

Risk Factors for Depression

What Do We Learn from Them?

Lenore Sawyer Radloff

Essential Papers on Depression

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Risk Factors for Depression: What Do We Learn from Them?

Lenore Sawyer Radloff

The fact that depression is more common among women than men has been thoroughly documented, but it is important to go beyond this basic epidemiologic finding and ask why. Empirically, this question translates first to asking under what conditions are women more depressed, and whether there are conditions under which women are *not* more depressed than men. These conditions can then be examined for underlying commonalities related to etiologic theories of depression. In other words, the research question changes from “Why are women more depressed than men?” to “What kinds of people are most likely to be depressed?” What do

they have in common, and what does this tell us about the nature of depression?

DEFINITIONS OF DEPRESSION

Klerman and Weissman have described the variety of definitions of depression and its symptoms. A diagnosis of clinical depression depends on the pattern of symptoms and on their severity and duration. One way of classifying the symptoms of unipolar depression is into a syndrome of four dimensions. The *cognitive dimension* includes hopeless, helpless beliefs—the conviction that nothing will ever get better. The irony of depression is that the person feels that nothing can help, whereas, in fact, depression can be quite effectively treated. The *motivational behavioral dimension* includes feeling apathetic, lacking in energy, not wanting to do anything, and actually doing less than usual. Depression often

interferes with normal activities. It especially disrupts interpersonal relationships. The *affective dimension* includes feeling sad, blue, depressed, and taking no pleasure in the things that were formerly enjoyed. Depressed persons also often feel irritable and anxious, even quite openly angry and hostile, especially with the people closest to them (Weissman & Paykel, 1974). The trouble is that the anger is not used to communicate and to solve problems, but simply to express distress. It may be that the depressed person's low self-esteem and anger toward self comes from an awareness of his or her inadequate coping rather than from some mysterious turning of anger inward. The so-called "*vegetative*" *dimension* includes disturbances of appetite and sleep. Most commonly, depressed people have insomnia and do not feel like eating, but some sleep much more than usual, and overeat. These symptoms usually

appear only in fairly severe depression (McLean, 1976).

There are many ways of measuring depression. In the data reported here, degree of depression will be operationally defined as the score on a depression scale, the Center for Epidemiologic Studies Depression Scale, referred to as the CES-D scale (see Table 1). The score consists of the number of symptoms of depression experienced during the past week, weighted by the frequency and duration of each symptom. A higher score indicates a higher level of depression. The scale includes many of the symptoms listed by Klerman and Weissman as characteristic of depression (for more information about the CES-D Scale, see Radloff 1977: and Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977).

Table 1. Center for Epidemiologic Studies Depression Scale^{a, b}

	<i>During the past week</i>	<i>Rarely</i>	<i>A Little</i>	<i>Moderate</i>	<i>Most</i>
1.	I was bothered by things that usually don't bother me	0	1	2	3
2.	I did not feel like eating; my appetite was poor	0	1	2	3
3.	I felt that I could not shake off the blues even with help from my family or friends	0	1	2	3
4.	I felt that I was just as good as other people	3	2	1	0
5.	I had trouble keeping my mind on what I was doing	0	1	2	3
6.	I felt depressed	0	1	2	3
7.	I felt that everything I did was an effort	0	1	2	3
8.	I felt hopeful about the future	3	2	1	0
9.	I thought my life had been a failure	0	1	2	3
10.	I felt fearful	0	1	2	3
11.	My sleep was restless	0	1	2	3
12.	I was happy	3	2	1	0
13.	I talked less than usual	0	1	2	3

14. I felt lonely	0	1	2	3
15. People were unfriendly	0	1	2	3
16. I enjoyed life	3	2	1	0
17. I had crying spells	0	1	2	3
18. I felt sad	0	1	2	3
19. I felt that people disliked me	0	1	2	3
20. I could not get going	0	1	2	3

^a Instructions for questions: Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week (Hand card A): Rarely or none of the time (less than a day); some or a Little of the time (1-2 days); Occasionally or a Moderate amount of time (3-4 days). Most or all of the time (5-7 days).

^b Total score equals the sum of the 20 weighted item scores.

THE SURVEY DATA

The data presented in this chapter came from a mental health interview survey sponsored by the Center for Epidemiologic Studies, National Institute of Mental Health, conducted in Kansas City, Missouri in 1971–1972 and in Washington County, Maryland in 1971-1973. Individuals aged 18 years and over were randomly selected for interview from a representative sample of

households. Response rates were 74.8% in Kansas City; 80.1% in Washington County.

The racial compositions of the samples reflected those of the populations. There were about 24% nonwhite in Kansas City, and only 2% nonwhite in Washington County. Preliminary analyses suggested that the whites and nonwhites should not be combined because they might differ in relationships among some variables. But the numbers of nonwhites were too small to analyze separately in detail. Therefore, we shall cover analyses of whites only, with a sample size of 876 whites in Kansas City and 1639 whites in Washington County. Numbers in the various analyses will differ somewhat, due to missing data.

The survey operation was managed by local organizations^[1] in each site, and coordinated by the Center for Epidemiologic Studies to maintain

the greatest possible comparability between the sites. Previous analyses of the data indicated that there was a small difference between the sites on the depression scale, but it disappeared when adjustments were made for racial composition and socioeconomic variables (Comstock & Helsing, 1976). Relationships among variables were very similar for the two sites. Therefore, the data from the two sites have been combined for the present report.

The questionnaire used in this survey included over 300 separate questions, including the CES-D Scale. The present analyses will cover only the CES-D Scale and some of the more objective sociodemographic factors which previously have been found to relate to depression (Silverman, 1968).

Overall, the average scores on the depression

scale were higher for women than for men. However, this was true only among the married, the divorced-separated, and the never-married who were not heads of their own households (mostly young people living with parents). Among the widowed and the never-married heading their own households, the men's scores were higher than the women's (see Table 2). (See also Radloff, in press and Radloff, 1975 for related analyses.)

*Table 2. Average Depression Scores (CES-D), by Sex and Marital Status**

<i>Marital Status</i>	<i>Male</i>		<i>Female</i>		<i>Total</i>	
	<i>N</i>	<i>X̄</i>	<i>N</i>	<i>X̄</i>	<i>N</i>	<i>X̄</i>
Married	778	7.33	930	9.53	1708	8.53
Divorced-separated	66	7.89	145	13.71	211	11.89
Never married (not head of household)	71	10.27	61	12.79	132	11.43
Never married (head of household)	51	9.84	87	7.93	138	8.64
Widowed	45	12.78	267	10.26	312	10.62
Total	1011	7.94	1490	10.10	2501	9.23

Two Way Analysis of Variance

Interactor sex × marital status $p = .0001$ (p values rounded)

Sex $p = .03$

Marital status $p = .001$

*Higher score indicates more depressive symptomatology.

Table 3 shows that other social factors associated with more depression for both sexes included youth (those of age 18-24 were more depressed than all other age groups), low education, low income, low status employment and physical illness (current or recent). Among males, but not females, currently employed workers were less depressed than others. For both males and females, those who had had children but were not living with them (“empty nest” parents) were less depressed than others. Note that the average depression score for females was higher than that for males throughout Table 3, except among the high-level professionals. In some cases, however, the sex difference was quite small.

Table 3. Average Depression Scores (CES-D), by Sex and Other Social Factors

	Male		Female		Total	
	N	X̄	N	X̄	N	X̄
Age^a						
18-24	146	10.51	189	13.48	335	12.19
25 & up	866	7.51	1296	9.62	2162	8.78
Education^a						
Less than high school	375	8.27	608	11.22	983	10.09
High school	331	8.52	507	10.00	888	9.41
Beyond high school	304	6.94	369	8.44	673	7.76
Income^a						
Less than \$4000	121	10.06	311	11.58	432	11.16
\$4000 or more	827	7.70	1034	9.47	1861	8.68
Occupational Status^a						
High-level professional	45	5.76	5	2.80	50	5.40
Mid-level professional	100	6.11	69	8.14	169	6.94
Low-level professional	98	7.39	33	8.24	181	7.60
Sales & Clerical	88	7.50	181	8.73	269	8.33
Skilled manual	207	7.25	22	11.77	229	7.69
Semi-skilled manual	108	8.99	100	10.91	208	9.91

Unskilled manual	42	8.74	41	9.73	88	9.23
Housewife, retired, other	259	8.64	912	10.31	1171	9.94
Unemployed or student	64	10.98	127	11.64	191	11.42
Illness ^a						
No	307	6.61	382	8.35	689	7.38
Yes	705	8.52	1108	10.71	1813	9.80
Occupational Role ^b						
Worker	798	7.59	636	9.61	1434	8.49
Housewife	—	—	510	10.53	510	10.53
Retired	148	8.53	212	9.67	360	9.20
Unemployed	46	10.35	115	11.44	161	11.13
Student	20	12.00	17	12.41	37	12.19
Parental Status ^a						
Not living with children	288	6.81	477	9.15	765	8.27
Living with children	468	8.35	691	10.81	1159	9.12
No children	256	8.46	322	9.99	578	9.31

^aOne-way Analysis of variance overall $p < .02$ for both sexes.

^bOne way analysis of variance, overall $p < .01$ for males; not significant for females.

The same social factors were analyzed by sex separately for each marital status, to determine

whether the sex-marital status interaction might be due to differences in these factors. In general, it can be seen that this is not the case. Adjusting for the social factors did not change the original findings of Table 2. Among the married (Table 4), the women were more depressed than the men except among the high-level and low-level professionals and the unemployed. Among the divorced-separated, Table 5 shows the women were more depressed than the men except in the sales and clerical occupations. Note however, that the few men in the survey living with children had average depression scores almost as high as the many women $N=(76)$ in that situation. Men and women who had exactly high school education also had very similar scores.

Table 4. Average Depression Scores (CES-D) of Married Subjects by Sex and Other Social Factors

	Male		Female		Two-way analysis of variance	
	N	X̄	N	X̄		
Age					Sex x Age	p = .510
18-24	62	9.47	109	12.39	Sex	p = .000
25 & up	717	7.14	821	9.15	Age	p = .000
Education						
Less than high school	301	7.73	335	10.90	Sex x Education	p = .095
High school	254	7.78	360	9.61	Sex	p = .000
Beyond high school	224	6.25	235	7.46	Education	p = .000
Income					Sex x Income	p = .728
Less than \$4000	68	9.32	84	11.01	Sex	p = .004
\$4000 or more	669	7.20	775	9.35	Income	p = .005
Occupational Status						
High-level professional	38	5.58	4	3.25	Sex x Occupation	p = .05
Mid-level professional	88	5.86	41	7.66	Sex	p = .09

Low-level professional	92	7.37	23	7.35	Occupation	p = .001
Sales and Clerical	73	6.73	104	8.01		
Skilled manual	173	7.09	14	11.79		
Semi-skilled manual	82	9.01	56	9.91		
Unskilled manual	23	5.83	19	10.68		
Housewife, retired, other	179	7.46	586	9.95		
Unemployed or student	30	12.40	83	9.33		
Illness					Sex x Illness	p = .72
No	210	6.09	257	8.45	Sex	p = .0001
Yes	544	7.87	673	9.94	Illness	p = .0003
Occupational Role						
Worker	644	7.05	381	9.01	Sex x Occupation	p = .01
Retired	105	7.59	53	9.86	Sex	p = .70
Unemployed	24	12.79	77	9.40	Occupation	p = .00
Parental Status						
Not living with children	210	5.91	254	8.07	Sex x Parental status	p = .51

Living with children	458	8.21	571	10.14	Sex	p = .0001
No children	110	6.39	105	9.72	Parental status	p = .0001

Table 5. Average Depression Scores (CES-D) of Divorced-Separated Subjects, by Sex and Other Social Factors

	Male		Female		Two-way analysis of variance	
	N	X̄	N	X̄		
Age					Sex x Age	p = .572
18-24	4	12.25	17	20.82	Sex	p = .019
25 & up	62	7.61	128	12.80	Age	p = .030
Education						
Less than high school	25	7.28	74	14.86	Sex x Education	p = .172
High school	16	11.19	47	11.96	Sex	p = .002
Beyond high school	25	6.40	25	13.44	Education	p = .721
Income					Sex x Income	p = .118
Less than \$4000	13	5.77	64	14.55	Sex	p = .002
\$4000 or more	50	8.42	68	11.57	Income	p = .926
Occupational Status						

High-level professional	2	4.50	0	—	Omitting high level professionals	
Mid-level professional	6	7.33	11	11.45	Sex x Occupation	p = .78
Low-level professional	3	6.00	2	12.50	Sex	p = .01
Sales and Clerical	5	12.40	29	11.93	Occupation	p = .91
Skilled manual	15	8.93	3	13.33		
Semi-skilled manual	5	9.60	24	11.33		
Unskilled manual	4	2.50	8	13.00		
Housewife, retired, other	19	6.74	55	15.47		
Unemployed or student	7	9.71	13	17.23		
Illness					Sex x Illness	p = .23
No	20	6.65	36	9.33	Sex	p = .006
Yes	46	8.43	109	15.16	Illness	p = .02
Occupational Role						
Worker	47	8.22	94	12.36	Sex x Occupation	p = .42
Retired	12	5.58	17	11.12	Sex	p = .00
Unemployed	5	6.20	11	17.53	Occupation	p = .49

Parental status

Not living with children	3	6.79	46	12.74	Sex x Parental status	p = .53
Living with children	6	14.17	76	14.70	Sex	p = .08
No children	17	8.47	23	12.39	Parental status	p = .16

Among the never-married who were not heads of households, Table 6 shows the women were more depressed than men except among midlevel professionals, unskilled laborers, the “housewife, retired and other” occupational status category, the retired, and students. All of these groups contained very small numbers of people. However, the sex difference was not significant in any of these analyses, partly because of very unbalanced designs (small numbers in some cells). Table 7’s data shows that among the never-married who were heads of household, it was usually the men who were more depressed, although not significantly so. The women were more depressed

than the men only among those very small numbers of subjects with less than a high school education, or who were unemployed, students, or low-level professionals; and, reflecting very small differences, among the retired and those without illness. Again, none of the sex differences were significant.

Table 6. Average Depression Scores (CES-D) of Never-Married (not Head of Households), Subjects by Sex and Other Social Factors

	Male		Female		Two-way analysis of variance	
	N	X̄	N	X̄		p =
Age					Sex x Age	p = .554
18-24	58	10.76	48	14.30	Sex	p = .131
25 & up	14	7.79	17	8.88	Age	p = .027
Education						
Less than high school	11	9.09	10	10.30	Sex x Education	p = .597
High school	37	9.57	27	13.59	Sex	p = .143
Beyond high school	24	11.63	24	12.92	Education	p = .554
Income					Sex x Income	p = .33
Less than \$4000	5	11.20	5	12.40	Sex	p = .526
\$4000 or more	55	9.98	41	12.49	Income	p = .819
Occupational Status						
High-level professional	0	—	0	—	Omitting high-level and low-level professionals	

Mid-level professional	3	9.00	4	7.50		
Low-level professional	0	—	1	4.00	Sex x Occupation	p = .33
Sales & Clerical	4	10.50	9	12.11	Sex	p = .55
Skilled manual	9	6.44	1	10.00	Occupation	p = .50
Semi-skilled manual	11	8.82	7	14.43		
Unskilled manual	10	11.50	4	6.50		
Housewife, retired, other	19	12.63	19	12.58		
Unemployed or student	15	10.00	16	16.31		
Illness					Sex x Illness	p = .27
No	25	10.84	19	11.21	Sex	p = .27
Yes	46	9.96	42	13.50	Illness	p = .63
Occupational Role						
Worker	54	10.00	35	11.86		
Retired	2	17.00	4	12.00	Sex x Occupation	p = .536
Unemployed	10	8.00	8	18.75	Sex	p = .600
Student	5	14.00	8	13.88	Occupation	p = .327

Table 7. Average Depression Scores (CES-D) of Never-Married (Head of Household) Subjects, by Sex and Other Social Factors

	<i>Male</i>		<i>Female</i>		<i>Two-way analysis of variance</i>	
	<i>N</i>	<i>X̄</i>	<i>N</i>	<i>X̄</i>		
Age					Sex x Age	p = .976
18-24	21	12.33	19	11.16	Sex	p = .526
25 & up	29	8.24	66	7.15	Age	p = .010
Education						
Less than high school	9	4.89	20	8.65	Sex x Education	p = .017
High school	13	16.38	25	7.12	Sex	p = .185
Beyond high school	28	8.61	42	8.07	Education	p = .037
Income					Sex x Income	p = .501
Less than \$4000	14	10.36	25	9.88	Sex	p = .666
\$4000 or more	32	10.31	53	7.51	Income	p = .518
Occupational Status						
High-level professional	5	7.60	1	1.00	Sex x Occupation	p = .07
Mid-level	3	8.00	11	6.00	Sex	p =

professional							.65
Low-level professional	2	4.50	4	12.00	Occupation		p = .02
Sales & Clerical	6	10.83	21	6.57			
Skilled manual	5	6.60	1	1.00			
Semi-skilled manual	8	9.38	4	5.75			
Unskilled manual	4	26.00	2	13.50			
Housewife, retired, other	7	10.86	40	8.10			
Unemployed or student	10	7.70	3	20.67			
Illness					Sex x Illness		p = .12
No	21	6.29	17	7.00	Sex		p = .27
Yes	30	12.33	70	8.16	Illness		p = .02
Occupational Role							
Worker	37	10.89	54	7.35	Sex x Occupation		p = .028
Retired	2	7.00	25	7.08	Sex		p = .094
Unemployed	4	6.00	2	22.50	Occupation		p = .346
Student	6	8.83	1	17.00			

Table 8 indicates that among the widowed, the men were also usually more depressed than the women. The women were more depressed than the men only among those with a high school or higher education (with small numbers of men and very small differences in mean scores) and among the small number of those working as laborers. The sex difference was significant ($p < .04$, with the men more depressed) only in the analysis by income, where numbers were reasonably balanced.

Table 8. Average Depression Scores (CES-D) of Widowed Subjects, by Sex and Other Social Factors

	Male		Female		Two-way analyses of variance	
	N	X̄	N	X̄		
Age					Sex x Age	p = .56
18-64	13	15.38	108	11.22	Sex	p = .14
65 & up	32	11.76	161	9.65	Age	p = .08
Education						
Less than high school	29	15.38	171	10.56	Sex x Education	p = .20
High school	10	9.30	49	10.84	Sex	p = .110
Beyond high school	4	7.25	44	8.64	Education	p = .774
Income					Sex x Income	p = .857
Less than \$4000	21	14.62	134	10.94	Sex	p = .089
\$4000 or more	21	11.81	98	8.70	Income	p = .126
Occupational Status						
High-level professional	0	—	0	—	Omitting Occ. levels 1, 2, 4	
Mid-level	0	—	2	13.00		

professional						
Low-level professional	1	19.00	3	8.67	Sex x Occupation	p = .63
Sales and Clerical	0	—	18	8.56	Sex	p = .81
Skilled manual	4	11.50	3	14.33	Occupation	p = .69
Semi-skilled manual	2	6.00	9	15.56		
Unskilled manual	1	4.00	8	4.88		
Housewife, retired, other	35	13.09	212	10.16		
Unemployed or student	2	18.00	12	13.08		
Illness					Sex x Illness	p = .57
No	6	11.17	53	6.62	Sex	p = .16
Yes	39	13.03	214	11.16	Illness	p = .17
Occupational Role						
Worker	16	11.77	74	9.79	Sex x Occupation	p = .89
Retired	27	13.04	113	9.92	Sex	p = .30
Unemployed	1	21.00	13	14.31	Occupation	p = .47
Parental Status						
Not living with children	34	12.29	176	9.77	Sex x Parental	p = .68

					status	
Living with children	3	20.00	41	12.22	Sex	p = .10
No children	8	12.13	50	10.38	Parental status	p = .27

In summary, women were more depressed than men among the married and divorced-separated. Exceptions which seem interpretable were found in those married persons who were unemployed and divorced-separated people living with children. In the other groups, the sex difference was smaller and less consistent, with some tendency for men to be more depressed among the never-married heads of household and the widowed. The other social factors related to depression fairly consistently in all sex-marital status categories.

A variety of three-way analyses of variance were examined but they showed no dramatic departures from the patterns of Table 2. (The data

are not shown on a table.) Analysis of covariance, using age, education, income, occupational status, illness, and living with children as covariates, also did not change the pattern, although it reduced the sex difference in the divorced-separated and the never-married heads of household categories. For a description of regression analyses using a larger number of social factors, see Radloff and Rae (1979).

A THEORETICAL MODEL OF DEPRESSION

The sex-marital status interaction and the relationship of social factors to depression suggest that the sex difference in depression is not due entirely to biological factors. Klerman and Weissman have reviewed a variety of theories of depression and related them to possible explanations for the sex difference. The model presented here (see also Radloff & Rae, 1979) is

closest to the “learned helplessness” explanation, but incorporates aspects of the behavioral and cognitive models, as well as a sequential “coping” model (McLean, 1976). It suggests that the sex difference in depression is related to the different learning histories of males and females, which result in different ways of coping with stress.

The epidemiologic or “disease” model assumes that the probability that an individual will develop a given disease depends on that individual’s susceptibility to the disease and the exposure to the precipitating factors which initiate the disease. In the case of depression, both susceptibility and precipitating factors may include both biological and social factors. It is here suggested that there is a component of susceptibility that is a learned habit, which could be called a “helpless style of coping,” and that the precipitating factors which would activate this kind of susceptibility would be

problems or stresses that need to be coped with.

General learning theory has shown that in the presence of a goal, such as obtaining a reward or avoiding a punishment, the response that succeeds in reaching the goal (i.e., is reinforced) will be “learned” (i.e., will be more likely to occur again in similar circumstances). In learning theory terms, this is known as learned instrumental behavior. The layman might call it “learning to cope.” In humans, this learning may be accompanied by cognitions which could be verbalized: “In this situation, if I do this, that will happen.”

Learning will not occur if any part of the sequence is absent, that is, if there is no goal, no response, no reinforcement, or no contingency between response and reinforcement. A person may not learn to cope if one or more of these factors is consistently missing, for example,

extremely overprotected or “spoiled” children may learn as little as children in an extremely deprived environment. People cannot learn to obtain rewards by their own responses if rewards are either always or never available regardless of their actions, so that there is a lack of contingency. They may also fail to develop goals if they never want for anything or never have anything. If the person cannot or does not make the responses which would succeed in reaching a goal, lacking appropriate skills, there will be no learning. Or, if rewards or punishments are completely independent of a person’s responses, what Seligman (1975) has called an “uncontrollable situation,” the person may generalize this helplessness to new situations. This generalized “learned helplessness” is related to depression.

It is possible that a person can also learn to *not* cope, as well as fail to learn to cope. If successful

responses which are rewarded are also consistently punished, the person will be in conflict and may try to solve it by avoiding the situation entirely—by, for example, giving up the goal. It is also possible that people can be directly taught not to cope by instruction or example, (e.g. discouragement or disparagement by significant others). Whatever its origin, failure to cope may lead to a generalized habit of not responding, even when there is a goal which could be reached by some possible response. Failure to cope may also be verbalized in helpless cognitions such as “nothing I do matters,” “I can’t cope,” or “I can’t do anything right.” These expressions are characteristic of depression. Beck (1976) suggests that these cognitions are a basic cause of depression. McLean (1976) suggests that depression is the result of anticipation of chronic failure which is the result of feelings of lack of

control resulting from repeated goal frustrations.

It is suggested here that the cognitive dimension of depression, the expectation that goals cannot be reached by any responses available to the person, is a basic factor in learned *susceptibility* to depression. Depression itself will not occur unless there is a goal actively present. In other words, the precipitating factors which activate the susceptibility are goals (rewards desired or punishments to be escaped or avoided). Given a goal situation and the expectation that nothing the person can do will influence the outcome, the person is unlikely to try to do anything. This lack of activity is like the motivational-behavioral dimension of depression. Depending on the environment and the generality of the helpless cognitions, such a person would be faced with more and more unescaped punishments and fewer and fewer rewards. This

would result in pain, anxiety, sadness and lack of enjoyment—the affective dimension of depression. There is speculation and some evidence (Brenner, 1979) that the vegetative dimension of depression may follow from severe and prolonged affective disturbance.

Theoretically, then, depression develops sequentially, but in real life it is no doubt a vicious cycle. For example the inability to cope would strengthen the helpless cognitions and contribute to low self-esteem. The sleep and appetite disturbances would reduce energy level and aggravate the motivational-behavioral deficit. The sadness and apathy would interfere with social relationships, thereby reducing reinforcements still further. Depression would continue to deepen unless the cycle were interrupted. Intervention at any point in the cycle might be effective for treatment. But if this model has any validity, to

prevent a relapse, the cognitive (susceptibility) dimension must be changed. Reduction in precipitating factors may also be necessary in cases where they are abnormally numerous or stressful.

APPLICATION OF THE MODEL TO THE SEX DIFFERENCE AND OTHER RISK FACTORS

The kinds of people who are most likely to be depressed include the young, the poor, and poorly educated (especially if female), those with low-status occupations, those with illness, the unemployed and students, women who are married or divorced-separated, the men who are never-married heads of households or widowed, and both sexes if they were never married but were not heads of households. Seligman (1975) has analyzed a variety of risk factors for depression, especially poverty and school failure, in terms of learned helplessness: "A child reared in

... poverty will be exposed to a vast amount of uncontrollability [p. 159].” A background of poverty and poor education would reduce a person’s chances of learning effective coping habits, and leave him or her more vulnerable to depression. Since past poverty and poor education are often correlated with current poverty and low-status occupations or unemployment, the high levels of depression in these groups is understandable. They would be more susceptible due to past experiences and also currently exposed to more precipitating factors (problems to be coped with).

Physical illness may be related to depression because it produces actual helplessness or at least feelings of loss of control. The high level of depression in the young, and especially among students, is more difficult to explain. It is supported by other recent surveys (Benfari,

Beiser, Leighton, and Mertens, 1972; Berkman, 1971) and suicide rate data (Seiden, 1969). This age group may be faced with problems which are more difficult for them to solve than are the problems faced by older people. A recent survey (ISR, 1979) found a large increase from 1957 to 1976 in worry and anxiety in younger age groups. In discussions with the author, high school and college students expressed feelings of helplessness and lack of control. More work is needed to explore this issue.

The sex-marital-status patterns can be explained in several stages. First, as it will be shown, women are more likely to have more of the learned susceptibility to depression than men. Second, selectivity in marriage can be hypothesized, so that the less helpless women and the more helpless men would be most likely to stay unmarried long enough to become heads of

their own households (see Bernard, 1973). Third, divorce and separation, especially if joined with poverty and responsibility for children, can be seen as stressful situations filled with precipitating factors for depression. Divorced-separated women would be both more susceptible (as are married women) and more likely to have children, low incomes and low-status jobs, or be unemployed. Finally, widowhood can be seen as a more stressful precipitant for men, because they have never been prepared to cope with it in either practical terms (by taking over domestic chores) or psychological terms. There are very few widowed males, and in this sense they are deviates from the norm.

Evidence that the learning history of women is more likely to lead to the component of susceptibility to depression, which is due to a lack of instrumental coping, has been reviewed

elsewhere (Radloff & Monroe, 1978). Only a brief summary and a few examples will be given here.

The most plentiful evidence comes from studies of sex role stereotypes. Stereotypes reflect what we expect from people. Studies have consistently found that people expect females, even healthy, newborn babies, to be weaker, less able to get what they want by their own actions, and therefore more in need of help and protection than males. What people expect of a person is likely to influence the way they treat him or her and the way he or she behaves. There is evidence that girls are more likely to have things done *for* them, while boys are shown how to do things for themselves.

In the studies of childrearing practices reviewed by Maccoby and Jacklin (1974), only one consistent sex difference is found: The actions of

boys more frequently *have consequences* than do the actions of girls. Granted, the boys are often punished especially for aggression, but both rewards and punishments depend on the boys' behavior. Boys can therefore learn to control rewards and punishments by their own actions. In contrast, an observational study of nursery schools (Serbin, O'Leary, Kent & Tonick 1973) found that girls received fewer reactions from adults for all behaviors, including aggression. The authors describe, for example a small girl who struck out aggressively in anger and was totally ignored. Even her worst temper tantrum had no effect on her environment. That is the ultimate in helplessness, and is reminiscent of clinical descriptions of the impotent rage of the angry depressive.

For males in our culture, achievement and competence are clearly rewarded. For females,

they receive mixed results. Some studies found that females who displayed competence were simply ignored. For example, studies of small group problem-solving found that females were less listened to, were more often interrupted and has less influence on the group decisions. An extreme example is found in a study where females were given the right answer ahead of time, but still could not get the group to accept it (Altmeyer & Jones, 1974).

Other studies found that competent females sometimes got rewards, but were often also punished, especially by social rejection. The “fear of success” studies illustrate this. When a female was portrayed as successful especially in achievement-oriented ways, people predicted many bad consequences of her success. In another study, male and female actors portrayed assertive and nonassertive roles. The assertive females

were rated by observers as less likeable and more in need of psychotherapy than nonassertive females; the reverse was true for male actors (Costrich, Feinstein, Kidder, Marecek, and Pascale, 1975).

Other studies, (reviewed by Frieze, 1975) have found that females who succeeded in a task were more likely than males to attribute their success to luck or other factors which would not allow them to take credit for their achievement. This could produce a cognitive barrier to learning, by blocking the effectiveness of positive reinforcement. Females were less likely than males to expect to succeed in the future, and were less likely to *attempt* to succeed in the future. Recently, it has been found that depressed people are likely to have a similar “attribution style.” When they do well at something they attribute it to luck; when they fail, they take all the blame

(Rizley 1978). This attribution could be described as a generalized expectancy of failure to cope.

Many studies have found that work produced by females was rated as less significant, and was less rewarded by pay, promotions, and status than comparable work produced by men (e.g. see Huber, 1973; Safilios-Rothschild, 1972). “Women’s work” is sometimes defined as “pleasing other people.” Success in pleasing people is unpredictable, and the rewards are very intangible.

In summary, for “competent behavior” which, in our culture is highly praised, females, as compared to males, have been found to get fewer rewards, have less control over their rewards, and more often see their rewards accompanied by punishment, producing conflict, which interferes with learning. Women have also been instructed

by the stereotypes that competent instrumental behavior is not expected of them. That this “training in helplessness” has been effective is shown by their attribution style-taking less personal credit for success—and their low expectations of success, the behavioral effect is seen in their reduced rates of attempting to solve problems.

It is suggested that depression is a special problem for women not because they are biologically female nor only because they are exposed to greater numbers of stress-inducing situations, but because they have learned to be more susceptible to depression. There are many sources of learned susceptibility which would affect both sexes equally, but stereotyped sex-role socialization is an added source of susceptibility to depression for women. The implications for treatment and prevention are obvious.

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Notes

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