

PROLONGED UNEMPLOYMENT AND DEPRESSION IN OLDER WORKERS: A LONGITUDINAL STUDY OF INTERVENING VARIABLES

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Abstract—In this study, unemployed blue-collar workers over the age of 45 ($N = 51$) filled out a questionnaire in 1975 and in 1977. It was shown that prolonged unemployment or re-unemployment leads to depression, reduced hope, and financial problems, although none of these factors leads to prolonged unemployment. Being employed or retired leads to a reduction of depression and financial problems. Problems associated with the daily hassles of unemployment, such as financial problems and disappointed hope play a role in the development of depression with prolonged unemployment. Potential third variables that could cause both unemployment and depression—such as internal/external control, passivity, sickness, and age—do not affect the effect of unemployment on depression.

Key words—unemployment, depression, financial situation, hope

INTRODUCTION

Unemployment is an event of major importance in the lives of workers and the number of unemployed workers and the duration of unemployment increases in most western industrialized countries. There is a widespread belief that unemployment leads to psychological depression. Most of the empirical studies so far, however, have been cross-sectional so that it is difficult to make causal arguments. An alternative hypothesis is that depressed persons who are inactive and pessimistic in their outlook [1] will be unemployed much longer or will become unemployed more readily. Only longitudinal studies can determine which causal path is dominant. There are only a few modern studies that have looked at the psychological consequence of *long term* unemployment [e.g. 2]. Another longitudinal study [3] done in the economically prosperous period of 1965 to 1968, found that most unemployed workers got jobs relatively soon after their factories shut down and, therefore, that only a very small select group remained unemployed for more than six months.

Another group of studies [4, 5] that related the economic cycle (periods of unemployment) to psychological dysfunctioning have been criticized for not showing *how* the development of a psychological disturbance is caused by an economic crisis and for using untested assumptions on the time lag of such a development [6, 7]. Again, it is necessary to perform longitudinal studies to look at the process of becoming depressed during unemployment.

Unemployment should not be conceptualized as just one major life event (which seems to be the view taken by [3]), but as a life event that leads to a whole spectrum of daily hassles (cf. [8] for this distinction).

Two in particular might contribute to depression during prolonged unemployment: the daily financial problems and the daily disappointment of not getting a job.

Financial problems

At the time of the study, unemployed workers in the Federal Republic of Germany received 68% of their last net income as unemployment compensation for a period of one year. After the first year, the unemployed received support similar to social welfare at 58% of the last income (these percentages have since been reduced). In all, the financial situation of the unemployed is quite poor, even in a functioning welfare state.

It is useful to describe the financial troubles of the unemployed within the concept of learned helplessness [9, 10]. Learned helplessness is characterized by passive, resigned, and inflexible behavior that is tied to dysphoric feelings of depression and is caused by repeated experiences of noncontrollable, aversive situations. Control is the ability to influence conditions according to one's goals and needs [11]. Many goals are related to spending money—minor goals such as being able to go out to dinner or drinking with friends, as well as major ones, such as giving one's child a proper education. The unemployed can no longer reach these goals because of his reduced income. The financial problems of the unemployed increase with time, since savings are eventually exhausted, and costly replacement (e.g. of clothing) become necessary. Since financial problems are expected to increase the unemployed person's depression, the financial situation is hypothesized to function as an intervening variable between unemployment and depression.

Hope for control

The concept of control can be extended by not only looking at the immediate control over one's present environment but also at the potential control one has

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in the future. This implies that one is able to withstand temporary loss of control as long as one is confident of achieving control in the future. This variable is, of course, strongly related to the concept of hope; therefore it is called 'hope for control'. A decrease of hope is not just a matter of a sudden change within a short period but, more importantly, a matter of day-to-day disappointments that eventually lead to giving up hope (e.g. being told that one is too old to get a certain job, etc.). Hope for control should, therefore, be reduced with prolonged unemployment.

The expected relationship between hope for control and depression is theoretically complex. On one hand, hope for control should reduce the psychological impact of unemployment. If a person believes that it will be possible to find a job eventually or that only more effort is needed to find one, he or she is less likely to become depressed. On the other hand, a person's hope for control may turn out to be unrealistic if a new job is found (or if found quickly lost). In such a case, a higher degree of hope for control will actually lead to a higher degree of disappointment*. In such a case hope may actually be counterproductive and lead to a higher degree of depression. Disappointed hope for control is, therefore, hypothesized to function as an intervening variable in the relationship between unemployment and depression.

One implication of this discussion is that financial problems and depression increase and hope decreases with prolonged or repeated unemployment. This hypothesis is opposite to Feather and Davenport's [12] expectancy theory which hypothesized that depression decreases with prolonged unemployment, since the motivation to work decreases. Feather and Barber [13], seem to have taken a different point of view in the meantime, one that is similar to ours.

The argument thus far has been that depression is increased by prolonged unemployment (or repeated unemployment) and that there are two variables that mediate between the social fact of unemployment and the psychological reaction of depression—the financial problems and disappointed hope for control. It is possible to develop alternative accounts to such an explanation. One approach is to say that there are other variables (third variables) that produce a spurious correlation between unemployment and depression; that is, the potential third variable produces both prolonged unemployment and a high level of depression.

Alternative accounts

Third variables of this kind could be internal/external control, general activity level, age, or sickness. Personality traits are often used as explanatory concepts for unemployment, although they are infrequently tested. The concept of internal/external control is well suited for such an

explanation. Externals are more passive than internals, and they do less well in achievement situations [14]; they are also more depressive [15]. Thus, locus of control might function as a third variable, simultaneously prolonging unemployment and producing depression.

A similar argument can be made for general activity level. A low level of activity is assumed to be related to depression [16]. Furthermore, laypeople (like politicians) often suggest that the more active person will get a job, while the more passive one will stay unemployed.

Age is an obvious potential third variable. Older people are not only more frequently depressed [17], but they also find it harder to get jobs [18, 19]. Similar arguments can be advanced for sickness. Sickly people have more difficulties finding jobs and they are also more depressed.

In summary, the following hypotheses were tested in the study:

1. Prolonged unemployment increases depression and financial problems and decreases hope for control. Depression, hope for control, and financial problems do not lead to prolongation of unemployment or to becoming unemployed again.
2. The variables that are associated with the daily hassles of the unemployed—financial difficulties and disappointed hope for control—function as intervening variables that relate prolonged unemployment to depression.
3. Variables that are not associated with the daily hassles of unemployment—internal/external control, activity level, age, and sickness—are not intervening variables and do not produce both prolonged unemployment and a higher level of depression.

METHOD

Sample

A questionnaire was administered twice—in July and August 1975 and in January and February 1977. To involve workers who were likely to be long-term unemployed, only subjects above 45 years of age were included. All of the subjects are unemployed German, male, blue-collar workers.

At the time of the study, the unemployment rate was moderately high in the Federal Republic of Germany (around 4–5% in the years 1975 to 1977; cf. [20–22]). Workers over the age of 45 in particular had difficulties finding jobs [18].

The questionnaire was filled out in two of the four employment agencies of Berlin (West). Since employment agencies each handle specific occupations, the following occupations were dominant in our sample: construction workers, wood workers, transport occupations, metal and electrical workers. The employment agency usually asks workers to come to the office at regular intervals. The agency employees asked people of 45 years and older who came to the agency in July and August to participate in the study (on a voluntary basis). For administrative reasons, the agency employees were not able to give us a complete account of the number of people who refused to participate, but judging from our inter-

*This hypothesis is similar to [12]. However, it is necessary to analyze longitudinal data to test such a hypothesis because hope may have a positive function on a cross-sectional level. Furthermore, it is necessary to look at the interaction of unemployment (or weeks spent unemployed) and hope, not merely at one of these variables alone.

views with the agency's employees and from the overall rate of eligible people coming to the employment agency within these two months, the refusal rate was very small.

In the first phase the questionnaire was administered individually to 147 subjects. After finishing the questionnaire, they were asked whether they would like to participate in a later follow-up study, 92 persons gave us their addresses for this purpose. In the second phase, 1977, the questionnaire was sent by mail. Of the 92 persons who had given us their addresses we could reach 82. Since we consulted the police register (mandatory registration exists in the Federal Republic of Germany) concerning the whereabouts of those who had moved, we assumed that most of the people not reached either had died or were in the hospital. (In some cases we could verify this.) Of the 82 persons, 63 filled out the questionnaire and sent it back. This 77% return rate is quite acceptable for a mail questionnaire. Unfortunately, only 51 of these questionnaires could be used, because seven subjects made errors in describing their individual code (which we used to assure anonymity), and five of the returned questionnaires had excessive missing data.

To determine whether or not the respondents of the second wave were different from those for whom we do not have complete data (because they did not send the questionnaire back or did not give us their addresses), 40 two-tailed *t*-tests for independent samples on variables of the first questionnaire were computed. A multiple *t*-test is a very conservative test when used in this way, because one would expect more significant differences than a given *P*-value by chance alone if there are correlations between the variables. All of the variables that are discussed in this paper were used, including age, education, earlier experiences of unemployment, length of unemployment at the time of the first wave, number of unsuccessful attempts to get work, participation in associations and continuing education, amount of money in the bank, last pay, and major illnesses. There were only two significant differences ($P < 0.05$)—less than would be expected by chance. (These two differences are: those subjects for whom we have complete data reported more frequently that they did not get a job because there was a large number of other applicants, and that their income after unemployment was reduced markedly. This was in contrast to the respondents who only participated in the first wave.)

Only subjects for whom there were complete data were included in the analyses. All of these persons were unemployed in the first data collection phase. The average length of unemployment was three to six months at that time. In the second phase four groups could be distinguished:

1. Workers who had found work again ($N = 15$, called 'employed').
2. Unemployed workers who had been unemployed

throughout the whole data collection time ($N = 12$, called 'unemployed').

3. Workers who had worked in the meantime but had lost their jobs again at the time of the second measurement point ($N = 14$, called 'reunemployed').

4. Subjects who had retired by the time of the second measurement ($N = 10$, called 'retired').

There are age differences between the groups ($F(3,47) = 10.3$, $P < 0.01$). The mean for the employed is 53.5, for the reunemployed 47, for the unemployed 54.5 and for retired 61.5 years. The retired were early retirees since normal retirement age was 65 at the time of the study.

Instruments

Depression was measured with a German translation of Zung's [23] scale. According to an overview of Hoffmann *et al.* [24], this is one of the most useful instruments for such a purpose. Additionally, the 'Hamburger Depression Skala' [25] was employed in the second wave. These two instruments correlate, $r = 0.61$ ($P < 0.001$, $N = 51$). Since the relations are similar for these two variables, but the Zung scale was used at both measurement points, only the results for the Zung scale are reported (abbreviated DEP₇₅ for the first measurement point and DEP₇₇ for the second one). Cronbach's alphas were 0.80 in 1975 and 0.92 in 1977.

Financial difficulties were ascertained by asking whether or not subjects were able to get by with their income ('Do you get by with your money?'). This variable correlates substantially with the question 'How many months can you live off your savings?' ($r = -0.40$, $P < 0.01$, $N = 49$).

'Hope for control' (abbreviated CHOPE) was a newly constructed scale consisting of seven items. Examples of the items are, 'I can contribute so that unemployment will occur less frequently in the future'; 'If one applies for a job often enough, then one will get a job again'; and 'when I do something, I achieve what I have set out to do.' The scale constitutes one factor and is orthogonal to a scale of internal/external control* [26]; Cronbach's alphas are 0.58 for 1975 and 0.77 for 1977. An important variable in this study is 'disappointed hope'. This is measured with the multiplicative variable 'CHOPE₇₅ × unemployment' since prolonged unemployment disappoints the hopes.

Internal/external control (11 items) was a slightly modified version of Levenson's [26] scale (alpha of 0.79 in 1975 and 0.81 in 1977). It had to be modified to be orthogonally related to hope for control. A higher score means more internal control.

General activity level was ascertained by two indices of leisure time activities (such as reading, going out to a pub, etc.) and participation in clubs, associations, and the labor union. Sickness was measured by a rough index based on the question in the 1977 questionnaire, 'Were you seriously ill during one of the following years?' (referring to the years 1972 to 1976). Furthermore, there was a question on the diagnosis by a physician. One question asked the age of the subject. There were a few missing values. If only one or two items in a scale were missing, they were replaced by the mean; otherwise the scale value was counted as missing value.

*The wording of the items, their factor loadings, and more details on the factor structure will be provided upon request from the senior author.

Methods of analysis

Analyses of covariance were used throughout. They were used to test for differences between the four groups in depression, hope for control, and financial problems in 1977 using the relevant 1975 scales as covariates to control for starting values. Additionally, the differences between the scores for 1975 and 1977 were analyzed by one-tailed *t*-tests. To increase power for these tests the two unemployed groups (unemployed and reemployed) and the two non-unemployed groups (the retired and employed) were combined.

The hypotheses with regard to intervening variables and third variables were also tested by analysis of covariance—using DEP₇₅, the intervening, and the third variables as covariates. According to our hypothesis, the intervening variables should substantially reduce the difference in DEP₇₇ between the unemployed and reemployed on the one hand and the employed and retired on the other hand, but partialling out the third variables should not reduce the impact of unemployment on depression.

RESULTS AND DISCUSSION

Unemployment, depression, hope for control and financial problems

It was hypothesized that long-term unemployment is associated with the daily hassles of increasing financial problems and decreasing hope for control. These daily hassles in turn lead to an increase of depression. This implies that little hope for control, depression, and financial problems do not produce long-term unemployment but are themselves caused by prolonged unemployment.

In Figs 1, 2, and 3, the results of these variables at the two measurement points for the four groups—the unemployed, the reemployed, the employed, and the retired—are presented. There were no significant differences between the four groups in 1975; at that time all the subjects were unemployed. However, the ANCOVAs show significant differences between these groups in 1977 for financial problems ($F(3,44) = 22.45, P < 0.0001$), controlling for financial problems₇₅; and for depression in 1977 ($F(3,46) = 5.90, P < 0.005$), controlling for DEP₇₅. The ANCOVA is marginally significant for CHOPE₇₇ ($F(3,46) = 2.63, P = 0.06$), controlling for CHOPE₇₅. Hope for control (Fig. 1) decreases in the un-

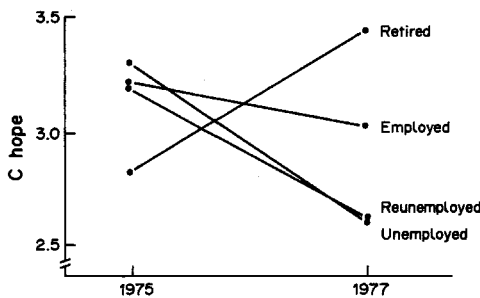


Fig. 1. Hope for control across the two measurement points, differential according to the groups of retired, employed, unemployed and reemployed in 1977.

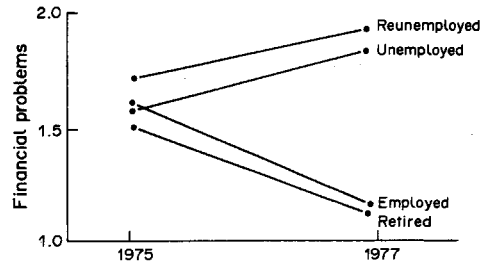


Fig. 2. Financial problems across the two measurement points, differentiated according to the groups of retired, employed, unemployed and reemployed in 1977.

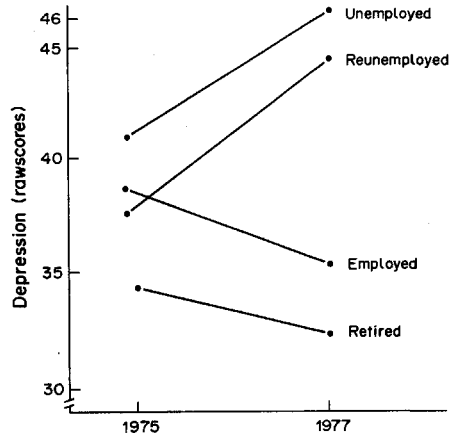


Fig. 3. Depression (Zung rawscores) across the two measurement points, differentiated according to the groups of retired, employed, unemployed and reemployed in 1977.

employment ($t(25) = 3.01, P < 0.01$). There is no significant increase in the retired and employed. With length of unemployment, financial problems (Fig. 2) become worse ($t(24) = 2.75, P < 0.05$), while they are reduced in the employed and the retired ($t(23) = -4.41, P < 0.001$). Similarly, depression (Fig. 3) increases in the two unemployed groups ($t(25) = -3.08, P < 0.01$) while it decreases in the retired and employed ($t(24) = 1.76, P < 0.05$). Thus, the data contradict the hypothesis that there is an adjustment to unemployment with time or with repeated experience of unemployment. Rather, depression, financial problems, and to a certain extent hope for control are negatively affected by prolonged or repeated unemployment.

Intervening variables and the relationship between unemployment and depression

We hypothesized that disappointed hope for control and financial problems function as intervening variables in the development of depression in the prolonged and repeated unemployed. When these two variables are used as covariates in the analysis of covariance, the differences between the groups are no longer significant. As shown in Table 1, the differences of the adjusted means for the groups are much smaller than the respective differences of the

Table 1. The process of becoming depressed while unemployed (ANCOVAS: independent variable: employment status, dependent variable: depression₁₉₇₇, Zung raw scores)

Covariates	Means of DEP ₇₇				F-value	P-value
	Employed	Retired	Reunemployed	Unemployed		
	<i>Observed means:</i>					
	35.5	32.40	44.21	46.56		
	<i>Adjusted means:</i>					
<i>Intervening variables:</i>						
Financial problems ₇₇ , DEP ₇₅	36.49	35.99	42.50	43.70	1.15	0.340
Disappointed CHOPE ₇₅ , DEP ₇₅ *		38.23		41.30	0.58	0.451
Financial problems ₇₇ , disappointed CHOPE ₇₅ , DEP ₇₅ *		39.17		40.39	0.07	0.797
<i>Alternative explanations:</i>						
I-E control ₇₅ , general activity levels†, sickness‡, age, DEP ₇₅	33.31	34.25	43.20	45.70	3.79	0.019

Note: DEP = depression (lowest value = 20, highest value = 80), CHOPE = hope for control.

*The employed and retired are taken together so that it is possible to form the multiplicative term disappointed hope (CHOPE₇₅ × unemployment).

†Two indices of general activity levels: leisure time activities₇₅ and activities in associations and labor unions₇₅.

‡Six questions on serious illnesses in the years 1971 to 1976.

unadjusted means. When both intervening variables are partialled out, the differences between the employed/retired and the unemployed virtually disappear. (A dichotomized variable had to be used to construct the term CHOPE₇₅ × unemployment = disappointed hope for control; therefore the employed and retired were combined, as well as the unemployed and the reunemployed.) Thus, financial problems₇₇ and disappointed CHOPE₇₅ are related to depression in the long-term unemployed.

When the potential alternative explanatory variables—namely internal/external control, general activity level, sickness (separately measured for each of six years up to 1976), and age—are all used as covariates (in addition to DEP₇₅) the differences between the employed, retired, unemployed, and reunemployed remain stable (cf. Table 1). Thus, these variables cannot explain the impact of long-term unemployment on depression.

GENERAL DISCUSSION

Obviously, there are important limitations in interpreting this study: the subjects were all older, male, blue-collar workers, thus reducing the cultural, age, and sociological variance. Furthermore, the number of subjects is small and 'experimental mortality' is high, although there are no important differences between those who participated at both measurement points and those who did not complete the study. On the other hand, the impact of unemployment on depression has been surprisingly strong and consistent. Unemployed and reunemployed subjects reported decreased hope for control (Fig. 1), increased financial problems (Fig. 2), and increased depression (Fig. 3); people do not seem to adjust to unemployment. Furthermore, the retired and employed showed decreasing levels of financial problems and depression over time. Thus, employment seems to help to reduce one's depression. Because of the longitudinal nature of this study, it was possible to show that initial depression, hope for control, and earlier financial difficulties were not

responsible for the relationship between prolonged unemployment and depression and did not predict unemployment.

The results of this study seem to contradict Cobb and Kasl's [3] results. Depression did not increase with time of unemployment but seemed to be a stable personality trait in their study. However, the unemployed of their study apparently got jobs relatively easily; six months after the shutting down of the factories only 12 out of 96 persons were still unemployed. Thus, they could not study the effects of the hassles of prolonged unemployment. Our results suggest that it is not so much the one-time life event 'unemployment' that leads to depression but the *long-term* exposure to the daily hassles of unemployment (financial problems and disappointments) that increases depression. Apparently, people recover from depression after they find a job or retire.

This study has some implications for the ongoing discussion of the relationship of economic cycles of crises and booms with psychological disturbances [4, 6]. The question is whether there is a time lag between becoming unemployed and developing a psychological disturbance. Although we did not study the time frame of the development of depression directly, it follows from the increase of depression in the unemployed within the 1.5 years of this study that *long-term* unemployment has an impact on depression over and above the depression that occurs immediately after losing a job. The differences between the results of this study and Cobb and Kasl's work suggests that depression increases within the time period of six to 18 months of unemployment. A similar time period was suggested by Warr [27].

Feather and Davenport [13] hypothesized that depression decreases with longer periods of unemployment because the motivation to work is reduced, thus decreasing the psychological pressure to find employment. Although we did not measure motivation to work and do not want to argue that motivation to work is not an important variable (cf. [28], for further evidence on this variable) there is no

support in this study for a decrease of depression over time.

It is interesting that the two scales related to personality constructs—general activity level and internal/external control which seemed to be particularly good candidates for explaining both prolonged unemployment and depression—do not explain the differences of DEP₇₇ between the groups. Similarly, DEP₇₅ does not produce the effect of prolonged unemployment on depression. The more objective conditions such as financial problems and the disappointment of hopes, seem to be more important.

These results might have practical implications. A good financial condition may shield the unemployed from depression and it might not be useful to increase the hopes of the unemployed [29].

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REFERENCES

1. Beck A. T. *Depression*. University of Pennsylvania Press, Philadelphia, 1972.
2. Jackson P. R., Stafford E. M., Banks M. H. and Warr P. Unemployment and psychological distress in young people: the moderating role of employment commitment. *J. appl. Psychol.* **68**, 525–535, 1983.
3. Cobb S. and Kasl S. V. *Termination: The Consequences of Job Loss*. U.S. Department of Health, Education, and Welfare; National Institute for Occupational Safety and Health, Cincinnati, Ohio, 1977.
4. Brenner M. H. *Mental Illness and the Economy*. Harvard University Press, Cambridge, Mass., 1973.
5. Ferman L. A. and Gordus J. P. (Eds). *Mental Health and the Economy*. W. E. Upjohn Institute for Employment Research, Kalamazoo, Mich., 1979.
6. Eyer J. Review of mental illness and the economy. *Int. J. Hlth Serv.* **6**, 139–148, 1976.
7. Kasl S. V. Mortality and the business cycle: some questions about research strategies when utilizing macro-social and ecological data. *Am. J. Publ. Hlth* **69**, 784–788, 1979.
8. Kanner A. D., Coyne J. C., Schaefer C. and Lazarus R. S. Comparison of two modes of stress measurement: daily hassles and uplifts versus major life events. *J. behav. Med.* **4**, 1–39, 1981.
9. Seligman M. E. P. *Helplessness*. Freeman, San Francisco, Calif., 1975.
10. Frese M. and Mohr G. Die psychopathologischen Folgen des Entzugs von Arbeit: Der Fall Arbeitslosigkeit. In *Industrielle Psychopathologie* (Edited by Frese M., Greif S. and Semmer N.). Huber, Bern, 1978.
11. Frese M. Partialisierte Handlung und Kontrolle: Zwei Themen der Industriellen Psychopathologie. In *Industrielle Psychopathologie* (Edited by Frese M., Greif S. and Semmer N.), pp. 159–183. Huber, Bern, 1978.
12. Feather N. T. and Barber J. G. Depressive reactions and unemployment. *J. abnorm. Psychol.* **92**, 185–195, 1983.
13. Feather N. T. and Davenport R. P. Unemployment and depressive affect: a motivational and attributional analysis. *J. Person. soc. Psychol.* **41**, 422–436, 1981.
14. Lefcourt H. M. *Locus of Control*. Wiley, New York, 1976.
15. Prociuk T. J., Breen L. J. and Lussier R. J. Hopelessness, internal-external locus of control and depression. *J. clin. Psychol.* **32**, 299–300, 1976.
16. Lewinsohn P. M. Behavioral approach to depression. In *The Psychology of Depression: Contemporary Theory and Research* (Edited by Friedman R. and Katz M. M.). Hemisphere, Washington, D.C., 1974.
17. Hautzinger M. Depressive Reaktionen im hoeheren Lebensalter. In *Depression und Umwelt* (Edited by Hautzinger M. and Hoffmann N.). Mueller Verlag, Salzburg, 1979).
18. Sinfield A. *The Long Term Unemployed*. DECD, Paris, 1968.
19. Bundesanstalt fuer Arbeit (Ed.) *Strukturanalyse de Arbeitslosen*. Bundesanstalt fuer Arbeit, Nuernberg, 1975.
20. Bundesanstalt fuer Arbeit (Ed.) *Mitteilungen der Bundesanstalt fuer Arbeit, Jahresbericht*, Nuernberg, 1976.
21. Bundesanstalt fuer Arbeit (Ed.) *Mitteilungen der Bundesanstalt fuer Arbeit, Jahresbericht*, Nuernberg, 1977.
22. Bundesanstalt fuer Arbeit (Ed.) *Mitteilungen der Bundesanstalt fuer Arbeit, Jahresbericht*, Nuernberg, 1978.
23. Zung W. W. K. A self rating depression scale. *Archs gen. Psychiat.* **12**, 63–70, 1965.
24. Hoffmann N., Schaedrich W. and Schiller U. Diagnostik bei Depressiven. In *Depressives Verhalten* (Edited by Hoffmann N.). Mueller, Salzburg, 1976.
25. Schmidtchen S., Kerekjarto M. V. and Heim H. Moeglichkeiten zur quantitativen Erfassung von Depressionsverlaeufen. *Diagnostica* **19**, 337–383, 1973.
26. Levenson H. Activism and powerful others: distinctions within the concept of internal-external control. *J. Person. Assessmt* **38**, 377–383, 1974.
27. Warr P. Job loss, unemployment, and psychological well-being. In *Role Transitions, Explorations, and Explanations* (Edited by Allen V. L. and Vliert E. van de). Plenum, New York, 1984.
28. Stafford E. M., Jackson P. R. and Banks M. H. Employment, work involvement and mental health in less qualified young people. *J. occup. Psychol.* **53**, 291–304, 1980.
29. Frese M. Alleviating depression in the unemployed: adequate financial support, hope and early retirement. *Soc. Sci. Med.* **25**, 213–215, 1987.