

Psychiatric Diagnoses and Later Risk for Multiple Suicide Attempts

The distribution of the most frequent childhood diagnoses (i.e., mood, anxiety, substance abuse, and conduct disorder) is provided in Table 1, along with a frequency count and relative percentages. Interestingly, anxiety disorders accounted for over 80 percent of early childhood diagnoses, with a disproportionate representation of simple (32.9%) and social phobia (28.8%). Major depression accounted for slightly over 11 percent of total childhood diagnoses. As anticipated, and consistent with the hypotheses of both greater chronicity (duration) and breadth (comorbidity) of disorder, multiple attempters were disproportionately represented among those with childhood diagnoses, \( \chi^2(2) = 7.4, p = .024 \), in comparison to ideators and single attempters. This finding was also consistent across specific diagnostic categories including major depression, \( \chi^2(2) = 4.7, p = .03 \), and anxiety disorders, \( \chi^2(2) = 4.0, p = .05 \), as well as their comorbid occurrence, \( \chi^2(2) = 3.8, p = .05 \).

Gender was found to play a significant role, but only with respect to childhood anxiety disorders. More specifically, females were found to be disproportionately represented among those with a childhood diagnosis of an anxiety disorder, \( \chi^2(1) = 12.3, p = .001 \), but not major depression, \( \chi^2(1) = 0.66, p = .42 \). This finding also extended to chronic suicidal behavior, with multiple attempting females evidencing disproportionate rates of childhood anxiety disorders in comparison to ideators and single attempters, \( \chi^2(1) = 4.06, p = .044 \), a finding that did not hold true for males, \( \chi^2(1) = 0.36, p = .55 \).

The simple correlation matrix offered in Table 2 details the relationship between gender, attempt status (i.e., ideator, single attempter, or multiple attempter), childhood anxiety disorder diagnoses, and childhood major depression. It confirmed the significance of the relationship between gender \( (r = -.14, p = .01) \) and both childhood anxiety disorders \( (r = -.19, p = .0005) \) and suicide risk \( (r = .13, p = .0005) \).

<p>| TABLE 1 |
| Distribution of Childhood Diagnoses ((N = 174)) |</p>
<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Frequency</th>
<th>% of Total Childhood Diagnoses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Depressive Disorder</td>
<td>27</td>
<td>11.1</td>
</tr>
<tr>
<td>Anxiety Disorders</td>
<td>198</td>
<td>81.5</td>
</tr>
<tr>
<td>Panic Disorder</td>
<td>13</td>
<td>5.3</td>
</tr>
<tr>
<td>Generalized Anxiety Disorder</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Agoraphobia (without panic)</td>
<td>7</td>
<td>2.9</td>
</tr>
<tr>
<td>Social Phobia</td>
<td>70</td>
<td>28.8</td>
</tr>
<tr>
<td>Simple Phobia</td>
<td>80</td>
<td>32.9</td>
</tr>
<tr>
<td>Obsessive-Compulsive Disorder</td>
<td>5</td>
<td>2.1</td>
</tr>
<tr>
<td>Posttraumatic Stress Disorder</td>
<td>22</td>
<td>9.1</td>
</tr>
<tr>
<td>Substance Abuse (all categories)</td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td>Conduct Disorder</td>
<td>12</td>
<td>4.9</td>
</tr>
</tbody>
</table>
TABLE 2
Correlation Matrix for Gender, Suicide Attempt Status, and Diagnostic Groupings

<table>
<thead>
<tr>
<th></th>
<th>Attempt Status</th>
<th>Early Anxiety</th>
<th>Early Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correlation</td>
<td>Correlation</td>
<td>Correlation</td>
</tr>
<tr>
<td></td>
<td>p-value</td>
<td>p-value</td>
<td>p-value</td>
</tr>
<tr>
<td>Gender</td>
<td>−0.14</td>
<td>−0.19</td>
<td>−0.05</td>
</tr>
<tr>
<td></td>
<td>0.01</td>
<td>0.0005</td>
<td>0.42</td>
</tr>
<tr>
<td>Attempt Status</td>
<td>0.13</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.02</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Early Anxiety</td>
<td></td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.0009</td>
<td></td>
</tr>
</tbody>
</table>

Attempt Status = ideator, attempter, multiple attempter
Early Anxiety = childhood diagnosis of anxiety disorder
Early Depression = childhood diagnosis of major depression

As determined by attempt frequency (i.e., ideators, single attempters, and multiple attempters). Early major depression evidenced no such association with gender ($r = −0.05$, $p = .42$), despite a similar relationship with suicide attempt status ($r = .13$, $p = .02$). Findings were comparable using other markers of suicide risk including the MSSS, BHS, BDI, and the suicide ideation subscale of the SPS (i.e., SPS-SI). Comparisons between those with a diagnosis of a childhood anxiety disorder ($n = 174$) and those without ($n = 153$) yielded consistent results. In each case, those with a childhood diagnosis of an anxiety disorder evidenced significantly higher MSSS, $t(1, 325) = −2.20$, $p = .029$; BHS, $t(1, 319) = −4.10$, $p = .0001$; BDI, $t(1, 306) = −3.90$, $p = .0001$; and SPS-SI, $t(1, 324) = −3.30$, $p = .0001$ scores.

In an effort to further clarify the relationship between gender, multiple suicide attempts, and childhood anxiety disorder diagnoses, we computed the partial correlation between gender and suicide attempt status, controlling for childhood anxiety disorder diagnoses. Results confirmed that women appear to have higher rates of multiple attempts as a function of, at least in part, childhood diagnoses of anxiety disorders. The original correlation was reduced to insignificance ($r_s = .025$, $p = .73$) when childhood diagnoses of anxiety disorders were controlled.

Symptom Severity in Young Adulthood and Childhood Diagnoses

As was expected, those with any childhood diagnosis presented with a more severe clinical profile in young adulthood in comparison to those without. The differences were uniform and significant across all categories, including: symptom severity, BDI, $t(1, 229) = 3.40$, $p = .0009$; life stress, $t(1, 295) = 3.30$, $p = .001$; suicidal ideation, MSSS, $t(1, 299) = 1.90$, $p = .05$; SPS-SI, $t(1, 298) = 2.99$, $p = .003$; hopelessness, $t(1, 293) = 2.70$, $p = .0074$; and problem solving, PSI, $t(1, 270) = 2.30$, $p = .025$.

Personality Psychopathology and Childhood Diagnoses

As noted earlier, it was hypothesized that childhood diagnoses would be related to the emergence of personality psychopathology in young adulthood. To test this, we explored the relationship between maladaptive personality traits as measured by the MCMI (base rate scores of $>75$) and childhood diagnoses of major depression and anxiety disorders. Table 3 provides a summary of odds-ratios for specific personality traits and each diagnostic grouping, for the total sample as well as males and females. Gender specific
odds-ratios were calculated given the findings noted above regarding the important role played by gender. Only significant odds-ratios are provided for the male and female columns to both preserve space and enhance the interpretability of the table. As illustrated for the total sample, those with a childhood anxiety disorder were twice as likely to evidence schizoid, dependent, or borderline traits and almost three times as likely to manifest avoidant, passive-aggressive, or schizotypal traits in comparison to those without early anxiety. Additionally, those with a childhood major depression were three times more likely to evidence borderline personality traits in young adulthood than those without a childhood diagnosis. Also consistent with our original hypotheses, odds-ratios comparisons between diagnostic groupings and suicide ideators, attempters, and multiple attempters proved significant. More specifically, multiple attempters were twice as likely to evidence an early anxiety disorder (1.9, 95% CI 1.1–3.2, p = .024) and almost three times as likely to evidence an early major depression (2.5, 95% CI 1.1–5.5, p = .02) in comparison to those without a childhood diagnosis.

Interestingly, the associations evidenced were markedly different for males and females. Women with an early anxiety disorder diagnosis were more likely to evidence prominent histrionic and paranoid traits in contrast to men, who evidenced a broader range of personality psychopathology including schizoid,
avoidant, dependent, passive-aggressive, borderline, and schizotypal traits. In an effort to further clarify the relationship between gender, multiple attempts, and personality psychopathology, we computed several partial correlations. Essentially, we wanted to address the question of whether or not childhood anxiety predisposed one to multiple attempts as a function of personality psychopathology (i.e., with different traits for men and women). The relationship between childhood anxiety and attempt status for women ($r = .32, p = .01$) was reduced to insignificance ($r_\chi = .24, p = .07$) when controlling for histrionic and paranoid traits. For men, a significant relationship was not found between childhood anxiety and attempt status ($r = .04, p = .55$). Accordingly, subsequent partial correlations were inappropriate.

**Childhood Diagnoses and Treatment Outcome**

In an effort to address the relationship between childhood diagnoses (i.e., chronicity) and eventual treatment outcome, we examined the distribution of treatment successes versus failures by the presence or absence of a childhood diagnosis. Treatment success and failure (i.e., at 6 months post-treatment) were defined in a relatively rigorous fashion, looking at comprehensive clinical improvement for suicidal patients as indicated by depressive symptoms (i.e., BDI), hopelessness (i.e., BHS), and suicidal ideation and behavior (i.e., MSSI) (see Rudd et al., 1996). Consistent with the recommendations of Kendall & Grove (1988), treatment success was defined as a score on each measure that fell within normal limits. Consistent with our hypothesis, those with a childhood diagnosis were both more frequent among treatment failures and less numerous among successes, $\chi^2(1) = 5.2, p = .02$. Results were similar when we restricted the diagnostic grouping to childhood anxiety disorders, $\chi^2(1) = 4.64, p = .035$.

**DISCUSSION**

Current results help answer some fundamental, but nonetheless critical, questions regarding the relationship between childhood diagnoses and young adult suicidal behavior in a clinical sample of ideators, attempters, and multiple attempters. Interestingly, and consistent with the findings of others, childhood diagnosis(es) was strongly associated with both the emergence of maladaptive personality traits in young adulthood and suicidal behavior (e.g., Bernstein et al., 1996; Lewinsohn et al., 1997; and Rey et al., 1995). In contrast, however, our findings suggest that childhood anxiety disorders are of particular importance for those engaging in suicidal behavior in young adulthood, despite the fact that both early depression and anxiety predisposes to later multiple suicide attempts. Most importantly, the observed relationship was strongest among females. Among the young women studied, a relatively clear relationship emerged. Gender predisposed to being a multiple attempter in young adulthood as a function of childhood anxiety disorders, but not mood disorders. This gender specific finding was consistent with other recent epidemiological findings in the general population. For example, Lewinsohn, Gotlib, Lewinsohn, Seeley, and Allen (1998) found that females were twice as likely to have experienced an anxiety disorder in childhood in comparison to males.

It is possible that early anxiety disorders serve to elevate risk in a relatively comprehensive fashion, cutting across not only symptom measures, life stress, problem solving, and hopelessness, but also frequency and chronicity of actual suicide attempts (i.e., multiple attempts). It is also possible that childhood anxiety disorders elevate risk for personality psychopathology, with distinct and interesting gender differences regarding what type of personality problems emerge. This was not the case for childhood depression, aside from a significant association with borderline personality traits in men. For women, childhood anxiety elevated risk for personality psychopathology in only two domains, histrionic and paranoid traits. For men, the findings were much more inclusive. Men with a childhood anxiety disorder diagnosis were more likely to exhibit schizoid, avoidant, dependent, passive-
aggressive, schizotypal, and borderline traits in young adulthood than those without a diagnosis. More precisely, results suggest that childhood anxiety predispose both men and women to multiple attempts as a function of personality psychopathology, with distinctly different paths depending on gender.

Our results are consistent with a number of other researchers noting disproportionate rates of childhood anxiety disorder diagnoses among young females relative to males in community samples, with almost twice the rate even in early childhood (e.g., Lewinsohn et al., 1998; Yonkers & Gurgeuis, 1995). In contrast, however, we have targeted a young adult clinical sample of suicide ideators, attempters, and multiple attempters. Consistent with previous recommendations (e.g., Clark & Gibbons, 1987; Rudd, Joiner, & Rajab, 1996), our findings suggest that personality psychopathology plays a critical role in the development of suicidal behavior. In terms of etiology, our results suggest that adult suicide attempts have their roots, at least to some degree, in childhood. Early anxiety, a particular problem for women, may disturb personality development which, in turn, may result in suicidality. Consistent with most developmental approaches to psychopathology (e.g., Cicchetti & Toth, 1998), an early anxiety disorder diagnosis would have implications for development across multiple domains, including cognitive (e.g., social cognition, information processing, attributional style), socioemotional (e.g., affect regulation, attachment, self-esteem, interpersonal relationships), biological (e.g., physiological processes, neuroendocrine dysregulation, neurotransmitter anomalies), and representational (e.g., internal representational models, self-schemata). Early dysfunction across one or all of these areas could lead to a style of relating and responding to the world that eventually meets the criteria for a personality disorder (i.e., DSM-IV) in that it emerges early in life, is pervasive and inflexible, is stable over time, and leads to significant distress and/or impairment (APA, 1994). Viewed from the perspective of the most frequently cited empirical model of suicidal behavior (e.g., the diathesis-stress-hopelessness model; Schotte & Clum, 1987), the higher order diathesis in question would be personality psychopathology.

We believe our results have important implications both in terms of treatment and prevention. Current results provide some of the first evidence to link early diagnosis with suicidal behavior in young adulthood, a relationship that appears to be mediated by personality psychopathology in later life. The importance of prevention in terms of early identification and treatment of anxiety and depression during childhood cannot be overstated. In accordance with the recommendations of several researchers regarding the need for treatment approaches that target specific skill deficits (e.g., Linehan, 1993; Rudd, Rajab et al., 1996) in addition to symptom relief, our results suggest that the problems evidenced by suicidal young adults are often long-standing in nature and have their roots in personality psychopathology rather than more acute Axis I symptomatology. Accordingly, changes are indicated in terms of both treatment content (i.e., targeting identified skill deficits) and process (i.e., more enduring).

Clearly, our study is not without considerable limitations. First, the data provided are retrospective in nature. Under these conditions, the reliability of recall is always suspect. However, a number of researchers have noted the surprising accuracy of individual childhood memories (e.g., Brewin, Andrews, & Gotlib, 1993; Maughan & Rutter, 1997). Additionally, it is important to consider that use of a highly structured diagnostic interview and prolonged exposure and focusing on past events would mitigate against this and improve overall accuracy. Second, the interview used was not specific to anxiety disorders. Future efforts might want to employ an interview developed specifically for anxiety (e.g., Anxiety Disorder Interview Schedule for Children, Silverman & Nelles, 1988), given its critical role. Third, some of our cell sizes were relatively small given the nature of comparisons, particularly when controlling for specific personality traits. A larger sample is needed to confirm the relationships noted. And fourth, there is a need for longitudinal study. Al-
though current results suggest a number of pathways to suicidal behavior in young adulthood, longitudinal study is needed for definitive answers. Nonetheless, current results offer an important contribution both in terms of etiology and treatment of suicidal behavior.

REFERENCES


Rudd et al.


