Depression With Atypical Features in the National Comorbidity Survey

Classification, Description, and Consequences

Louis S. Matza, PhD; Dennis A. Revicki, PhD; Jonathan R. Davidson, MD; Jonathan W. Stewart, MD

Background: Atypical depression has been found to be distinct from other types of depression in terms of psychiatric symptom profile and treatment response. However, debate continues regarding its specific characteristics, impact, and diagnostic criteria. The current study was conducted to increase understanding of atypical depression diagnosed using only the reversed vegetative symptoms of hypersomnia and hyperphagia.

Methods: An atypical depression group (n=304 [36.4% of the depressed sample; 39.0% when weighted to approximate the national population]) was identified within the US National Comorbidity Survey, which assessed psychiatric disorders among a nationally representative sample using the Composite International Diagnostic Interview. The atypical group was identified based on DSM-III-R criteria for a major depressive episode, in addition to atypical features of hypersomnia and hyperphagia. Comparison groups were those with nonatypical depression (n=532) and individuals without a psychiatric disorder (n=4071).

Results: Compared with nonatypical depression, atypical depression was associated with a greater percentage of women and an earlier age of onset. The atypical group also reported higher rates of most depressive symptoms, suicidal thoughts and attempts, psychiatric comorbidity (panic disorder, social phobia, and drug dependence), disability and restricted activity days, use of some health care services, paternal depression, and childhood neglect and sexual abuse (P<.05). Compared with people without psychiatric disorders, the atypical group reported higher rates of disability and restricted activity days, use of all mental health care services, parental depression, and childhood abuse (P<.001).

Conclusions: This analysis of a nationally representative US sample suggests that overeating and oversleeping can be used to identify an atypical depression subgroup that is distinct from other depressed patients in terms of demographics, psychiatric comorbidities, and abuse history. Findings also suggest that atypical depression is associated with increased distress, suicidal ideation, and disability compared with nonatypical depression.

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WEST AND Dally1 proposed the term atypical depression to describe a type of depression that was unique in its symptom profile and response to drug treatment. Subsequent studies have consistently found that patients with atypical depression demonstrate relative unresponsiveness to tricyclic antidepressants, but tend to respond well to monoamine oxidase inhibitors.2,3 In addition to these differences in treatment response, patients with atypical depression have been shown to differ from other depressed patients in terms of psychiatric symptom patterns,5-10 biological profile,11-13 sleep characteristics,14 age of onset,5,15-17 and male-female ratio.15,16,18,19 Despite this substantial body of evidence indicating that atypical depression is a valid specifier of mood disorders, debate in the literature continues regarding its specific characteristics and diagnostic criteria.20-22 Partly as a result of these definitional inconsistencies, physicians may have difficulty recognizing atypical depression, and consequently, they may frequently initiate ineffective pharmacological treatments.23,24 Thus, further research is needed on the characteristics and diagnostic criteria of atypical depression.

The Columbia criteria, which were developed by a group of researchers at Columbia University, New York, NY, are commonly used for diagnosing atypical depression.17 According to this diagnostic system, an episode of major depression is classified as atypical by the presence of mood reactivity and in addition to any 2 of the...
following 4 symptoms: hypersomnia, either increased appetite or weight gain, leaden paralysis, and rejection sensitivity. This diagnostic approach has been used to effectively identify an atypical depressive group in numerous clinical studies, and it was incorporated as a specifier of a major depressive episode of major depressive disorder and bipolar mood disorder in the nomenclature of the DSM-IV. However, other researchers have questioned the Columbia criteria, particularly with regard to the central role of mood reactivity.

The current study used a different diagnostic approach that emphasizes reversed vegetative symptoms for identification of atypical depression. The reversed vegetative approach identifies atypical depression based on hypersomnia and hyperphagia, in contrast to the insomnia and weight loss commonly found in melancholic depression. Some empirical research has suggested that this relatively simple approach can reliably identify an atypical depression group, although it does not consider mood reactivity. For example, one study of depression subtypes compared demographics, symptom profile, and treatment response between reversed vegetative patients with mood reactivity and those without mood reactivity. Few differences were found between the groups, suggesting that mood reactivity was not necessary for the identification of an atypical group in that sample. Further support for the reversed vegetative approach is provided by research that has diagnosed atypical depression solely on the basis of these symptoms. These studies have generally identified groups with the expected atypical characteristics such as earlier age of onset, greater proportion of women, and more comorbid anxiety symptoms compared with other depressed patients. In addition, results of a clinical trial suggest that reversed vegetative symptoms may be important for guiding treatment strategies. That study found that a monoamine oxidase inhibitor was more effective than placebo for treating atypical depression with reversed vegetative symptoms, but also found no drug-placebo differences for depression without reversed vegetative symptoms. If the reversed vegetative diagnostic approach can identify atypical depression with reasonable accuracy, its relative simplicity may be a significant advantage in primary care settings, where atypical depression is frequently unrecognized and thus at risk for ineffective treatment.

The present study identified a group of atypical depressed participants in a national survey sample on the basis of the reversed vegetative symptoms of hypersomnia and hyperphagia. This atypical depression group was compared with a nonatypical depression group and a comparison group of individuals without a psychiatric disorder. A range of variables was examined in these analyses, including psychiatric comorbidities, suicidal thoughts and behavior, use of health care services, disability days, and history of abuse. It was hypothesized that the current atypical depression group would demonstrate features similar to those of atypical groups in previous studies, thus providing additional validation for the reversed vegetative diagnostic approach. In addition, analyses were expected to provide increased understanding of the characteristics and consequences of atypical depression.

METHODS

SAMPLE

The sample was selected from the US National Comorbidity Survey (NCS), a nationally representative household survey of persons aged 15 to 54 years in the 48 coterminous United States, along with a supplemental sample of students living in campus group housing. The NCS was administered to 8098 respondents between September 14, 1990, and February 6, 1992, in face-to-face interviews occurring in the participants’ homes, averaging more than 2 hours in length. The response rate was 82.4%. The sample distributions on demographic variables such as age, sex, race, marital status, and socioeconomic status were similar to population distributions reported by the US Census Bureau. The data in all analyses were weighted to adjust for selection rates, response rates, and sociodemographic discrepancies between the final sample and the US population. Characteristics of the full sample as well as additional description of the NCS design and weighting procedures are reported elsewhere.

As previously reported, the NCS interview was administered in 2 parts. Part 1, which included diagnostic assessment, was administered to the full sample of 8098 participants. Part 2 was designed to assess the consequences of psychiatric disorders. It included assessment of risk factors and use of health care services, and it was administered to 5877 respondents selected from the total sample.

DIAGNOSTIC ASSESSMENT AND DETERMINATION OF DEPRESSION SUBGROUPS

The DSM-III-R diagnoses were assigned on the basis of responses to a modified version of the Composite International Diagnostic Interview (CIDI 1.0), which was administered as part of the NCS. The CIDI is a structured diagnostic interview that was designed to be used by trained interviewers who are not clinicians. The CIDI diagnoses examined in this study have demonstrated adequate reliability and validity in the World Health Organization CIDI field trials and an NCS clinical reappraisal study of the CIDI.

For this report, analyses included only the NCS respondents who met DSM-III-R criteria for a major depressive episode during the year before completing the survey (n=836) and the respondents who had never had a psychiatric disorder (n=4071). The participants within the depression group were then classified as having atypical or nonatypical depression on the basis of their responses to questions concerning specific symptoms. The NCS only assessed depressive symptoms of the respondents’ self-defined worst lifetime episode. Because patterns of atypical features tend to be stable across depressive episodes, symptoms of this single depressive episode were considered to be adequate for classification purposes.

The atypical depression subgroup (n=304 [36.4% of the depressed sample; 39.0% when weighted to reflect the national population]) was identified according to the presence of hypersomnia and hyperphagia. Subjects were considered to have experienced hypersomnia if their depressive episode included “a period of 2 weeks or longer when nearly every day you were sleeping too much.” Subjects were considered to have experienced hyperphagia if they endorsed either of the following 2 items: “at least 2 weeks when you had an increase in appetite” or “a period when you gained 2 pounds a week or 10 pounds altogether.”

Subjects who had a major depressive episode, but did not meet these criteria for atypical depression, were placed in the nonatypical depression comparison group (n=532). This group is fairly heterogeneous with regard to the depressive vegeta-
tive symptoms. The majority of this group (53.1%) had melancholic features of oversleeping (eg, early morning awakening) and undereating (eg, weight loss). The remainder of this group reported the following combinations of vegetative symptoms: 7.8% possible atypical (overeating or oversleeping), 10.3% possible melancholic (undereating or undersleeping), 26.7% mixed (overeating/undersleeping or oversleeping/undereating), and 2.2% nonvegetative (no vegetative symptoms reported).

ASSESSMENT OF ADDITIONAL CHARACTERISTICS

The NCS was a broad survey that assessed a wide range of characteristics related to mental health. The present study used a subset of these characteristics to compare the atypical depression group with the nonatypical depression and the no disorders groups. Six types of characteristics were selected: (1) demographics, (2) comorbid psychiatric disorders, (3) depressive symptoms, (4) use of health care services, (5) history of abuse and parental depression, and (6) disability days and restricted activity days. Specific variables within these categories are described in the following paragraphs.

Demographic Characteristics

Sex, ethnicity (white, African American, Latino, or other), level of education (0-11, 12, 13-15, or >15 years), and marital status (currently married, divorced/separated, or never married) were examined. The respondents’ age and their age of onset of the first depressive episode were also examined.

Psychiatric Comorbidities

The atypical and nonatypical groups were compared in terms of their comorbidity with other DSM-III-R disorders as assessed by means of the CIDI. These analyses examined prevalence of the following diagnoses within the year before completing the survey: dysthymia, manic episode, panic disorder, agoraphobia, simple phobia, social phobia, generalized anxiety disorder, posttraumatic stress disorder, drug dependence, and alcohol dependence.

Depression-Related Symptoms

The atypical and nonatypical groups were compared with respect to a number of depressive symptoms to provide a more thorough picture of atypical depression. These symptoms include periods of 2 weeks or more with decreased energy, anhedonia, feelings of worthlessness, and difficulty concentrating. In addition, suicidality was assessed with items asking whether respondents had ever attempted suicide, thought about committing suicide, or had a period of 2 weeks or more when they felt like they wanted to die.

Use of Health Care Services

Several items were selected from the NCS to compare the use of health care services of subjects with atypical depression, nonatypical depression, and no psychiatric diagnoses. These yes-or-no items asked whether the respondent had seen various types of health care professionals or received various types of treatments for “emotions, nerves, or use of alcohol or drugs.” For the current study, items were selected that assessed whether respondents had ever been admitted for a night in the hospital, seen any health care professional, or been to the hospital emergency department. Additional items were selected to assess use of health care services within the year before the survey. These questions asked whether respondents had seen a general practitioner, a psychiatrist, a psychologist, a social worker, or a counselor; taken any prescription or antidepressant medication; and felt that they might need to see a professional.

History of Abuse and Parental Depression

Five items were selected from the NCS to compare rates of abuse history and parental depression of subjects with atypical depression, nonatypical depression, and no psychiatric diagnoses. Three items asked whether respondents were ever “physically abused,” “seriously neglected,” or “sexually molested” as a child. Two items asked whether the respondent’s natural mother or father “ever have periods lasting 2 weeks or more when she/he was depressed, down in the dumps, or blue most of the time?” A composite variable was then created from these questions to assess whether either parent had a history of depression.

Disability Days and Restricted Activity Days

A series of 4 questions assessed disability days and restricted activity days, quantifying respondents’ decreases in activity level during the 30 days before completing the survey. Disability days were defined as the number of days respondents were “totally unable to carry out normal activities,” including work and leisure activities. Restricted activity days were defined as the number of days respondents were “able to work and carry out your normal activities, but had to cut down on what you did or did not get as much done as usual.” For each question, a follow-up item queried, “How many of these days were due to your emotions, nerves, mental health, or use of alcohol or drugs?”

STATISTICAL ANALYSIS

The present analyses were conducted using respondents from the NCS sample who fit into the following 3 study groups: atypical depression, nonatypical depression, and no psychiatric disorders. Analyses of items that appeared in Part 1 of the NCS (demographics, psychiatric comorbidities, and depression-related symptoms) were conducted on a sample of 4907 participants from the total NCS sample who fit into the following 3 study groups: 304 with atypical depression, 532 with nonatypical depression, and 4071 with no disorder. Analyses of items that appeared in Part 2 of the NCS (use of health care services and disability and restricted activity days) were conducted on the smaller sample of 2772 respondents of the 5877 to whom Part 2 was administered: 294 with atypical depression, 509 with nonatypical depression, and 1969 with no disorder.

Descriptive statistics were calculated. For continuous variables, means and SDs are reported. For categorical variables, percentages for each study group are reported. To assess whether the atypical depression group differed from each of the 2 comparison groups with respect to the demographic variables of sex, race, education, and marital status, χ² analyses were performed. Separate sets of logistic regressions were used to compare the atypical depression group with the nonatypical depression and no disorders groups for dichotomous dependent variables. These analyses examined group differences in comorbidity, depressive symptoms, use of health care services, abuse history, and parental history of depression while controlling for sex, race (white or nonwhite), and education (<12 or ≥12 years). Each equation contained a dichotomous depression variable as a predictor (coded as 1 for atypical depression and 0 for the comparison group). Odds ratios (ORs), 95% confidence intervals (CIs), and significance levels are reported. All significance tests were 2-tailed. Analyses of variance (ANOVAs) and t tests were used to compare the groups with respect to continuous variables. The
Compared with the nonatypical depression group, atypical depression was associated with a younger age (mean age, 30.5 years [SD, 10.4 years] vs 32.4 years [SD, 10.4 years]; $t_{4373} = 2.49; P < .01$) and an earlier age of onset (mean age, 21.7 years [SD, 9.4 years] vs 24.2 years [SD, 10.6 years]; $t_{69} = 3.6; P < .001$).

In comparisons between the atypical depression and the no disorders groups, significant differences were found for all demographic variables (Table 1). The atypical depression group had a higher proportion of women ($\chi^2 = 44.6; P < .001$), and the 2 groups differed with respect to ethnicity ($\chi^2 = 19.8; P < .001$), education ($\chi^2 = 17.8; P < .001$), and marital status ($\chi^2 = 40.5; P < .001$). A follow-up logistic regression was performed to explain the marital status difference, and the atypical group had significantly greater odds of never having been married (OR, 1.5; 95% CI, 1.2-2.0; $P < .001$). The atypical depression group was also associated with a younger age (mean age for the no disorders group, 33.1 years [SD, 11.1 years]; $t_{4373} = 4.5; P < .001$).

### PSYCHIATRIC COMORBIDITIES

As shown in Table 2, all ORs were positive, suggesting that atypical depression was associated with higher overall rates of comorbidity than nonatypical depression. Specifically, the atypical depression group had significantly greater odds of having panic disorder, social phobia, and drug dependence. The 2 groups did not differ significantly in odds of having dysthymia, a manic episode, agoraphobia, simple phobia, generalized anxiety disorder, posttraumatic stress disorder, or alcohol dependence.

### DEPRESSION-RELATED SYMPTOMS

The atypical depression group had significantly greater odds of reporting anhedonia, feelings of worthlessness, and decreased energy (Table 3). In addition, atypical depression was associated with greater odds of suicidality, including suicide attempts, suicidal thoughts, and wanting to die (Figure 1). No differences were found for concentration difficulty.

### USE OF HEALTH CARE SERVICES

Compared with nonatypical depression, atypical depression was associated with greater odds of going to a hospital emergency department for mental health problems (Table 4). The atypical depression group also had increased odds of taking antidepressants. The 2 groups did not differ in whether they had been admitted to a hospital, taken any prescription medication, or seen mental health or medical professionals for psychiatric problems. Compared with the no disorders group, the atypical depression group had significantly greater odds of using all health care services (Table 5).

### HISTORY OF ABUSE AND PARENTAL DEPRESSION

Compared with nonatypical depression, atypical depression was associated with significantly greater odds of hav-
Atypical vs nonatypical depression suggests that this study's atypical depression group is similar to atypical depression distinct from other depressed patients. Analyses demonstrated numerous differences between the atypical depression group and the 2 comparison groups. Results concerning characteristics that had been previously examined among these groups were largely consistent with those of previous literature. For example, compared with the nonatypical group, the atypical depression group had a higher percentage of women, an earlier age of onset of depression, and a higher rate of suicide attempts. Patterns of psychiatric comorbidities were also consistent with previous results in that the atypical depression group had relatively high rates of panic disorder and social phobia and drug abuse. These comparisons between atypical and nonatypical depression suggest that this study's atypical depression group is similar to atypical depression samples identified in other studies.

This study also provides additional insight into atypical depression by examining characteristics that have not been addressed in previous research on this disorder. Compared with the nonatypical group, the atypical depression group was more likely to report suicidal thoughts. The atypical depression group also had significantly greater odds of having been neglected or sexually molested or a father with a history of depression (Table 4). The analyses of the mother's history of depression and the either-parent composite variable found odds in the same direction, but the results were not statistically significant. The atypical depression group also had increased odds of having been neglected or sexually molested. Analysis of physical abuse revealed similar results that reached borderline significance (P = .059).

Compared with the no disorders group, the atypical depression group had significantly greater odds of having a mother and father with a history of depression and significantly greater odds of reporting physical abuse, neglect, or sexual abuse (Table 5).

### Disability Days and Restricted Activity Days

After controlling for sex, ethnicity, and level of education, ANOVA models demonstrated significant group differences in the following 4 variables (means are shown in Table 6): disability days (F72760 = 18.9; P < .001), restricted activity days (F72760 = 21.2; P < .001), disability days due to mental health (F72760 = 10.2; P < .001), and restricted activity days due to mental health (F72760 = 27.5; P < .001). Post hoc tests showed the same pattern of responses for each of the 4 dependent variables. Specifically, atypical depression was associated with significantly greater numbers of disability days and restricted activity days than the 2 other groups, and nonatypical depression was associated with significantly greater numbers of disability days and restricted activity days than the comparison group at P < .05.

#### Table 2. Comorbidity Between Depression Subtypes and DSM-III-R Diagnoses

<table>
<thead>
<tr>
<th>Comorbidities</th>
<th>Study Groups, Weighted Percentages*</th>
<th>Atypical vs Nonatypical Depression, OR (95% CI)‡</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Atypical Depression</td>
<td>Nonatypical Depression</td>
</tr>
<tr>
<td>Dysthymia</td>
<td>19.2</td>
<td>17.2</td>
</tr>
<tr>
<td>Manic episode</td>
<td>10.9</td>
<td>8.7</td>
</tr>
<tr>
<td>Panic disorder</td>
<td>16.5</td>
<td>7.6</td>
</tr>
<tr>
<td>Agoraphobia</td>
<td>19.7</td>
<td>13.9</td>
</tr>
<tr>
<td>Simple phobia</td>
<td>33.4</td>
<td>26.9</td>
</tr>
<tr>
<td>Social phobia</td>
<td>28.6</td>
<td>20.1</td>
</tr>
<tr>
<td>Generalized anxiety disorder</td>
<td>20.0</td>
<td>16.6</td>
</tr>
<tr>
<td>PTSD</td>
<td>18.4</td>
<td>14.1</td>
</tr>
<tr>
<td>Drug dependence</td>
<td>11.5</td>
<td>7.0</td>
</tr>
<tr>
<td>Alcohol dependence</td>
<td>16.6</td>
<td>15.4</td>
</tr>
<tr>
<td>Any disorder</td>
<td>69.7</td>
<td>64.5</td>
</tr>
</tbody>
</table>

#### Table 3. Association Between the Depression Subtypes and Selected Depressive Symptoms

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Study Groups, Weighted Percentages*</th>
<th>Atypical vs Nonatypical Depression, OR (95% CI)‡</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased energy</td>
<td>96.7</td>
<td>88.2</td>
</tr>
<tr>
<td>Anhedonia</td>
<td>63.9</td>
<td>50.8</td>
</tr>
<tr>
<td>Feel worthless</td>
<td>62.6</td>
<td>47.7</td>
</tr>
<tr>
<td>Difficulty</td>
<td>79.7</td>
<td>76.5</td>
</tr>
<tr>
<td>Wished to die</td>
<td>47.4</td>
<td>38.8</td>
</tr>
<tr>
<td>Suicidal thoughts</td>
<td>59.9</td>
<td>44.8</td>
</tr>
<tr>
<td>Suicidal attempts</td>
<td>22.6</td>
<td>14.6</td>
</tr>
</tbody>
</table>

Abbreviations: CI, confidence interval; OR, odds ratio.

*Indicates the weighted percentage of each depression group that endorsed the given symptom (present for ≥2 weeks).

†Obtained from logistic regression equations, 1 for each of the depressive symptoms (coded as 1 if present and 0 if absent). Each equation contained a dichotomous depression subtype variable as a predictor (coded as 1 for atypical and 0 for nonatypical depression), controlling for sex, ethnicity, and level of education.

‡The odds of endorsing the symptom were significantly greater for the atypical depression group than for the comparison group at P < .05.

§The odds of endorsing the symptom were significantly greater for the atypical depression group than for the comparison group at P < .05.

¶The odds of endorsing the symptom were significantly greater for the atypical depression group than for the comparison group at P < .01.

These 2 items asked if the respondent had ever had suicidal thoughts or made a suicide attempt.

Findings indicate that patients with atypical depression are distinct from other depressed patients. Analyses demonstrated numerous differences between the atypical depression group and the 2 comparison groups. Results concerning characteristics that had been previously examined among these groups were largely consistent with those of previous literature. For example, compared with the nonatypical group, the atypical depression group had a higher percentage of women, an earlier age of onset of depression, and a higher rate of suicide attempts. Patterns of psychiatric comorbidities were also consistent with previous results in that the atypical depression group had relatively high rates of panic disorder and social phobia and drug abuse. These comparisons between atypical and nonatypical depression suggest that this study's atypical depression group is similar to atypical depression samples identified in other studies.

This study also provides additional insight into atypical depression by examining characteristics that have not been addressed in previous research on this disorder. Compared with the nonatypical group, the atypical depression group was more likely to report suicidal thoughts. The atypical depression group also reported greater numbers of disability days and restricted activity days, and they were more likely to use antidepressants and visit hos-
Furthermore, the atypical depression group was less likely to have ever been married. It is possible that this pattern results from interpersonal difficulties related to the common atypical characteristics of rejection sensitivity and mood reactivity, which might contribute to instability in close personal relationships. Although atypical depression has occasionally been referred to as a minor or a mild form of depression, current results are consistent with more recent reports, suggesting that atypical depression

Abbreviations: CI, confidence interval; OR, odds ratio.
*Indicates the weighted percentage of each depression group that endorsed each item.
†Obtained from logistic regression equations, 1 for each of the items (coded as 1 if yes and 0 if no). Each equation contained a dichotomous depression subtype variable as a predictor (coded as 1 for atypical and 0 for nonatypical depression), controlling for sex, ethnicity, and level of education.
‡The odds of endorsing the item were significantly greater for the atypical depression group than the comparison group at \( P < .05 \).
§The odds of endorsing the item were significantly greater for the atypical depression group than the comparison group at \( P < .01 \).
||The odds of endorsing the item were greater for the atypical depression group than for the comparison group at \( P = .059 \).
can occur in severe cases.\textsuperscript{20,43} These findings suggest that it is important to identify atypically depressed patients in clinical settings because atypical depression may be associated with greater impairment and risk than other types of depression.

Current findings have implications for the assessment of depressive symptoms in clinical research. Because atypical depression appears to be common and associated with significant distress, it may be important to measure improvement in atypical features when evaluating treatments. However, the most commonly used symptom measures in clinical trials of antidepressants, the Hamilton Rating Scale for Depression and the Montgomery-Asberg Depression Rating Scale, focus primarily on the melancholic symptoms of depression.\textsuperscript{44,45} Consequently, it may be advantageous to consider using other instruments that can capture improvements in symptoms of atypical depression. For example, the Inventory of Depressive Symptomatology includes items that assess atypical features.\textsuperscript{46,47}

Findings also suggest directions for future research concerning the etiology of atypical depression. Compared with the nontypical group, the atypical depression group reported significantly higher rates of paternal depression and a nonsignificant trend toward higher rates of maternal depression, suggesting a possible pattern of family history. Atypical depression was also associated with significantly higher rates of childhood neglect and sexual abuse as well as nearly significantly greater rates of physical abuse ($P=0.059$). The abuse history results are consistent with a previous study that found increased rates of childhood physical and sexual abuse among depressed patients with reversed neurovegetative features in the Ontario community sample.\textsuperscript{39} A twin study has demonstrated a partial genetic basis for atypical depression.\textsuperscript{58} The rates of early trauma in the cur-

### Table 5. Use of Health Care Services, Family History, and Abuse History Reported by the Atypical Depression and the No Disorders Groups

<table>
<thead>
<tr>
<th>Study Group, Weighted Percentages*</th>
<th>Atypical Depression</th>
<th>No Disorders</th>
<th>Atypical Depression vs No Disorders, OR (95% CI)†</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lifetime prevalence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admitted to hospital</td>
<td>16.8</td>
<td>1.2</td>
<td>16.4 (9.9-27.0)‡</td>
</tr>
<tr>
<td>Seen any professional</td>
<td>55.8</td>
<td>16.0</td>
<td>7.0 (5.2-9.4)‡</td>
</tr>
<tr>
<td>Been to hospital emergency</td>
<td>8.9</td>
<td>0.7</td>
<td>12.8 (6.7-24.7)‡</td>
</tr>
<tr>
<td><strong>Past year prevalence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seen general practitioner</td>
<td>20.5</td>
<td>3.6</td>
<td>7.3 (4.9-10.8)‡</td>
</tr>
<tr>
<td>Seen psychiatrist</td>
<td>20.8</td>
<td>2.4</td>
<td>12.3 (8.1-18.7)‡</td>
</tr>
<tr>
<td>Seen psychologist, social worker,</td>
<td>36.8</td>
<td>7.6</td>
<td>7.2 (5.2-9.9)‡</td>
</tr>
<tr>
<td>or counselor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taken any prescription medication</td>
<td>17.3</td>
<td>1.7</td>
<td>12.1 (7.6-19.2)‡</td>
</tr>
<tr>
<td>Taken antidepressants</td>
<td>13.2</td>
<td>0.7</td>
<td>22.1 (12.3-40.0)‡</td>
</tr>
<tr>
<td>Felt need to see a professional</td>
<td>27.1</td>
<td>3.1</td>
<td>11.9 (8.2-17.3)‡</td>
</tr>
<tr>
<td><strong>History of depression</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>62.7</td>
<td>22.2</td>
<td>5.6 (4.2-7.5)‡</td>
</tr>
<tr>
<td>Father</td>
<td>44.9</td>
<td>15.6</td>
<td>4.1 (3.1-5.5)‡</td>
</tr>
<tr>
<td>Either parent</td>
<td>70.7</td>
<td>29.0</td>
<td>6.0 (4.4-8.0)‡</td>
</tr>
<tr>
<td><strong>Childhood history</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical abuse</td>
<td>13.2</td>
<td>1.6</td>
<td>9.1 (5.6-14.9)‡</td>
</tr>
<tr>
<td>Sexual abuse</td>
<td>22.6</td>
<td>3.3</td>
<td>7.3 (5.0-10.8)‡</td>
</tr>
<tr>
<td>Neglect</td>
<td>10.6</td>
<td>0.8</td>
<td>13.7 (7.5-25.2)‡</td>
</tr>
</tbody>
</table>

Abbreviations: CI, confidence interval; OR, odds ratio. *Indicates the weighted percentage of each depression group that endorsed each item. †Obtained from logistic regression equations, 1 for each of the items (coded as 1 if yes and 0 if no). Each equation contained a dichotomous group variable as a predictor (coded as 1 for atypical depression and 0 for no disorders), controlling for sex, ethnicity, and level of education. ‡The odds of endorsing the item were significantly greater for the atypical depression group than for the comparison group at $P<.001$.

### Table 6. Disability and Restricted Activity Days for the Study Groups

<table>
<thead>
<tr>
<th>Study Group, Mean (SD)</th>
<th>Atypical Depression</th>
<th>Nonatypical Depression</th>
<th>No Disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disability days</td>
<td>3.0 (6.9)</td>
<td>1.9 (5.9)</td>
<td>0.6 (3.0)</td>
</tr>
<tr>
<td>Restricted activity days</td>
<td>5.1 (8.1)</td>
<td>3.7 (7.3)</td>
<td>1.4 (4.5)</td>
</tr>
<tr>
<td>Disability days due to mental health</td>
<td>1.2 (4.4)</td>
<td>0.6 (3.4)</td>
<td>0.1 (1.0)</td>
</tr>
<tr>
<td>Restricted activity days due to mental health</td>
<td>2.6 (6.1)</td>
<td>1.6 (4.8)</td>
<td>0.2 (1.6)</td>
</tr>
</tbody>
</table>

Abbreviation: NCS, US National Comorbidity Survey. *Means indicate the number of days during the 30 days before completing the NCS. Different lettered superscripts within a row indicate that means are significantly different from each other at $P<.001$.
rent sample and the Ontario sample suggest that environmental factors may also play a role. For example, some cases of atypical depression may be a form of traumatic stress reaction, with symptoms that are distinct from posttraumatic stress disorder. Because the NCS assessed personal history with general retrospective questions, however, current findings should be interpreted with caution, and further research is needed to draw conclusions about etiology.

A limitation of the current study involves the diagnostic criteria used to identify the atypical depression group. The atypical depression group was identified according to the 2 reversed vegetative symptoms, hypersomnia and hyperphagia. Although some previous studies have used this reversed vegetative diagnostic approach, the DSM-IV and most clinical studies use the relatively complex Columbia criteria, which include 3 additional symptoms: mood reactivity, leaden paralys, and rejection sensitivity. Because the NCS did not assess these 3 symptoms, it is not possible to evaluate the consistency between the present study's atypical group and a group identified according to the DSM-IV criteria for depression with atypical features. It is likely that the reversed vegetative classification system resulted in a number of false-positive (ie, subjects in the atypical depression group who would not meet DSM-IV criteria) and false-negative findings (ie, subjects not included in the atypical depression group who would meet DSM-IV criteria). Despite this diagnostic limitation, however, the current results suggest 2 justifications for using the reversed vegetative criteria when it is not possible to evaluate all 5 atypical features in the Columbia criteria. First, the atypical depression group in the present study is similar in several respects to atypical groups defined in previous samples using the Columbia criteria, suggesting substantial overlap between patients identified with the 2 approaches. Second, the reversed vegetative approach identified a clinically meaningful group with increased distress, comorbidity, disability, and suicidal risk compared with other people with depression.

Both the Columbia criteria and the reversed vegetative approach have strengths. The Columbia system has a history of careful empirical development, and it may have greater diagnostic precision because it assesses subtle emotional symptoms. In clinical settings, however, this diagnostic complexity is likely to be an advantage only for practitioners who are adequately trained to interview patients about psychiatric characteristics such as mood reactivity and rejection sensitivity. In contrast, the relative simplicity of the reversed vegetative approach may be a significant advantage in primary care medical settings, where atypical depression is frequently unrecognized. Compared with the Columbia criteria's subtle emotional characteristics, the 2 reversed vegetative symptoms are objectively defined and easy to identify. If these relatively simple features can truly identify atypical depression with reasonable accuracy as suggested by current findings, inclusion of these features in mental health screenings may improve the recognition and treatment of atypical depression in clinical settings.

The current study has 2 additional limitations associated with the NCS assessment procedures. First, diagnoses made with the fully structured interview used in the NCS may not be consistent with clinical assessments, and therefore, results should be interpreted with caution. Second, the NCS data set does not include sufficient information to examine the overlap between atypical depression and the full range of bipolar disorders. The NCS includes diagnosis of manic episodes, and a small proportion of the depressed sample in the current study met criteria for bipolar I disorder (weighted percentages: 9.6% had a manic episode in past year; 10.4%, lifetime). Several studies suggest, however, that atypical features may be associated with bipolar II disorder. Because the NCS did not assess history of hypomanic episodes, it is not possible to identify participants who meet bipolar II criteria.
Overall, this analysis of a nationally representative sample suggests that overeating and oversleeping can be used to identify a distinct atypical depression subgroup that is associated with increased distress and disability compared with other depressed groups. These increased risks, including relatively high suicide rates, underscore the importance of recognizing and effectively treating patients with atypical depression. Based on the current findings, a diagnostic approach involving only the 2 reversed vegetative symptoms appear to be a reasonably accurate screening strategy for identifying the atypical subgroup among depressed patients who present in general practice settings.

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This article is dedicated to the memory of Jonathan Woolley.

Corresponding author and reprints: Louis S. Matza, PhD, MEDTAP International, Inc, 7101 Wisconsin Ave, Suite 600, Bethesda, MD, 20814 (e-mail: matza@medtap.com).

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