

Impact of a Preventive Job Search Intervention on the Likelihood of Depression Among the Unemployed*

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Drawing on coping resources theory, we evaluate the impact of a job search intervention on depressive symptoms in a randomized field experiment at three follow-up periods covering two and one-half years. Baseline depressive symptoms, low social assertiveness, and financial hardship were identified as significant risk variables predicting depressive symptoms at follow-up. These variables then were used to identify high- and low-risk individuals in both experimental and control groups. Results indicated that the job search intervention had its primary impact on persons identified as being at higher risk for depression. Furthermore, the intervention had an impact on both the incidence and prevalence of more severe depressive symptoms among high-risk individuals.

THEORETICAL BACKGROUND

Coping resources theory is an emerging perspective that attempts to explain variation in the strength of the observed relationship between stressors and psychological disorder (Antonovsky 1979; Kessler, Price, and Wortman 1985; Pearlin and Schooler 1978; Thoits 1986). Coping resources are usually defined as personal attributes or skills viewed as adaptive across a range of situations and associated with effective coping behavior. Thus, mastery (Pearlin and Schooler 1978), a sense of coherence (Antonovsky 1979), and self-esteem (Brockner 1988) have all been identified as coping resources.

However, characteristics of the social environment also can be considered as coping resources that facilitate effective coping

behavior or broaden the range of potential coping behaviors available to individuals. For example, Thoits (1986) has conceptualized social support as a coping resource. Thoits argues that social support may be regarded as a coping resource because of its assistance in changing a stressful situation, changing its meaning, or decreasing the emotional distress associated with it. The availability of tangible and/or instrumental aid and information can broaden the repertoire of coping strategies. Thus, coping resources may be personal attributes or naturally occurring or intentionally supplied resources in the social environment that may reduce distress or buffer the relationship between stressful situations such as involuntary job loss and psychological distress.

Involuntary Job Loss, Mental Health, and the Role of Coping Resources

A wide variety of studies indicate that persons experiencing involuntary job loss are at higher risk for mental health problems (Barling 1990; Dooley and Catalano 1988; Kessler, Turner, and House 1988; Vinokur, Caplan, and Williams 1987). Furthermore, return to paid employment can have positive

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effects on mental health, strengthening the evidence that employment status is a risk factor for poor mental health. Longitudinal panel surveys (Kessler et al. 1988; Vinokur et al. 1987) have shown that reemployment has a marked positive impact on mental health status, often restoring it to pre-unemployment levels. Among the mental health problems associated with job loss, depressive symptoms are clearly the most commonly reported (Barling 1990; Fryer and Payne 1986); the focus of this paper is depressive symptoms.

However, involuntary job loss represents a very broad category of psychosocial risk. Additional factors place subpopulations of the unemployed at even higher risk. For example, House, Williams, and Kessler (1987) have found that unemployed persons experiencing lower levels of social support and social integration are at higher risk for mental health problems. Similarly Kessler, Turner, and House (1987) and Broman, Hamilton, and Hoffman (1990) have reported that financial hardship mediates the relationship between unemployment status and a negative mental health outcome. Furthermore, recent reviews of the literature on unemployment (Barling 1990; Fryer and Payne 1986) indicate that additional factors such as the length of unemployment and demographic characteristics such as minority group status also may increase the risk of mental health problems associated with unemployment.

Interventions that aid the unemployed in returning to the work force may reduce the risk associated with prolonged unemployment. Such interventions also may help the unemployed person to cope with the difficult task of job seeking which frequently involves numerous rejections and setbacks, and requires utilization of social networks and effective self-presentation. One such intervention (Caplan et al. 1989), evaluated in the context of a randomized field experiment, reported that the intervention produced higher quality reemployment in terms of earnings and job satisfaction as well as higher motivation among those who continued to be unemployed. Additional analyses of this field experiment (Vinokur, Price, and Caplan 1991) indicated that those participating in the intervention benefitted by receiving more positive employment outcomes and better mental health than did their counterparts in the control group. Finally, a two and one-half year follow-up of the intervention (Vinokur et

al. 1991) demonstrated the intervention's continued beneficial effects on monthly earnings, higher levels of employment, and fewer episodes of employer and job changes. In addition, benefit-cost analyses indicated that the intervention produced economic returns (higher earnings, tax revenues) that would permit it to pay for itself in less than one year.

Just as some unemployed persons may be at higher risk for mental health problems, some of the unemployed may benefit more from such interventions. For example, some unemployed persons may be able to call on available coping resources and social support in their job search, readily obtain reemployment, and be at relatively low risk for mental health problems. On the other hand, some of the unemployed may be too disabled by mental health problems to benefit from such an intervention. Yet a third group of unemployed persons may be at high risk for future mental health problems associated with job loss but may benefit from an intervention designed to help them gain the resources needed to cope with the job search task.

For this research, a four-wave panel study of the unemployed was utilized that incorporates a randomized field experiment which evaluated a job search intervention. The purpose of the experiment was twofold: to (a) identify factors which place unemployed individuals at higher risk for depressive symptoms and (b) estimate the impact of the intervention on persons with varying levels of risk for developing higher levels of depressive symptoms. We hypothesize that several risk factors may produce higher levels of depressive symptoms for the involuntarily unemployed. These risk factors indicate deficits in coping resources that are necessary for adapting to the stresses of unemployment and regaining employment. First, several studies have shown financial hardship to be an important predictor of depressive symptoms among the unemployed (Broman et al. 1990; Kessler et al. 1987; Vinokur et al. 1987). In addition, differences in age, education, gender, and minority group status may place some individuals at higher risk for negative mental health outcomes (Fryer and Payne 1986). Similarly, lack of social support and social integration (House et al. 1987) and higher levels of financial hardship (Kessler et al. 1988) have both been identified as risk factors for negative mental health outcomes. Finally, we hypothesize that persons with

lower levels of self-esteem (Brockner 1988), social assertiveness, or shyness (Jones and Russell 1982) may, because of the nature of the job search task that requires skillful interactions with others, be at higher risk for mental health problems with continuing unemployment. Such persons also may be more likely to benefit from an intervention designed to provide them with social support and enhanced job search skills and confidence. Thus, we hypothesize that the intervention, in providing coping resources, buffers the effects of unemployment on depressive symptoms.

METHOD

Sample

Detailed information about sample recruitment and characteristics, the intervention process, and its assessment are reported by Caplan et al. (1989) and Vinokur, Price, and Caplan (1991). Briefly, 1,087 unemployed respondents were recruited from the Michigan Employment Security Commission offices to participate in the study. Of these respondents, 928 who had expressed equal preference to an offer to participate in a job search seminar or to receive self-instructional materials by mail were randomized into a control group (self-instructional material) and an experimental group (job search seminar). Of the 606 respondents in the experimental condition, 308 appeared for the intervention. To preserve the integrity of the randomization and the experimental design, our analyses included all persons assigned to the experimental condition. Self-administered pretest questionnaires were obtained from the respondents before the intervention as well as follow-up questionnaires one month, four months, and twenty-eight months after the intervention.

Of those assigned to the experimental and control conditions, 606 (81%) and 322 (87%), respectively, returned the pretest questionnaire and were enrolled in the study. Experimental group respondents were sent an invitation to participate in the Job Search Skills Program and informational materials about the place and time schedule. Control group respondents were sent written job search materials and a pamphlet on coping with unemployment. There were no significant differences at pretest between the

experimental and control groups on demographic variables, job-seeking motivation, mental health, or any other measure.

Experimental Treatment

The intervention offered to the experimental group consisted of eight three-hour group training sessions over a two-week period. Each session included between 15 and 20 participants and was facilitated by a pair of co-trainers. The overall objective of the intervention was to prevent the negative mental health effects of unemployment and to promote high quality reemployment. These objectives were to be realized by enhancing participant job search self-efficacy. The intervention has four major overlapping components:

Job Search Skill Training. Participants were taught and rehearsed job search skills in a supportive group environment. The skills and techniques were those recommended most highly by job search specialists, using a learning process based on social learning theory (Bandura 1977, 1986). This component of the intervention was intended to increase participant job search self-efficacy, reduce feelings of helplessness, increase job search knowledge and skills, and foster a positive attitude toward job seeking.

Learning Process. Participants' knowledge and ideas were elicited through small- and large-group discussions and other activities. Participants spent much of their time rehearsing new skills and providing each other with support. This process was intended to maximize the effectiveness of the learning environment and to promote the self-efficacy of participants, a sense of self-worth and involvement in the job search process.

Inoculation Against Setbacks. The intervention emphasized an extension of Meichenbaum's (1985) and Janis and Mann's (1977) work on behavior change and helping individuals to adhere to difficult situations. The intervention emphasized group anticipation of possible setbacks or barriers to job seeking and prepared participants to overcome them through problem-solving strategies and skill acquisition. This component was intended to increase specific coping skills for dealing with the social, emotional, and task demands associated with job loss and job search.

Social Support. Trainers explicitly engaged

in various supportive behaviors including expressions of empathy for and validation of participants' concerns and feelings, and encouraged participants' coping efforts. Group exercises also were designed to provide opportunities and reinforcement for participants' supportive behaviors toward each other. This component was intended to provide social support and establish fellow participants as a source of job search self-efficacy.

Predictors of Psychological Distress

Some of the participants' psychosocial and demographic characteristics were measured in the multiwave survey of participants. All psychosocial variables consisted of multi-item indexes developed by factor analysis and used in previous studies.

Self-esteem was measured by a five-item set of 5-point Likert scales asking respondents how strongly they agree or disagree (1 = strongly agree, 5 = strongly disagree) with various statements: "I am able to do things as well as most other people," "I feel that I do not have much to be proud of," "I am inclined to think that I am a failure," "I am satisfied with myself," and "I wish I could have more respect for myself." These items are based on the measure of self-esteem developed by Rosenberg (1985) (Cronbach alpha = .72).

Social support was measured with an eight-item set of 5-point Likert scales (1 = not at all, 5 = a great deal) asking respondents to characterize their relationship with their spouse or a person they see often and feel close to. They were asked how much "encouragement," "caring," "useful information," "listening," "saying things that raise self confidence," "talking with the person when upset," "understanding," and "direct help" was provided. This variable, which assesses positive social support, was developed by Abbey, Abramis, and Caplan (1985) and had a Cronbach alpha of .89.

Social assertiveness was measured by a four-item index based on items from instruments by Galassi et al. (1974), Rathus (1973), and Jones and Russell (1982) asking respondents how much they agree (1 = strongly agree or 5 = strongly disagree) with the following statements: "I worry about saying something dumb in conversation," "I

worry about being uncomfortable at parties and at other social functions," "I feel inhibited in social situations," and "most people seem to be more aggressive and assertive than I am." This index had a Cronbach's alpha of .82.

Internal-external control was measured by a ten-item index asking respondents how much they agree or disagree (1 = strongly agree, 5 = strongly disagree) with ten statements, including "what is going to happen will happen," "trusting to fate has never turned out well for me," "feeling certain that plans made will work," "it is not wise to plan too far ahead because things will turn out to be a matter of luck," "decisions could be made just as well by flipping a coin," "feeling little influence over things that might happen," "not believing in luck," and "feeling control over the direction over one's life." These ten items are based on questions from the original I-E scale developed by Rotter (1966), and on factor analyses conducted by Gurin et al. (1978).

Economic hardship was measured with a three-item scale (Kessler, Turner, and House 1987; Vinokur, Caplan, and Williams 1987) which asked respondents about the anticipated level of hardship that they and their family will experience in housing, food, or medical attention, in reducing their standard of living, or in living on the household income (Cronbach alpha = .86).

Demographic Measures and Conditions of Prior Work

In addition, respondents were asked at the pretest to report their sex, age, education, ethnic background, marital status, and household income (during the past year). Finally, they were asked to rate the quality of their last steady job using a nine-item index based on rating scales (1 = terrible, 7 = delighted) that describe various aspects of the job including "people worked with," "the company," "the work itself," "the supervisor," "the pay," "promotion chances," "job security," "chance to use one's skills," and "variety of tasks" (Cronbach alpha = .77).

Depression was measured with a subscale based on the Hopkins Symptom Checklist (Derogatis et al. 1974). The subscale was an eleven-item scale asking respondents to indicate how much (1 = not at all, 5 = extremely)

they had been bothered in the last two weeks by "crying easily," "blaming oneself for things," "feeling lonely," "feeling no interest in things," "feeling blue," "thoughts of ending one's life," "feeling hopeless about the future," "heavy feelings in the arms or legs," "loss of sexual interest or pleasure," "feeling low in energy or slowed down," and "poor appetite" (Cronbach alpha = .84).

Response Rate

Eighty-three percent of the experimental and control group respondents who received a pretest questionnaire returned it. The response rate for those receiving Time 2 (T2) and Time 3 (T3) post-test questionnaires were 88 percent and 81 percent of the Time 1 (T1) pretest respondents. At Time 4 (T4), we collected data from 94 percent of the respondents who filled out questionnaires at T3, about 28 months earlier. Thus, the response rate at T4 was 76 percent of the original sample of 1,087 respondents.

Analysis Strategy

In order to identify T1 predictors of depression at follow-up periods, we first removed 102 (11%) persons who already exhibited greatly elevated depressive symptom levels from the T1 sample. The cut-off point used exceeded the mean depression level displayed by depressed outpatients or inpatients as reported by Derogatis and Melisaratos (1983).¹

Predictors of subsequent high levels of depression were estimated only in the control group to avoid confounding exposure to the intervention with the estimation of risk factors. The follow-up period of four months was chosen as an intermediate time period over which symptoms could develop after baseline data collection. Regression analyses were conducted which estimated the effect of T1 social support, self-esteem, internal-external control, economic hardship, and social assertiveness. These analyses also included T1 depression, income, sex, marital status, education, age, and ethnic status as controls. Only T1 depression (beta = .62), economic hardship (beta = .13), and low social assertiveness (beta = -.10) emerged as significant predictors of elevated depressive

symptoms at follow-up ($R = .64$). We then used this equation to create a predicted-risk-of-depression score which was assigned to respondents in both experimental and control groups. First, we used standard regression techniques to test for an interaction between the predicted-risk variable and experimental condition to determine if the impact of the intervention on post-test depression differed by level of risk. The experimental condition by risk interaction was marginally significant in determining depression at T2 (beta = .28, $p < .08$), and significant at T3 (beta = .54, $p < .001$) and T4 (beta = .44, $p < .02$). Then, we applied two-way analyses of covariance to determine the nature of the interaction. Although dividing the groups into both 50 percent/50 percent (low risk/high risk) and 75 percent/25 percent (low risk/high predicted risk) categories yielded similar interaction patterns, the strongest interaction occurred when the predicted risk score was divided into 75 percent/25 percent categories. Those results are reported here.

To avoid the possibility of selection bias in our analyses of the impact of the intervention on high- and low-risk groups, all persons randomized into the experimental group were included, whether or not they actually participated in the intervention. Cook and Campbell (1979) recommend this conservative procedure to preserve the integrity of the randomized design. However, high- or low-risk individuals may still be overrepresented among those who actually attended the intervention. Consequently, we calculated the proportion of high-risk individuals in both the "show" and "no show" groups within the experimental group. High-risk individuals were nearly evenly represented in both no show (35%) and show (32%) groups, with no significant difference between their proportions.

RESULTS

Separate regression analyses were conducted which predicted depression at one-, four- and twenty-eight-month follow-up periods. Each equation contained the continuous risk variable, a dummy variable indicating membership in the experimental or control group, and an interaction between group membership and the continuous risk variable. Each equation also contained base-

line measures of depression and number of hours working at the follow-up period as controls. Interaction terms were significant at four- ($p < .001$) and twenty-eight- ($p < .01$) month follow-up periods.²

Table 1 reports analyses of covariance comparing high- and low-risk persons in the experimental and control group conditions using T1 depression and number of hours working at the follow-up period as control variables. Number of hours working at the follow-up period was used as a control because previous research (Caplan et al. 1989; Kessler et al. 1982; Vinokur, Caplan, and Williams 1987) indicates that reemployment is a major predictor of improvement in depression.

Table 1 shows that the main effects of the experimental condition are significant at every follow-up period, that the main effect of the risk group is significant at two of the three follow-up periods, and that the interaction between experimental condition and risk group is significant at all three follow-up periods. Examination of Table 1 indicates that the job search intervention has its effects almost exclusively on the high-risk group at each follow-up period.

Effect of the Intervention on Incidence and Prevalence of More Severe Cases of Depressive Symptoms. Another approach to assessing the impact of the intervention is to ask whether the intervention had any impact on persons who would otherwise have become

more severe "cases" of depression at various follow-up periods. In order to identify "cases" we used slightly more conservative cutoff criteria than those specified by Derogatis and Melisaratos (1983).

Again, considering both high- and low-risk groups in the experimental control group, we defined two measures of more severe "cases" of depression. First, we assessed whether a person ever (yes = 1, no = 0) exceeded the cutoff at any follow-up period. Second, we created a score for each person, counting the number of episodes in which the person exceeded the cutoff in each of the follow-up post-tests (possible score 0-3). The first score reflects the preventive impact of the intervention on the incidence (rate of new cases) of depression. The second score reflects the impact of the intervention on the prevalence of episodes of depression.

Tables 2 and 3 show the means and standard deviations for these two analyses. In Table 2, the mean reflects the proportion of persons in each cell ever to have experienced an episode. In Table 3 the mean represents the mean number of episodes experienced by an individual over the three follow-up periods. An analysis of covariance controlling for T1 depression indicated significant main effects for the experimental condition ($F = 10.70$, $p < .001$) for predicted risk status ($F = 10.74$, $p < .001$) and the interaction ($F = 5.08$, $p < .02$) for the incidence measure.

An analysis of covariance for the number

TABLE 1. Measures of Posttest Depression by Experimental Condition and Predicted Risk of Depression, Controlling for T1 Depression and Posttest Number of Hours Employed*

	Experimental Group Mean (SD)	Control Group Mean (SD)	Effect	F	P	d.f.
<i>T2 Depression</i>						
Low Risk	1.67 (.50) N = 340	1.60 (.51) N = 182	Experimental Condition	4.14	.04	1,696
High Risk	2.21 (.73) N = 117	2.47 (.70) N = 62	Predicted Risk	5.50	.02	1,696
			Interaction	6.07	.01	3,694
<i>T3 Depression</i>						
Low Risk	1.59 (.55) N = 343	1.63 (.52) N = 168	Experimental Condition	11.13	.001	1,686
High Risk	2.08 (.72) N = 122	2.44 (.78) N = 62	Predicted Risk	.45	NS	1,686
			Interaction	12.14	.001	3,684
<i>T4 Depression</i>						
Low Risk	1.55 (.53) N = 305	1.61 (.56) N = 151	Experimental Condition	8.47	.004	1,605
High Risk	1.95 (.73) N = 103	2.20 (.77) N = 52	Predicted Risk	1.87	NS	1,605
			Interaction	6.05	.01	3,603

* Subjects scoring 3.00 or over on pretest depression are excluded from the analyses. Unadjusted means are reported.

TABLE 2. Impact of Risk Status and Experimental Condition on More Serious Cases of Depressive Symptoms: Likelihood of Ever Experiencing a Depressive Episode at Any Follow-up Period T2-T4*

	Experimental Group Mean (S.D.)	Control Group Mean (S.D.)
Low Predicted Risk	.04 (.20)	.08 (.27)
High Predicted Risk	.25 (.43)	.39 (.49)

* 0 = no episodes; 1 = at least one episode.

of episodes (prevalence) produced similar results with significant main effects for the experimental condition ($F = 10.41, p < .001$), for the risk status main effect ($F = 14.71, p < .001$), and the interaction of experimental condition and risk status ($F = 6.76, p < .01$).

Thus, these two measures reflecting the occurrence of more severe episodes of depressive symptoms show patterns similar to the continuous measure of depressive symptoms. These results suggest that the intervention is not just having its impact on unemployed persons with mild depressive symptoms, but also is having a preventive impact on persons with depressive symptoms defined by a more stringent criterion.

We conducted an additional set of analyses to explore the role of reemployment on depression. Reemployment was measured in terms of the number of hours worked per week at each follow-up time period.³ To estimate whether membership in the experimental group and reemployment interacted to produce unique effects on depression, we

TABLE 3. Impact of Risk Status and Experimental Condition on More Serious Cases of Depressive Symptoms: Mean Number of Depressive Episodes Reported at Follow-up Periods T2-T4*

	Experimental Group Mean (S.D.)	Control Group Mean (S.D.)
Low Predicted Risk	.04 (.22)	.08 (.27)
High Predicted Risk	.32 (.63)	.51 (.73)

* 0 = no episodes; 1 = at one episode; 2 = 2 episodes; 3 = 3 episodes.

estimated regression equations predicting depression at each follow-up period including this interaction term. In addition, each equation included as predictors T1 depression, the number of hours working per week, risk status, the experimental versus control condition dummy variable, and the risk status-experimental versus control group interaction term. In all cases, the risk by experimental condition interaction term remained significant, but the hours worked by experimental group interaction did not approach significance. Thus, reemployment measured in terms of hours working does not appear to be having an effect on depression among members of the experimental group as compared to those in the control group. Other aspects of reemployment such as pay level or job quality may be the critical aspects of reemployment that affect depression.

Possible Effects of Attrition Among Persons with More Severe Depressive Symptoms. We examined the possibility that persons with more severe symptoms at T1 might be differentially distributed in the experimental and control groups or be less likely to respond to the surveys at one or more of the follow-up periods. Using the same cutoff criterion for symptom severity, we examined persons who were panel members (those who responded at all three follow-up waves) and nonpanel members (who failed to respond in at least one wave). There were no significant differences on Chi square tests between experimental and control groups in the proportion of more severe cases in any wave of the panel.

We also examined the degree to which more severe cases, as measured at baseline, were over-represented among nonrespondents compared to less severe cases at each panel wave and among nonpanel members. While there were slightly higher percentages of more severe cases among nonrespondents at each of the follow-up waves for panel members and among nonpanel members, Chi square tests did not reveal a significant difference in the proportion of nonrespondents who were more severe cases rather than less severe cases.

DISCUSSION

Our analyses indicate that not all unemployed persons are equally at risk for symptoms of depression. Indeed, T1 levels of

depression, economic hardship, and low social assertiveness are significant predictors of subsequent higher levels of depressive symptoms. While these data do not allow us to model the dynamics of how these variables might combine to produce higher risk of subsequent depression, it may be that low social assertiveness and depressive symptoms prevent effective job search while economic hardship serves as a stressor to increase subsequent levels of depression.

When we assess the effect of our job search intervention on predicted high-risk and predicted low-risk unemployed persons, we find that the intervention primarily affects high-risk individuals. For those at lower risk, the intervention does not produce a differential effect when compared with the control group. These findings suggest that the efficiency of the intervention can be increased in the future trials by screening individuals and oversampling those who display the risk factors identified in this study.

When we applied more stringent criteria to assess whether the job search program prevented the onset of more severe episodes of depressive symptoms, we found a similar pattern of results. The job search intervention reduced the likelihood of those in the high-risk group ever experiencing a severe episode of depression and reduced the number of severe episodes observed. Thus, the job search intervention had an impact both on incidence (rate of new severe cases) and prevalence (number of severe cases observed). Furthermore, these results may not be due to differential distribution of more severe cases in the experimental group versus the control group at any observation period, or to overrepresentation of attrition among more severe cases versus less severe cases at any follow-up period.

It is interesting to note that these results can be observed even at a two and one-half year follow-up period. This may suggest that obtaining employment, particularly if it is of higher quality and relatively stable, may have psychologically protective effects of its own. In an earlier investigation, we showed that persons in the experimental group obtained better paying and better quality jobs than those in the control group (Vinokur et al. 1991). Whereas the quality of a job is determined by several characteristics, pay is the single most important factor and accounts for one-third of the total explained variance in

ratings of job quality (Jencks, Perman, and Rainwater 1988). It may be that the job search intervention has positive effects on vulnerable individuals by placing them in a new work trajectory that sustains the protective effects afforded by a good job.

The current intervention clearly has limitations. First, the people involved in this study were identified early (four months) in unemployment. The study was designed to be preventive and the results may not generalize to the long-term unemployed who are often described as discouraged workers.

While these analyses were carried out on the entire experimental and entire control group, not all of those in the experimental group actually were exposed to the intervention. It would be interesting to ascertain whether individuals exposed to the intervention were those who could benefit most from it. Preliminary evidence (Vinokur et al. 1991) suggests that those individuals most needing the intervention were indeed those who attended rather than those who did not attend the intervention.

Finally, we may ask whether interventions such as the job search project should be offered to all individuals who display a broad gauge risk factor, such as unemployment status, or should be targeted more narrowly to those at higher risk with fewer coping resources. It is seldom known at the outset which persons within a broad category of risk, such as unemployment, will actually develop the disorder in question. Nevertheless, second-stage research can test hypotheses about the relationship between poor coping resources such as low social assertiveness or shyness, and situational stressors such as financial hardship and the impact of a targeted intervention. In other areas of research (Reich and Zautra 1990), investigators also have been able to show that significant interactions of trait-like and manipulated variables can be obtained on mental health. This matching of persons and interventions promises not only to increase the efficiency of social interventions, but to provide tests of hypotheses about the nature of the relationship between coping resources and situational variables.

NOTES

1. This sample of already depressed persons was removed from the analysis because the purpose

of the intervention was preventive rather than rehabilitative. That is, the objective was to reduce the incidence (new cases of high levels of depression) among those unemployed persons not yet displaying high symptom levels. Our data do not permit us to determine whether or not the high symptom levels in this group preceded job loss. However, we conducted analyses of the impact of the intervention on this subgroup and results indicated no improvement in depressive symptoms.

2. Inclusion of baseline levels of depression as a control variable allows an estimate of the relative change in depressive symptoms from the baseline in experimental and control groups. The continuous risk variables also included baseline levels of depression as a component in addition to financial hardship and low social assertiveness.
3. Hours per week was chosen as a measure of reemployment status because previous research (Kessler, Turner and House 1988; Vinokur, Caplan and Williams 1987) indicates that reemployment as reflected in increases in hours worked is a major predictor of improvement in mental health status.

REFERENCES

- Abbey, Antonia, David J. Abramis, and Robert D. Caplan. 1985. "Effects of Different Sources of Social Support and Social Conflict on Emotional Well-being." *Basic and Applied Social Psychology* 6:111-29.
- Antonovsky, Aaron. 1979. *Health, Stress and Coping*. San Francisco, CA: Jossey-Bass.
- Bandura, Albert. 1977. *Social Learning Theory*. Englewood Cliffs, NJ: Prentice Hall.
- _____. 1986. *Social Foundations of Thoughts and Action*. Englewood Cliffs, NJ: Prentice Hall.
- Barling, Julian. 1990. *Employment, Stress and Family Functioning*. New York: John Wiley and Sons.
- Brockner, Joel. 1988. *Self-Esteem at Work: Research, Theory, and Practice*. Lexington, MA: Lexington Books.
- Broman, Clifford, Lee V. Hamilton, and William S. Hoffman. 1990. "Unemployment and Its Effects on Families: Evidence from a Plant Closing Study." *American Journal of Community Psychology* 18:643-59.
- Caplan, Robert D., Antonia Abbey, David J. Abramis, Frank M. Andrews, Terry L. Conway, and John R.P. French, Jr. 1984. *Tranquilizer Use and Well-being: A Longitudinal Study of Social and Psychological Effects*. Ann Arbor, MI: Research Report Series.
- _____. Amiram D. Vinokur, Richard H. Price, and Michelle van Ryn. 1989. "Job Seeking, Reemployment, and Mental Health: A Randomized Field Experiment in Coping with Job Loss." *Journal of Applied Psychology* 74:759-69.
- Cook, Thomas D. and Donald T. Campbell. 1979. *Quasi-experimentation: Design and Analysis Issue for Field Settings*. Boston, MA: Houghton Mifflin.
- Derogatis, Leonard R., Ronald S. Lipman, Karl Rickels, E.H. Uhlenhuth, and Lino Covi. 1974. "The Hopkins Symptom Checklist (HSCL)." Pp. 79-110 in *Psychological Measurements in Psychopharmacology: Modern Problems in Pharmacopsychiatry*, Vol. 7, edited by Pierre Pichot. New York, NY: Karger Basel.
- _____. and Nick Melisaratos. 1983. "The Brief Symptom Inventory: An Introductory Report." *Psychological Medicine* 13:595-605.
- Dooley, David and Ralph Catalano (Eds.). 1988. "Psychological Effects of Unemployment." *Journal of Social Issues* 44:1-12.
- Fryer, David and Roy Payne. 1986. "Being Unemployed: A Review of the Literature on the Psychological Experience of Unemployment." In *International Review of Industrial and Organizational Psychology 1986*, edited by Cary L. Cooper and Ivan Robertson. New York: John Wiley and Sons.
- Galassi, John P., James S. DeLo, and Merma D. Galassi. 1974. "The College Self-expression Scale: A Measure of Assertiveness." *Behavior Therapy* 5:165-71.
- Gurin, Patricia, Gerald Gurin, and Betty M. Morrison. 1978. "Personal and Ideological Aspects of Internal and External Control." *Social Psychology* 41:274-96.
- House, James S., David R. Williams, and Ronald C. Kessler. 1987. *Social Integration, Social Support and the Health Effects of Unemployment*. Unpublished manuscript. The University of Michigan, Institute for Social Research, Ann Arbor, MI.
- Janis, Irving L. 1977. *Decision Making. A Psychological Analysis of Conflict, Choice, and Commitment*. New York: Free Press.
- Jencks, Christopher, Lauri Perman, and Lee Rainwater. 1988. "What is a Good Job? A New Measure of Labor Market Success." *American Journal of Sociology* 93:1322-57.
- Jones, Warren H. and Dan Russell. 1982. "The Social Reticence Scale: An Objective Instrument to Measure Shyness." *Journal of Personality Assessment* 46:629-31.
- Kessler, Ronald, Richard H. Price, and Camille Wortman. 1985. "Social Factors in Psychopathology: Stress, Social Support and Coping Processes." *Annual Review of Psychology* 36: 531-72.
- _____. Blake Turner, and James S. House. 1987. "Intervening Processes in the Relationship Between Unemployment and Health." *Psychological Medicine* 17:949-61.

- _____, Blake Turner, and James S. House. 1988. "Effects of Unemployment on Health in a Community Survey: Main, Modifying, and Mediating Effects." *Journal of Social Issues* 4:69-86.
- Meichenbaum, Donald. 1985. *Stress Inoculation Training: A Clinical Guidebook*. New York: Pergamon.
- Pearlin, Leonard and Carmi Schooler. 1978. "The Structure of Coping." *Journal of Health and Social Behavior* 19:2-21.
- Rathus, Spencer A. 1973. "A 30-item Schedule for Assessing Assertive Behavior." *Behavior Therapy* 4:398-406.
- Reich, John W. and Alex J. Zautra. 1990. "Dispositional Control Beliefs and the Consequences of a Control-enhancing Intervention." *Journal of Gerontology* 45:46-51.
- Rosenberg, Morris. 1985. *Society and the Adolescent Self Image*. Princeton, NJ: Princeton University Press.
- Rotter, Julian B. 1966. "Generalized Expectancies for Internal Versus External Control of Reinforcement." *Psychological Monographs* No. 80 (whole no. 609).
- Thoits, Peggy A. 1986. "Social Support as Coping Assistance." *Journal of Consulting and Clinical Psychology* 54:416-23.
- Vinokur, Amiram, Robert D. Caplan, and Cynthia C. Williams. 1987. "Effects of Recent and Past Stress on Mental Health: Coping with Unemployment Among Vietnam Veterans and Non-veterans." *Journal of Applied Social Psychology* 17:1007-24.
- _____, Richard H. Price, and Robert D. Caplan. 1991. "From Field Experiments to Program Implementation: Assessing the Potential Outcomes of an Experimental Intervention Program for Unemployed Persons." *American Journal of Community Psychology* 19:543-62.
- _____, Michelle van Ryn, Edward M. Gramlich, and Richard H. Price. 1991. "Long-term Follow-up and Benefit-cost Analysis of the Jobs Program: A Preventive Intervention for the Unemployed." *Journal of Applied Psychology* 76:1-7.

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