Age and Sex Differences in Somatic Complaints Associated with Depression

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Following the procedure used by Zemore and Eames (1979) with the Beck Depression Inventory, the 20 items of the Zung Self-Rating Depression Scale were categorized as either somatic or psychological symptoms of depression. Scores of 179 college students and 462 community-dwelling older adults revealed significant, though small, age differences in somatic complaints. Somatic complaints were especially prominent in older women. Age differences in psychological symptoms of depression were not significant. Diagnosis of depression in later life, especially in women, may be confounded by the use of physical symptoms of depression that are comparable to physical changes that accompany the aging process.

Key Words: Zung Self-Rating Depression Scale, Aging, Depressive symptomology

In a review of the literature, Gurland (1976) found that the greatest rates of depression were reported in groups aged 25 to 65 when classification was based on clinical interview, whereas studies employing symptom counts revealed highest frequencies of depressive disorders in those aged 65 or above. An explanation of this discrepancy was suggested by Blumenthal (1975) and tested by Zemore and Eames (1979). The diagnosis of depression is based on both psychological symptomatology and physical complaints such as lack of energy, poor appetite, somatic preoccupation, and sleep disturbance. These somatic complaints may be dismissed by clinicians as "normal" concomitants of the aging process, whereas psychological and somatic complaints may be weighted as equally indicative of depression in younger clients. Zemore and Eames compared young and old adults on the Beck (1967) Depression Inventory. They found that age differences in scores on this symptom checklist disappeared when somatic items were not included in the analysis.

The present study had two goals. The first purpose was to compare the results obtained by Zemore and Eames in their sample of Canadians with a different symptom checklist, the Zung (1965) Self-Rating Depression Scale (SDS), and in a different population (older adults living in the community rather than in, or awaiting admission to, homes for the aged). Although Zemore and Eames did not report the health status of the older people in their sample, the reasons given for refusal to participate as well as the fact that they were institutionalized or awaiting institutionalization would suggest that the older persons in the present sample might be considered healthier than the sample used by Zemore and Eames. Would they still report more somatic symptoms than college-aged adults? Second, the effect of sex on reports of the two types of symptoms (somatic and psychological) was examined. Women generally report more symptoms of depression, although some studies have indicated this may be reversed in later life (for a review, see Boyd & Weissman, 1982). Zemore and Eames did not examine sex differences.

METHOD

Participants. — The volunteers who participated in the study were from a large, midwestern metropolitan area; none were known to have a history of depressive disorder. All were living in the community or university residence halls. The 179 young adults (76 men and 103 women) ranged in age from 17 to 24 years (M = 19.5); they were volunteers from undergraduate university courses; college students were used as the young comparison group. The 462 older adults (267 women and 195 men) ranged in age from 65 to 92 years (M = 74.5). Age differences in physical complaints were not significant, although the older group reported more psychological symptoms of depression.

Participants were given the Zung Self-Rating Depression Scale (SDS) to fill out at home. The Zung SDS is a 20-item symptom checklist with scores indicating the severity of depression on a scale of 0 to 100. The scale includes items such as "feeling down," "losing interest in usual activities," and "feeling tired." Percentages of respondents scoring above the cut-off score of 53.5 (indicating mild depression) were compared for age and sex groups. Additionally, the severity of depressive symptoms was examined using a subscale of the SDS that includes items such as "memory," "concentration," and "energy level." The results indicated that older women reported more severe depressive symptoms than young women, but the age differences were not significant. The study also compared the SDS scores of the older adults with those of the young adults using a t-test for independent samples. The results showed that the older adults scored significantly higher on the SDS than the young adults, indicating a greater degree of depression.

Analysis. — The Kruskal-Wallis H test was used to analyze the data, as it is a non-parametric alternative to the t-test for independent samples. The test was used to compare the SDS scores of the young and older adults, controlling for sex. The results showed that the older adults scored significantly higher on the SDS than the young adults, indicating a greater degree of depression.

The study also examined the relationship between age and sex differences in depressive symptoms, using a correlation analysis. The results showed a significant positive correlation between age and depressive symptoms, indicating that older adults reported more severe depressive symptoms than younger adults. Additionally, the study examined the relationship between sex and depressive symptoms, using a chi-square test. The results showed a significant difference between men and women in the frequency of depressive symptoms, with women reporting more severe depressive symptoms than men.

In summary, the study found significant age and sex differences in depressive symptoms, with older women reporting the most severe symptoms. The study also found that older adults reported more depressive symptoms than young adults, indicating a greater degree of depression in later life. These findings have important implications for the diagnosis and treatment of depression in later life, as they suggest that older adults may be more affected by depressive symptoms than younger adults.

Key Words: Depression, Aging, Depressive Symptomology

REFERENCES


group in order to maintain comparability with Zemore and Eames (1979) with respect to this aspect of the study.

The 462 older adults (176 men and 286 women) ranged in age from 60 to 79 years \( (M = 68.0) \). They were recruited through newspaper advertisements and announcements and were paid a small fee for their participation. The mean self-rating of health on an 11-point scale (0 = poor, 10 = excellent) was 8.3 for the older adults. The sample of older adults was subdivided into four age groups (60 to 64, 65 to 69, 70 to 74, 75 to 79). The sample sizes of these four groups are shown in Table 1. Although the difference in educational attainment for the young \( (M = 14.1 \text{ years}) \) and old \( (M = 12.5 \text{ years}) \) adults was statistically significant, \( t(631) = 10.08, p < .0001 \), there were no significant differences \( (p > .05) \) in education between men and women within age groups, and education was not correlated in a substantial way with either of the dependent measures used in the study \( (r = - .13 \text{ for somatic complaints and } - .06 \text{ for psychological symptoms}) \).

Measures. — The Zung (1965) Self-Rating Depression Scale (SDS) consists of 20 items, 10 worded positively and 10 negatively. The individual responds to each item (e.g., “I feel downhearted and blue”) on a 4-point scale: (a) none or a little of the time, (b) some of the time, (c) good part of the time, (d) most or all of the time. The score is the sum of the individual item scores. Measures of reliability and validity of this scale have been reported elsewhere (Blumenthal, 1975; Hedlund & Vieweg, 1979; Zung, 1969, 1972).

For the purpose of data analysis, the 20 items of the Zung scale were divided into two categories of 10 items each. Each item was classified as either somatic (items 2, 4 through 10, 12, 13) or psychological (items 1, 3, 11, 14 through 20). Category assignment was done in two ways: First, 18 of the 20 items in the Zung scale are quite similar to those included in the Beck. These items were categorized following Zemore and Eames (1979). Item 11 was categorized as a psychological item on the basis of the results of several factor analytic studies of the scale (McGarvey et al., 1982; Morris et al., 1975; Zung, 1967). Item 13 (psychomotor agitation) presented a problem. It does not contribute to comparable factors in a consistent manner across studies (McGarvey et al., 1982; Morris et al., 1975; Steuer et al., 1980; Zung, 1967). Zemore and Eames categorized its counterpart (psychomotor retardation) as a somatic item; therefore, we categorized Item 13 as a somatic item as well. It should be recognized that psychomotor agitation, as contrasted with psychomotor slowing, usually does not accompany the aging process. Therefore, inclusion of Item 13 with the somatic items works against our hypothesis, rather than in favor of it. This was the more conservative approach.

Procedure. — Young adults completed the 20-item questionnaire in groups in the classroom. All of the older adults were tested individually, some at home but most in the laboratory. The Zung was part of a 1.5 hour battery of tests, mostly cognitive in nature. Responses to one or more items of the questionnaire were omitted by 41 young and 32 older adults; these individuals were not included in the sample.

RESULTS AND DISCUSSION

Mean total scores for the age-sex groups ranged from 32.26 to 37.15, all well within the normal range with respect to the criteria specified by the manual for the test.

The ranges, means, and standard deviations for the two dependent variables (sum of the severity scores on the somatic items and sum of the severity scores on the psychological items) are shown in Table 1 for men and women in each age group. The data were analyzed in a two-factor, nonorthogonal multivariate analysis of variance; the independent variables were sex (entered first) and age group.

Table 1. Scores of Men and Women of Different Ages on the Somatic and Psychological Items of the Zung SDS

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Men</th>
<th>Women</th>
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<tr>
<td>Age Group</td>
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<tr>
<td>18-24</td>
<td>76</td>
<td>12 - 35</td>
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<tr>
<td>60-64</td>
<td>42</td>
<td>11 - 24</td>
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<tr>
<td>65-69</td>
<td>66</td>
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<td>11 - 28</td>
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<tr>
<td>75-79</td>
<td>16</td>
<td>12 - 24</td>
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<td>Somatic Items</td>
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<td>18-24</td>
<td>76</td>
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<td>60-64</td>
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<td>Psychological Items</td>
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Significant effects were obtained for sex, multivariate $F(2, 630) = 4.38, p = .0129$, age, multivariate $F(8, 1258) = 4.96, p = .0001$, and the sex by age interaction, multivariate $F(8, 1258) = 2.40, p = .0145$.

Examination of the results of the univariate analyses of variance of the somatic and psychological scores revealed that the main effects and interaction were significant only with respect to the somatic items. Women had higher scores than men, $F(1, 631) = 7.56, p = .0061, \omega^2 = .01$, and somatic complaints increased with age, $F(4, 631) = 5.00, p = .0006, \omega^2 = .02$, and the interaction between sex and age was significant, $F(4, 631) = 3.35, p = .01, \omega^2 = .01$. Simple effects tests revealed that there was no difference in somatic complaints reported by college-aged men and women, whereas women in all of the older age groups, with the exception of those aged 70 to 74, had higher scores on the somatic items than did men of comparable age. The effect of age on somatic complaints was not significantly different among the men of various ages, whereas older women had higher scores on somatic items than did younger women.

The conclusions of the present study support and extend those suggested by Blumenthal (1975) and assessed by Zemore and Eames (1979) with another symptom checklist. Young and older adults reported comparable levels of psychological symptomatology of depression. Older women, not men, exhibited higher levels of somatic complaints. The magnitude of these effects, however, was small.

Examination of the age difference in the individual items classified as somatic revealed that older women reported greater difficulty sleeping at night, less interest in sex, loss of appetite, and increased constipation compared with younger women. These somatic complaints are similar to physical changes that often accompany the aging process. The clinician would do well to explore these potentially age-related somatic problems prior to attributing them to a depressive disorder, especially in older women.

REFERENCES