

DOCUMENT RESUME

ED 214 071

CG 015 807

AUTHOR Funabiki, Dean; And Others
TITLE An Investigation of Precipitating Events and Susceptibility Factors in Depression.
PUB DATE Apr 81
NOTE 37p.; Paper presented at the Annual Meeting of the Western Psychological Association (61st, Los Angeles, CA, April 9-12, 1981).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Behavioral Science Research; *Behavior Patterns; *College Students; *Depression (Psychology); *Emotional Response; *Etiology; Individual Differences; *Psychological Patterns; Research Methodology
IDENTIFIERS *Life Events

ABSTRACT

Recent theoretical and empirical work suggests that precipitating and individual susceptibility factors are involved in the development of depression. This etiological issue was reexamined within a college population. A comprehensive assessment technique, the behavioral-analytic methodology, was used to collect over 1,000 written descriptions of problematic situations by students (N=604) which they reported had resulted in depressive experiences. These situations were reduced by thematic content, rewritten, and administered to a new sample of 312 students. The latter sample rated experience with and individual susceptibility to these situations and then completed the Beck Depression Inventory. Results of discriminant function analyses indicated that heightened susceptibility, in combination with the experience of particular environmental events, optimally differentiated depressed from nondepressed students. The findings suggest that the application of this methodology to the investigation of such factors in other target populations may have heuristic value. (Author/NRB)

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

An Investigation of Precipitating Events
and Susceptibility Factors in Depression

Dean Funabiki, Robert A. Butler and Mary Pepping
Washington State University

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.
- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Dean Funabiki

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC) "

Running Head: Precipitating and Susceptibility Factors

ED214071

C6015807

An Investigation of Precipitating Events
and Susceptibility Factors in Depression

A critical issue in depression research is the extent to which episodes of depression may result from environmental precipitating factors, individual susceptibility factors, or both. In a review of major contemporary psychological models of depression, Blaney (1977) argued that any comprehensive theory must delineate how--and under what circumstances--precipitating factors lead to depressive experiences. Radloff and Rae (1979), in the context of examining the well-observed sex difference in the rate of depression, made the important point that consideration of susceptibility factors must include not only innate and biological mechanisms, but also learned susceptibility. Of interest here are the major theoretical views implicating individual factors, such as cognitive distortion mechanisms (Beck, Rush, Shaw & Emery, 1979), attribution processes (Abramson, Seligman, & Teasdale, 1978), and behavior repertoires (Ferster, 1973; Lewinsohn, Biglan, & Zeiss, 1976).

Radloff and Rae (1979) conducted a large mental health survey, examining correlational relationships between scores on the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) and a variety of self-report scales representing possible precipitating factors, such as early experiences of loss, economic situation, occupational status, physical status, and other activities not related to occupation (e.g., level of social contact, leisure activities). It was found that women, compared to men, reported more frequent exposure to situational

precipitating factors related to depression, although men reported greater exposure to a few particular factors. Covariate analyses were subsequently conducted to control for sex differences in exposure to precipitating factors. These analyses failed to substantially change the pattern of results, which led the investigators to conclude that there may be a sex difference in susceptibility to depression, probably arising from dysfunctional learning histories.

One limitation of the Radloff and Rae (1979) analysis is that it did not identify the specific types of situational events and experiences in which individual susceptibility plays a role. The conclusion drawn by these investigators--namely, that susceptibility factors are involved in depression--was based on the finding that all of the variability due to sex differences could not be partialled out by the covariate analyses.

It would be useful to conduct a more direct comparison of precipitating and susceptibility factors and their relationships with depression. For example, in addition to obtaining self-reports of experience with these situational events (i.e., precipitating factors) one could obtain predictive self-appraisals of the level of concern that such experiences might engender. Predictive individual concern ratings have been previously used for assessing possible cognitive distortion and social skill deficit mechanisms (Funabiki & Calhoun, 1979) both of which may be viewed as individual susceptibility mechanisms.

The Radloff and Rae (1969) study raises a critical issue concerning the etiology of depression. Their work is important not only for sex differences research, but also for more general investigations of depression. A particular focus of the present study, thus, was to examine

the differential role of precipitating versus susceptibility factors in depression. A major consideration in conducting such a study is that attention be given to sampling issues, specifically, selecting representative items describing actual situations relevant to the experience of depression in the population being studied (Funabiki, et al., 1980).

In this vein, an empirically-based assessment tool, the behavioral-analytic procedure (cf. Goldfried & D'Zurilla, 1969) has been suggested as a useful approach for sampling both situational events and responses that are content valid with respect to depression in college populations (Funabiki, et al., 1980; Funabiki & Calhoun, 1979). A major step in the behavioral-analytic procedure entails the sampling of typical situations in which the behavior of interest is likely to occur. This assessment procedure shows promise from a psychometric standpoint, in that attention is given to criterion analysis at each stage of the procedure (Wiggins, 1973).

The goals of the present study are to first collect a set of behavioral-analytically derived descriptions of situational events and experiences (called "prototypes") functionally related to feelings of depression, and then to examine the degree to which precipitating and susceptibility factors are related to this set of descriptions.

Method

The method involved three phases: (a) compiling a set of prototypes; (b) identifying those prototypes that have a demonstrable link with depression; and (c) determining the relevant precipitating and susceptibility factors for differentiating between depressed and nondepressed individuals.

Derivation of Situation Prototypes

Item Collection. The first step in this study was to obtain a set of written descriptions of problematic situational events and experiences that members of the target population indicated led to depressive episodes. Goldfried and D'Zurilla's (1969) format for obtaining a set of items was implemented. Six hundred four college students (n of males = 206, n of females = 398) participated in a survey study during an academic year at Washington State University. All subjects were enrolled in introductory psychology courses and received course credit for participating. The mean age for this sample was 19.0 ($SD = 2.36$). The survey method employed was similar to one previously described (Funabiki & Calhoun, 1979) and was designed to collect written accounts of depression-relevant items. The survey questionnaire enumerated the major symptoms of depression, including prolonged sadness, apathetic mood, negative self-concept, desire to withdraw from others, sleep and appetite disturbances, and change in activity level, to minimize subjects' ambiguity as to which symptoms constitute the syndrome of depression. Subjects were asked to recall and describe a maximum of two situations that they experienced while college students that resulted in depression. It has been suggested elsewhere (Funabiki, 1977) that such a retrospective approach to identifying critical past experiences would facilitate the collection of situation descriptions of functional relevance to the phenomenon of interest.

Subjects, if unable to recall a depressive experience, were requested to describe an experience that had occurred to a friend or acquaintance.

Using the same procedure, subjects were also asked to describe two situational events that they experienced while college students that resulted in pleasant feelings. This task primarily was included for ethical reasons as an attempt to counteract subject reactance effects that may result from recounting only negative experiences. The pleasant situations were not analyzed for the purposes of the present study. Finally, all subjects completed the Beck Depression Inventory (BDI; Beck, et al., 1961), a widely-used instrument for measuring depth of depression which has been validated for use in college populations (Bumberry, Oliver, & McClure, 1978). BDI scores were not analyzed for purposes of the present study. Following these procedures, over 1000 written descriptions of situational events and experiences were collected.

Item Categorization. The large number of items was subjected to an "alpha level" classification procedure (cf. Bruner, et al., 1965) to define categories of items based on recurrent content. The alpha level taxonomy defines lower order categories based on a thorough examination of the diversity of observable content within the item pool. From a psychometric standpoint, this approach was viewed as useful for identifying situational parameters that might be implicated in depression, while avoiding the imposition of a priori theoretical assumptions concerning etiological factors. Fourteen graduate clinical psychology students served as judges to define categories of items through group consensual validation. The procedural requirements followed for defining unambiguous categories (Herbert & Attridge, 1975) were first, that a minimum of two items comprise a category, and second, that a majority of

7
judges viewed all items in the proposed category as similar in content. Thirty-five categories, forming a heterogeneous set of problematic situational events and experiences were defined; items left uncategorized were dropped from the classification system. Items within each category were then reexamined by the judges to ensure homogeneity, while categories viewed as equivalent were combined. These steps resulted in the classification of over 800 items in 32 discrete categories. Categories were labeled to reflect their respective thematic content.

Construction of Prototypes. To further reduce the large number of items while maintaining content validity, a set of representative prototypes were constructed. Items comprising each of the 32 categories were subjected to a classification procedure by three judges (D. F., R. A. B., & M. P). Items within each category judged as similar in content were grouped into subclasses. A set of 187 prototype items, each representing the thematic content of the subclasses, was constructed. As in past research (Funabiki & Calhoun, 1979) each prototype consisted of one to two sentences and was written in the second person, present tense. This step resulted in the construction of 187 prototypes subsumed under 32 categories.¹

Administration of Prototypes.

A new sample of introductory psychology students ($N = 312$), similar to the previous sample in terms of gender (n of males = 109, and n of females = 183) and age ($M = 18.8$, $SD = 1.16$) composition, completed the Beck Depression Inventory and rated the prototypes on two scales: (a) whether or not the situation described by the prototype was actually experienced

by the subject while enrolled in the university (Occur rating); and (b) the predicted level of concern (Concern rating) that the prototype would engender if experienced. The Occur ratings were dichotomous, while the Concern ratings were measured on a 4-point Likert scale, from 1 = not at all concerned, to 4 = extremely concerned. The Occur ratings were designed to measure precipitating events and experiences, while the Concern ratings constituted the measure of susceptibility factors. In view of the large number of prototypes, two separate inventories were constructed. One inventory, Form 1, consisted of 90 of the prototypes, which represented 18 of the categories; the remaining 97 prototypes comprised Form 2, and represented the other 14 categories. Each subject was randomly administered one or the other form; Form 1 was completed by 154 subjects, while 158 subjects completed Form 2.

The Occur ratings for prototypes comprising each of the 32 categories were summed, resulting in 18 aggregate Occur ratings for each subject from Form 1 and 14 aggregate Occur ratings from Form 2. Similarly, 18 and 14 aggregate Concern ratings were calculated for each subject completing either Form 1 or Form 2, respectively.

Discriminant Function Analyses

Subjects scoring 10 or greater on the BDI were classified as depressed; the remaining subjects were identified as nondepressed. This cutting line is consistent with Beck's recommended criterion for classifying at least mild depression, and provided sufficient numbers of subjects in each criterion group for subsequent analyses. The rationale for using this procedure for establishing criterion groups is discussed in greater detail in Funabiki, et al. (1980, p. 197).

A set of preliminary discriminant function analyses were conducted to reduce the total number of prototypes to a manageable number when considered in relation to the number of subjects in the criterion groups (Tatsuoka, 1970). These preliminary analyses were performed on the aggregate ratings in the following manner. The 18 aggregate Occur ratings and 18 aggregate Concern ratings from Form 1 were subjected as variables to a stepwise discriminant function analysis to determine maximum separation of the depressed ($n = 34$) and nondepressed ($n = 105$) subjects.² Similarly, a discriminant function analysis was performed on 28 variables, consisting of the 14 aggregate Occur ratings and the 14 aggregate Concern ratings of Form 2 to differentiate the depressed ($n = 24$) and nondepressed ($n = 113$) subjects (see Footnote 2). The prototype Occur and Concern ratings from the reduced set of discriminating aggregate ratings were then subjected as variables in two subsequent discriminant function analyses, differentiating between the criterion groups for Form 1 and Form 2. All four stepwise discriminant function analyses used a minimum F ratio of 1.00 as the criterion for variable entry into stepwise selection.

Results

Subject Characteristics

The mean BDI score for subjects completing Form 1 was 7.0 ($SD = 5.65$) and Form 2, $M = 5.8$ ($SD = 4.52$). A t -test for a difference between these two group means was nonsignificant. For depressed subjects completing Form 1, the mean BDI score was 14.7 ($SD = 5.37$); for Form 2, $M = 13.2$ ($SD = 3.17$). A t -test for a difference in means between these two groups was also nonsignificant. Fifty-one males and 103 females completed Form 1 and

58 males and 100 females completed Form 2. There were no between-group differences for gender with respect to BDI scores (all two-tailed t -tests nonsignificant). The mean ages among subjects completing Form 1 and Form 2 were 18.8 ($SD = 1.14$) and 18.7 ($SD = 1.19$) years, respectively.

Preliminary Validity Indices

To preliminarily examine relations between depression level and either experience with or level of anticipated concern for the problematic situations, measures of association were computed. Across both forms, 33 prototypes yielded significant point-biserial correlations (all p s $< .05$) between the Occur ratings and the BDI. All correlations were positive, suggesting that higher levels of depression were associated with reports of more frequent exposure to the situations described by the prototypes. Fifty-four prototypes in both Form 1 and Form 2 yielded significant Kendall tau rank-order correlations between the Concern ratings and the BDI scores (p s $< .05$). With the exception of two items, all significant correlations were positive, indicating that higher Concern ratings were associated with higher levels of depression. A more detailed discussion of these correlational indices is presented elsewhere (Funabiki, Butler, & Pepping, Note 1).

Discriminant Function analyses of Aggregate Rating Variables

Analysis of the aggregate Occur and Concern ratings for Form 1 resulted in an eleven-variable function that was statistically significant, Wilk's lambda = .719, $\chi^2(11) = 42.94$, $p < .001$. The function had an associated canonical correlation with depression level of .52, indicating that approximately 27 per cent of the variance for depression

level was accounted for by the function. The standardized discriminant function coefficients for the discriminating variables are presented in Table 1. These coefficients reflect the relative contribution of each variable to the total function. The corresponding univariate F ratios indicate the discriminatory power of that variable considered alone rather than in combination with the other variables in the discriminant function. The proportion of overall correct group classification for depression was .810. Table 1 shows the heaviest loadings on the function for the two aggregate Concern rating variables "Just having a bad day," and "loosing a friend," with both of these variables showing higher mean ratings among the depressed subjects.

Insert Table 1 about here

Other variables that both comprised the function and significantly discriminated between the depressed and nondepressed groups when considered along were "Concern about doing well in college," "Negative view of self," "Not knowing how to behave among peers," and "Dissatisfaction with school." Four of the variables were aggregate Concern ratings and the remaining 7 were Occur ratings.

The analysis of Form 2 aggregate ratings resulted in a statistically significant six-variable function, Wilk's lambda = .730, $\chi^2(6) = 26.36$, $p < .001$. The canonical correlation of the function with depression level was .519, with an overall probability for correct group classification of .825. Examination of the standardized coefficients (Table 1) for each variable show that the aggregate Concern rating, "Problem with an

instructor", followed by the variable "Studying problem" loaded most heavily. Two of the variables, "Studying problem" and "Why am I here?," the latter of which encompassed 4 prototypes questioning the priority and value of attending college, were found to be significantly discriminating when considered alone rather than in combination with the other variables.

Discriminant Function Analyses of Prototype Occur and Concern Ratings

As noted above, two additional discriminant function analyses were performed on the reduced sets of prototype ratings. For Form 1, this set consisted of the respective prototype Occur ratings obtained from the seven discriminating categories of aggregate Occur ratings and the respective prototype Concern ratings obtained from the four discriminating categories of aggregate Concern ratings (41 variables total). Similarly, the Form 2 discriminant function analysis was conducted on only the respective prototype Occur ratings obtained from the eleven discriminating categories of aggregate Occur ratings and from the Concern ratings obtained from the six categories of discriminating aggregate Concern ratings.

In Form 1, a seventeen-variable function was derived that had a canonical correlation with depression level of .61 and that was statistically significant, Wilk's lambda = .634, $\chi^2(17) = 58.18$, $p < .001$. The probability of correct group classification using the function was .831. Table 2 presents the discriminating prototype variables. Eleven of these discriminating variables were prototype Occur ratings, while the remaining 6 were prototype Concern ratings.

Insert Table 2 about here

The variable having the greatest relative loading in the function was an Occur rating prototype dealing with "Worry about becoming a problem drinker." This variable was significantly discriminating when considered alone. Examination of the standardized coefficients and the corresponding univariate F_s show that a total of nine discriminant function variables were significant in discriminating between the depressed and nondepressed groups when considered alone.

Analysis of the reduced set of Form 2 prototype ratings (61 variables total) resulted in a twenty-two variable function that was statistically significant, Wilk's lambda = .577, $\chi^2(22) = 79.74$, $p < .001$, and had a canonical correlation with depression level of .65. The proportion of correct group classification using the function was .914. Table 2 shows that 14 of the variables were prototype Occur ratings; eight were prototype Concern ratings. Eight variables were significantly discriminating when considered alone.

Discussion

The present study examined the relative contribution of precipitating and susceptibility factors in depression. An assessment technique was employed which attended to basic sampling issues, specifically, the need to examine items that are content valid for depression in the particular target population.

Statistical analyses indicated that a combination of both exposure to

problematic environmental experiences and individual appraisals of these experiences optimally differentiated depressed from nondepressed individuals. These findings were consistently found across all discriminant function analyses, which examined both the categorized variables as well as the specific prototypes comprising these groups. Results of this study, then, lend support to the view that a combination of both types of factors are associated with depressive experiences among college students.

With regard to the sampling issue discussed earlier, it is interesting to note that many of the precipitating factors that discriminated the criterion groups are often implicated for depression in other populations. For example, discriminating prototypes included: "Your drinking is interfering with your schoolwork and health," "A very close friend has left the university and now you no longer see this person," "You are in a social situation where you don't know how to act," "You've begun to feel very negatively about yourself because you are not coping well in a new setting," "You discover you are in fact pregnant, and do not want to be," and "You have become rundown and exhausted from overwork." In addition, many prototypes were highly specific to the college target population, including, "One of your classes is so unstructured that you are never sure what you should or should not be studying," "Even though you got good grades in high school, now you seem to do poorly no matter how hard you try," "You are concerned about maintaining a high GPA for getting into future programs for your career," and "You feel that you have been unfairly graded and the instructor refuses to discuss it." The derivation of this rather extensive set of prototypes reinforces the value of the behavioral-analytic technique for identifying precipitating factors, and suggests the

heuristic value of applying this method to other target populations.

A number of theoretical perspectives are germane to the current findings. Theorists specifically addressing the academic psychosocial milieu (Beck and Young, 1978; Henton, et al., 1980; Seligman, 1973) have suggested that traditional college pressures, such as the failure to meet personal academic standards, the need to define career and life goals, along with the absence of a viable personal support system, may contribute to feelings of loneliness, disillusionment, and depression. Such precipitating factors, however, may constitute necessary but not sufficient conditions for the development of depression. As Radloff and Rae (1979) have proposed, individual learned susceptibility mechanisms may also be involved. Consistent with this view are our findings that susceptibility factors made a significant contribution to discriminating depressed individuals. Several susceptibility mechanisms could be involved, including self-regulatory (Rehm, 1977) and cognitive mediational (Abramson, et al., 1978; Beck, et al., 1979) processes, and behavioral skill deficits (Ferster, 1973; Lewinsohn, et al., 1976). An important focus of future investigations is to evaluate the relative contribution of these mechanisms, particularly within the context of situational events and experiences that are related to depression. One such study is currently ongoing (Funabiki, Pepping, & Butler, Note 2), examining patterns in the expression of depression (see Funabiki, et al., 1980) in relation to specific prototypes derived from the present investigation.

It is important to mention several cautions when interpreting the current findings. As discussed at length elsewhere (Funabiki, et al.,

1980), the generalizability of these results should only be extended to mildly depressed subgroups of college students, since the Beck Depression Inventory was used for discerning depression level. As several investigators have noted (Depue & Monroe, 1978; Funabiki, Michael, & Kippes, Note 3; Hammen, 1980), the BDI may tend to overinclusively tap nonclinical dysphoric mood. Nevertheless, the results are quite promising and warrant further study with more clinically depressed groups.

Another caution is that some potentially important susceptibility factors, such as biological mechanisms, early childhood losses, and premorbid personality were simply not assessed in this study. As with other investigations employing self-report procedures, there are potential problems with response biases, including distortions of ratings arising from the depressive state of some individuals (see Paykel, et al., 1969). Finally, it would be useful to employ prospective and longitudinal designs, to further examine precipitating and susceptibility factors, particularly with attention to life-span development. As just one example, children, adolescents, and adults probably have various sets of life experiences that constitute loss of significant others, and the impact of such losses may be quite different at critical developmental periods. The assessment techniques developed in this study show potential for identifying sets of factors specific to various target populations, which may then be incorporated in longitudinal research.

As with the Radloff and Rae (1979) study, this investigation supports the important contribution of both precipitating and susceptibility factors to the development of depression. In addition, this research

outlined a methodology for comprehensively delineating parameters of these factors which are related to depression. Further identification of such parameters may be useful for refining, expanding, or integrating current theoretical conceptualizations for the development of depression.

Reference Notes

1. Funabiki, D., Butler, R. A., & Pepping, M. Applying a behavioral-analytic procedure to the functional analysis of depression. Manuscript in preparation.
2. Funabiki, D., Pepping, M., & Butler, R. A. A sequential analysis of depressive response patterns. Research in progress.
3. Funabiki, D., Michael, C. J., & Kippes, M. E. A methodological contribution to identifying depressed college students. Paper presented at the meeting of the Western Psychological Association, Los Angeles, Calif., April 1981.

References

- Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. O. Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 1978, 87, 49-74.
- Beck, A. T.; Rush, A. J., Shaw, B. F., & Emery, G. Cognitive Therapy of Depression. New York: Guilford Press, 1979.
- Beck, A. T. & Young, J. E. College blues. Psychology Today, 1978, 80-85.
- Beck, A. T., Ward, C. H., Mendelsohn, M., Mock, J., & Erbaugh J. An inventory for measuring depression. Archives of General Psychiatry, 1961, 4, 561-571.
- Blaney, P. H. Contemporary theories of depression: Critique and comparison. Journal of Abnormal Psychology, 1977, 86, 203-223.
- Bruner, J. W., Goodnow, J. J., & Austin, G. A. A study of thinking. New York: Science Editions, 1965.
- Bumberry, W., Oliver, J. M., & McClure, J. N. Validation of the Beck Depression Inventory in a University population using psychiatric estimate as the criterion. Journal of Consulting and Clinical Psychology, 1978, 46, 150-155.
- Depue, R. A., & Monroe, S. C. Learned helplessness in the perspective of the depressive disorders: Conceptual and definitional issues. Journal of Abnormal Psychology, 1978, 87, 3-20.
- Ferster, C. B. A functional analysis of depression. American Psychologist, 1973, 28, 857-870.
- Funabiki, D., Bologna, N. C., Pepping, M. & Fitzgerald, K. C. Revisiting sex differences in the expression of depression. Journal of Abnormal Psychology, 1980, 89, 194-202.

Funabiki, D., & Calhoun, J. F. Use of a behavioral-analytic procedure in evaluating two models of depression. Journal of Consulting and Clinical Psychology, 1979, 47, 183-185.

Funabiki, D. The behavioral assessment of coping among college students in problematic situations: The development of the College Coping Inventory (Doctoral dissertation, State University of New York at Stony Brook, 1977) Dissertation Abstracts International, 1977, 37, 2067B. (University Microfilms No. 77-241, 322).

Goldfried, M. R. & D'Zurilla, T. J. A behavioral-analytic model of assessing competence. In C. D. Spielberger (Ed). Current topics in clinical and community psychology (Vol 1). New York: Academic Press, 1969.

Henton, J., Lanke, L., Murphy, C., & Haynes, L. Crisis reactions of college freshmen as a function of family support systems. The Personnel and Guidance Journal, 1980, 508-511.

Herbert, J., & Attridge, C. A guide for developers and users of observation systems and manuals. American Education Research Journal, 1975, 12, 1-20.

Lewinsohn, P. M., Biglan, A., & Zeiss, A. M. Behavioral treatment of depression. In P. O. Davidson (Ed.), The behavioral management of anxiety, depression and pain. New York: Brunner/Mazel, 1976.

Paykel, E. S., Myers, J. K., Dienett, M. N., Klerman, G. L., Lindenthal, J. C., & Pepper, M. P. Life events and depression: A controlled study. Archives of General Psychiatry, 1969, 21, 753-760.

Radloff, L. S. The CED-S scale: A self-report scale for research in the general population. Journal of Applied Psychological Measurement, 1977, 1, 385-401.

Radloff, L. S., & Rae, D. S. Susceptibility and precipitating factors in depression: Sex differences and similarities. Journal of Abnormal Psychology, 1979, 88, 174-181.

Rehm, L. P. A self-control model of depression. Behavior Therapy, 1977, 8, 787-804.

Seligman, M. E. P. Fall into helplessness. Psychology Today, 1973, 6, 43-48.

Tatsuoka, M. Selected topics in advanced statistics (No 6): Discriminant Analysis. Champaign, ILL: Institute for Personality and Ability Testing, 1970.

Wiggins, J. S. Personality and prediction: Principles of personality assessment. Menlo Park, CA: Addison-Wesley Publishing Co., 1973.

Footnotes

Send reprint requests to Dean Funabiki, Department of Psychology Washington State University, Pullman, WA 99164. The assistance of the following individuals is gratefully acknowledged; Nancy C. Bologna, Marilye Cohen, John Scott Engen, Kevin C. Fitzgerald, Joseph G. Garza, Eugene Grove, Michael Harris, Lorence S. Miller, Mark Moulton, Greg Ness, Diane S. Smolar, and Renee VanNieuwkerk. Useful comments were provided by Allan Chino, Edwin Hill, Lorence Miller, and Pam Thompson on an earlier draft of this paper.

¹A list of the category names and associated prototype items is available on request from the first author.

²The data for subjects not completing all ratings were omitted from the discriminant function analyses, resulted in somewhat reduced n sizes for Form 1 and Form 2.

Table 1
 Discriminating Aggregate Rating Variables and Standardized
 Coefficients for Depressed Versus Nondepressed Subjects

Variable	Variable type ^a	Coefficient	Variable \bar{M} direction ^b	F^c
Form 1				
Just having a bad day	C	-.402	D	16.13**
Losing a friend	C	-.388	D	12.30**
Alcohol or drug problem	O	-.337	D	2.94
Family problem	O	.335	N	<1.00
Not knowing how to behave among peers	O	.332	D	<1.00
Concern about doing well in college	O	-.330	D	8.94**
Negative view of self	O	-.314	D	8.73**
Concern for a friend	O	.302	N	<1.00
Not knowing how to behave among peers	C	-.285	D	11.96**
Dissatisfaction with school	O	-.283	D	5.04*
Homesick	C	.263	D	1.02
Form 2				
Problem with an instructor	C	-1.05	N	1.02

24

25

Table 1 (continued)

Variable	Variable type ^a	Coefficient	Variable \bar{M} direction ^b	\bar{F} ^c
Studying problem	C	.983	D	6.26**
Roommate problem	C	.612	D	<1.00
Pledging fraternity or sorority	C	-.521	N	1.25
Why am I here?	O	.497	N	4.75*
Transportation problem	O	.357	D	<1.00

^aO indicates aggregate Occur rating, and C indicates aggregate Concern rating.

^bD indicates higher depressed means, and N indicates higher nondepressed means.

^cThe univariate \bar{F} ratio is a test for the discriminatory power of each variable taken individually. For Form 1, $df = 1, 152$; for Form 2, $df = 1, 156$.

* $p < .05$.

** $p < .001$.

26

27

Table 2
 Discriminating Prototype Variables and Standardized
 Coefficients for Depressed Versus Nondepressed Subjects*

Variable	Variable type ^a	Coefficient	Variable <u>M</u> direction ^b	<u>F</u> ^c
Form 1				
You are worried that you are becoming a problem drinker	O	-.567	D	4.64*
You are not able to go home for holidays or family gatherings	C	.460	N	<1.00
Sometimes there are days when nothing seems to go right	C	-.399	D	16.13**
You are in a social situation where you don't know how to act	O	.391	N	<1.00
You've begun to feel very negatively about yourself because you are not coping well in a new setting	O	-.345	D	8.73*
Someone you care about didn't succeed in obtaining a goal that was important to him/her	O	.342	N	<1.00
One of your classes is so unstructured that you are not sure what you should or should not be studying	O	-.323	D	4.46*

28

29

Table 2 (continued)

Variable	Variable type ^a	Coefficient	Variable <u>M</u> direction ^b	<u>F</u> ^c
Your drinking is interfering with your schoolwork and health	O	.301	D	<1.00
Even though you got good grades in high school, now you seem to do poorly no matter how hard you try	C	-.275	D	6.24*
You are concerned that your parent(s) has/have a drinking problem	O	.276	N	<1.00
You are feeling isolated here at school, with few interesting things to do and no transportation to other areas	O	-.256	D	2.03
A very close friend has left the university and now you no longer see this person	C	-.222	D	8.03**
30 A friend of yours is having difficulty getting to know other people	O	-.226	D	3.96*
Often when your parent(s) visit you at school, someone ends up with hurt feelings	O	.222	N	2.22
You are in a social situation where you don't know how to act	C	-.203	D	11.96**

Table 2 (continued)

Variable	Variable type ^a	Coefficient	Variable M direction ^b	FC
You are concerned about maintaining a high GPA for getting into future programs for your career	C	-.201	D	10.35**
Sometimes you feel that the campus is so impersonal that you're just another number	O	.176	D	<1.00
Form 2				
You realize that in college you can't be involved in every- thing and still do the studying required to do well	C	.474	N	10.73**
You discover you are in fact pregnant, and do not want to be (females only)	O	.439	D	6.51*
You have lost your appetite and a lot of weight because of school pressures	O	.436	D	17.52**
Just the other day you had something precious stolen	C	-.401	D	4.78*
You are unable to quite smoking cigarettes	O	-.353	N	1.71
You feel that you have been unfairly graded, and the instructor refuses to discuss it	C	.296	N	<1.00
You have become rundown and exhausted from overwork	O	-.290	D	<1.00

32

33

Table 2 (continued)

Variable	Variable type ^a	Coefficient	Variable <u>M</u> direction ^b	<u>F</u> _C
You discover that a friend of yours is gay and you are not sure what you think or feel	O	-.282	N	<1.00
You feel one of your teachers just doesn't like you, and you are worried about the grade you will receive	C	-.279	D	2.35
Your advisor is not very helpful, because he/she is not well-informed	C	-.255	D	4.36*
Two fraternities/sororities are putting a lot of pressure on you, and you can't decide which to join	C	-.229	N	2.27
You and your roommate just seem to be two totally different people who can't get along	C	.207	N	1.68
34 You want to party, but your friend's idea of a party is to get totally drunk, which doesn't appeal to you	O	.203	N	5.67*
You locked yourself out of your car and have only one set of keys	O	.203	D	1.98
You find that you are eating too much and gaining weight	O	-.193	D	1.86
The car you bought is always breaking down and needs frequent repairs	O	-.188	N	1.14

Table 2 (continued)

Variable	Variable type ^a	Coefficients	Variable <u>M</u> direction ^b	<u>F</u> ^c
You feel constantly pressured to conform to the values, attitudes, and lifestyle of the people around you even though you don't always share their values	O	.183	D	2.28
You think you might be pregnant, and do not want to be	O	.178	D	5.38*
You know that you did poorly on a recent test	O	.176	N	<1.00
Lately you have been wondering if most people your age have already had sex, and if your lack of experience in that area is very common	O	.175	D	<1.00
It's hard to deal with roommates who don't talk to you when they get mad	C	.165	N	1.54
You find that you are getting much lower grades than you did in high school	O	.150	N	4.08*

36

37

^aO indicates prototype Occur rating, and C indicates Concern rating.

^bD indicates higher depressed means, and N indicates higher nondepressed means.

^cThe univariate F ratio is a test for the discriminatory power for each variable taken individually. For Form 1, df = 1, 152; for Form 2, df = 1, 156.

*p < .05. **p < .01.