A Plea for Realistic Pessimism: On Objective Reality, Coping with Stress, and Psychological Dysfunction

Michael Frese University of Giessen

It behooves us to start an article for a German-American conference volume with a few words on cultural differences between the U.S.A. and Germany. There is a general optimism in the U.S.A. that is also reflected in the coping literature: An attempt to cope is usually seen as a way out (sometimes, I have even observed something like a pressure to be optimistic). Not so in Germany: Germans are usually much more pessimistic with regard to the possibilities of coping with stress. Interestingly, this difference is also reflected in the respective constitutions. While the major psychological variable in the American constitution is the optimistic "pursuit of happiness," the equivalent in the German constitution is the development and expansion of personality (Entfaltung der Persönlichkeit). Note, that going through depression may be part of the development of personality, while it certainly would contradict the pursuit of happiness.

In this article I shall take a more Germanic point of view: I shall argue for the bleak and pessimistic side of the possibilities of coping (similarly, Schönpflug, 1986). In fact, given certain circumstances, I shall argue for realistic pessimism.

To argue my point, I shall shortly discuss the circumstances that speak for realistic pessimism. Then I shall back up claims with four sets of empirical data: (1) A longitudinal study on unemployment demonstrating that optimism leads to more depression for the unemployed in the long run. (2) A study on control at work showing that adjusting one's aspiration level to noncontrol situations does not do away with the objective consequences of noncontrol. (3) A study on stress at work indicating that low monitoring does not imply positive consequences as suggested by Miller, Brody, and Summerton (1988). (4) Two longitudinal studies on stress at work assessing various coping strategies with a questionnaire that show no

evidence for a long-term positive function of coping strategies. At best, the results are inconclusive; at worst, they suggest that coping strategies increase the negative effects of stressors on psychosomatic complaints.

THE ARGUMENT OF POSITIVE ILLUSIONS

There is now a large body of research, ably summarized by Taylor and Brown (1988) and Taylor (1989), that argues for the health-enhancing effect of positive illusions. Their main argument is that people view themselves in an unrealistically positive light, and that illusions of control and unrealistic optimism have positive consequences for mental health because they help to uphold happiness and an active approach to life as well as a stronger social orientation. Taylor (1989) is quite careful to point out that positive illusions do not imply that one completely loses contact with reality.

I do not want to quarrel with most of the empirical data and the arguments given by Taylor. For most conditions, her arguments are right. This is particularly true for illusions about one's own capacities (maybe in comparison to others) or for past events that are redrawn in memory to foster a positive self-image (Greenwald, 1980). However, there is a set of conditions, in which an opposite hypothesis might hold: If the situation is perceived to be important by the individual, if there is "objective" feedback, and, most importantly, if the situation demands actions, unfounded optimism (illusions) about the realities of life may turn out to be destructive in the long run. Illusions destroyed are worse than realistic pessimism.

If the situation is of no particular importance (because it does not affect longterm and important goals), as in many experimental settings, illusions can be upheld without problems and there are no long-term negative effects. Furthermore, if the situation does not provide feedback on one's actions, illusions can have positive consequences. Again, this happens in many experimental settings in which the person does not develop his or her own goals and, therefore, does not really act in the proper sense of the term (for the concept of action, see Frese & Sabini, 1985). Furthermore, the experiment is short-term and does not produce long-term consequences. Moreover, if the situation has occurred in the past (e.g., having finished school, a class, or a relationship, etc.), illusions about past behaviors may be an indication of high self-esteem; they do not have negative consequences because one cannot affect the past situations anyhow.

Taylor (1989) describes the usefulness of illusions in situations of high importance that exist currently—for example, having cancer. However, cancer does not afford actions (except medical actions that are usually under tight control and supervision from the medical setting and do not have to be initiated and maintained by the person), and feedback is not regularly related to actions (cancer has its own course, often distinct from what a person does or does not do).

Thus, it is useful to find situations that permit the study of long-term consequences in which the person has to initiate actions and in which there is feedback by the environment that is strong enough not to be overlooked and objective enough not to be disregarded. Two situations (among others) have such qualities: unemployment and stress at work. In unemployment, there is high pressure to do something about it and to search for a job (as a matter of fact, German law, for example, stipulates that only people actively searching for jobs will receive unemployment compensation). Similarly, the work area does not allow idle contemplation but requires that one actively deals with the situation at hand (the reason why managers are less affected by stressors at work may be the fact that they are able to turn away from the situation and can at least delegate certain stressors. while the normal blue-collar worker cannot do this). Thus, in these two situations, there should be no advantage to a strategy of developing illusions. This will be shown in the following studies.

STUDY 1: HOPE AND UNEMPLOYMENT

In a study on unemployment (Frese, 1987; Frese & Mohr, 1987), we developed a scale called "hope for control." Items on this scale were, for example, "If one applies for a job often enough, then one will get a job again." The study was longitudinal and started out with unemployed, older, blue-collar workers who were already unemployed in Berlin (time t1). Eighteen months later, they were asked to fill out a questionnaire again (time t2). Some of them were still unemployed, while others had found a job but had lost it again in the meantime. A third group had found a job and was now employed. A fourth group was able to retire prematurely.

If illusions help a person to deal with the situation of unemployment, then hope should help to reduce depression. This was indeed the case. The correlations between hope for control and depression were -.11 (n.s. for t₁) and -.55 (N = 51, p< .01 in t2). Since one of the negative correlations was significant, this speaks for the hypothesis that hope helps one to deal with the problems of unemployment backing the concept that optimism has positive effects even if illusory. But note, this is only true concurrently. What about the long-term effect? Here, there were quite different relationships. The two unemployed groups showed a predictive correlation of hope for control₁ on depression₁₂ (i.e., depression 18 months later) of r =.39 (p < .05, N = 26). Thus, in the case of people whose hopes were disappointed, earlier high (illusory) hope was predictive of later depression. In contrast, for those people whose hopes had become true because they were now either employed or retired, the respective correlation was negative (r = -.27, p = .098, N = 25).

A somewhat different way to present the data is to calculate the correlations between the current state of unemploment at time to and depression at the same time for two subgroups: those whose hopes had been high at time t1 and those who already had low hopes at this time (the retired were excluded in this analysis). For the low-hope-for-control subgroup at t_1 , the correlation was .12 (N = 21, n.s.), while the high hope for control subgroup showed a correlation of .73 (p < .001, N = 20) between unemployment and depression at t2. Thus, it was the group with a high degree of hope that suffered most from prolonged unemployment. (By the way, hope also decreased significantly for the prolonged unemployed across time.1)

In summary, this study shows that illusions do help to uphold (or, at least, do not impair) health in the short run. But this is not the case in the long run. Disappointments because of illusions produce depression to a much larger extent in the case of prolonged unemployment than in the group that started out with few illusions. I am aware, of course, that such a result has to be replicated, and that the sample on which the study is based is rather small. However, these kinds of results may suggest that it is unwise to produce hope in the unemployed when there is little objective evidence that they will find a job in the near future.

STUDY 2: SELF-DECEPTION ABOUT THE OBJECTIVE SITUATION OF CONTROL AT WORK: DOES IT HELP?

This is another variant of the theme of this paper: It does not help to kid oneself about reality. According to the optimistic view, one way to increase happiness is to blend out real problems in the work situation. Two ways of doing this are to trivialize the negative situation or to adjust one's aspiration level ("I really do not want this kind of job!"). In the following, I want to show that self-deception with regard to control aspirations and nonchalance vis-à-vis reality is not a useful device to improve health (although in this cross-sectional study it does not impair health).

One aspect of the field of stress at work that has attracted research has been control at work (Frese, 1989; Johnson & Hall, 1988; Karasek, Baker, Marxer, Ahlbom, & Theorell, 1981; Sauter, Hurrell, & Cooper, 1989). It has been shown that noncontrol at work interacts with stressors, jointly producing more psychosomatic complaints than either noncontrol or stressors alone (Semmer & Frese, 1990). It is possible, of course, to adjust one's aspiration level: One does not really like to have control in the first place. A clinician who wants the client to be happy in spite of objective hindrances might suggest such a strategy (see Lazarus, 1982).

According to the optimistic variant of self-deception, people with a low craving for control at work or people who actually reject control should not be negatively affected by the issue of noncontrol. To test this assumption, I developed a scale on control rejection in the work situation. Since most people would simply say that they would want to have more control at work if there were no stipulations associated with it, items were constructed that also gave negative implications of

control. Two sample items are: "I would rather be told exactly what I have to do. Then I make fewer errors." "I only do what I am told to do. Then nobody can reproach me for anything."

This scale on control rejection was given to a sample of German, male, bluecollar workers from several companies in the metal industry (N = 206). Additionally, psychological stressors and control were measured by having trained observers rate each work place and having the subjects fill out a respective questionnaire (more information on this study can be found in Frese, 1985; Semmer, 1984; Semmer & Frese, 1990). Thus, we obtained both data: the "objective" observers' ratings and the subjects' responses. The dependent variable was a well-validated questionnaire on psychosomatic complaints (Mohr, 1986).

Noncontrol per se does not have any relationship with psychosomatic complaints. Only the interaction of noncontrol and stressors is significantly associated with psychosomatic complaints. Thus, control rejection should moderate this particular effect.

Since moderation is the important concept, we divided control into high- and low-control groups and further subdivided each group into high and low control rejection. The dependent variable was the correlation between psychological stressors at the work place and psychosomatic complaints. Figure 5.1 gives the results. For our purposes, the most important number is the correlation for the lowcontrol and high-control-rejection cell. If the optimistic concept is correct that people can trivialize control and adjust to the noncontrol situation, then the correlation should be lower in this cell than in the low-control, low-controlrejection cell. If this means that they kid themselves on the objective importance of control to deal with the stress situation, control rejection should not help. As one can see in Figure 5.1, there was no support for the optimistic view on coping. Rather, the correlation was highest in the low-control and high-control-rejection cell—and most pronounced when control and stressors were measured with observers' ratings.

Thus, the results support a view that I have called the sour-grape effect (Frese. 1984), like the fox in the fable who turns away from the sweet looking grapes that he cannot reach, pronouncing them to be too sour. Again, there is evidence for the more pessimistic view on coping with the world. One actually would have to change the objective control situation at work in order to have an impact on health rather than just suggesting to the workers that their work situation is not really that bad and that they should just forget about obtaining control in the work situation. Purely cognitive adjustments and adaptations that do not change the real world clearly have limits.

Another result of this study was that depression was not predictive of later prolonged unemployment but that unemployment was predictive of depression even when earlier depression was held constant.

r of psychological stress with psychosom, compl.

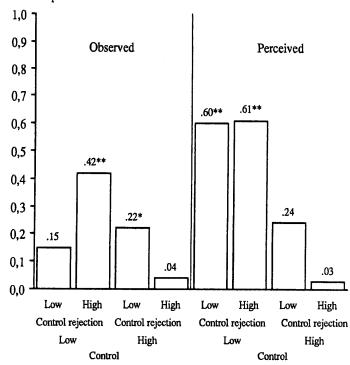


FIG. 5.1 The correlations between psychological stressors with psychosomatic complaints for the groups, high and low on control, high and low on control rejection.

STUDY 3: KEEPING STRESSFUL REALITY OUT OF YOUR MIND: BLUNTING VERSUS MONITORING

Miller (1987; Miller et al., 1988; see also her article in this book) has developed a scale on monitoring and blunting. This scale measures whether people turn toward reality when they are under threat (monitoring) or whether they keep reality out (blunting). The monitoring scale seems to be a better predictor for health-related issues, and it is therefore used more often than the blunting scale (Miller et al., 86

1988). Miller et al. have suggested that the low monitors do better in health-related areas. Similarly, high-blunting/low-monitoring subjects were less aroused and anxious in various experimental settings involving threats (Miller, 1987).

It can once more be asked, whether results of studies on short-term threats can be generalized to long-term problems like stress at work, Again, 170 German, male, blue-collar workers in the metal industry received the monitoring and blunting questionnaire (Miller, 1987) as well as a questionnaire on stressors and resources at work. In this study, only the perceived stressors and resources were ascertained. (Actually, the study was a third wave of the longitudinal Study 2. Experimental mortality was very low: Of the 193 subjects who had given us their addresses in Study 2, 10 had moved and could not be traced, an additional 2 had died, and 2 were too sick to answer the questionnaire.) Since monitoring is supposed to be a moderator (Frese, 1986), the question is, again, how it influences the relationship between stressors and psychosomatic complaints. As Miller et al. (1988) have suggested, only the monitoring scale was used and it was divided on the median. This produced 95 low monitors and 70 high monitors (there were some missing data on the monitoring scale).

Table 5.1 shows that both groups had more or less the same arithmetic means for stressors, thus they were exposed to the same intensity of the stressors. The correlations are, of course, more important. The correlations between stressors (as well as resources) and psychosomatic complaints are shown for the two groupsthe high and the low monitors. For stressors, the correlations were nearly all positive—this is not surprising because stressors should have a relationship with psychosomatic complaints. Additionally, in six out of eight cases, the correlations were higher for the low monitoring group and in six out of eight cases they were only significant for this group. The differences were not clearly significant, except in one case (in an additional case, the z-score showed a marginal significance between the two subgroups). While the results were not absolutely clear, there was little support for Miller et al.'s findings in this particular setting. Apparently, in a field study on long-term stressors at work, the low monitors have larger correlations between stressors and psychosomatic complaints than the high monitors, suggesting that the low monitors may suffer more from stressors.

Surprisingly the results were more pronounced for resources at work and they took the same direction. Both complexity and variability usually have a positive function (Karasek, 1989). But in this study, the positive function only held for high monitors but not for low monitors. Thus, it pays to monitor one's environment closely in a persistent stress situation that affords action.

TABLE 5.1 Monitoring as a Moderator

Work variables (Stressors and resources)	Arithmetic means for stressors		Correlations with psychosomatic complaints		
	Low monitors	High monitors	Low monitors	High monitors	r to z for significance of differences for r s
Uncertainty	2.7	2.8	.32**	.06	z = 1.58 §
Intensity/ Concentration	3.3	3.4	.26**	04	z = 1.82*
Danger of accidents	2.4	2.8	.24*	.12	n.s.
Organizational problems	2.7	2.7	.32**	.17	n.s.
Environmental stress	2.6	2.6	.17	.34**	n.s.
Social stressors	2.0	2.0	.38**	.20	n.s.
Job insecurity	3.1	3.2	.27**	.29*	n.s.
One-sided physical stressors	1.7	1.8	.20*	.17	n.s.
Control	5.2	5.2	.03	13	n.s.
Complexity	5.5	5.8	.12	30**	z = -2.52**
Variability	6.5	6.8	.03	25 *	z = -1.70*

 $[\]S = p < .10$

STUDIES 4 AND 5: COPING IN GENERAL

The last two longitudinal studies support the ultimate in pessimism: With one exception, we have found no coping strategy that can unequivocally be called positive. Similarly to the Lazarus group (Aldwin, Folkman, Schaefer, Covne, & Lazarus, 1980), we have developed several coping scales with regard to (work) stressors. After pretesting, we used four different stressors that most German, male, blue-collar workers had found to be stressful ("When something bothers me in my

work...," "When I am under pressure in my work...," "When I have an argument with my colleague...," "When I have an argument with my wife..."). Various potential coping strategies were listed after each of these four situations. A principal component analysis revealed six clear and stable factors, all but one of which cut across the different stress situations ("socially focused positive outlook" only referred to two situations). They are displayed in Table 5.2.

Two additional coping scales did not have the same format: Denial (alpha = .73) and Avoidance (alpha = .63). They only referred to work pressure per se and were of a Likert-type format.

Coping is supposed to moderate the influence of stressors on ill health. This was directly tested in two longitudinal studies. One longitudinal study had two waves across 16 months (N = 90; again, this study was based on the subjects in Study 2). The second longitudinal study had two waves across 66 months (N = 170; again, this study was based on the subjects in Study 2).

The moderator effect was tested with the help of hierarchical regression analyses with an interaction term (Cohen & Cohen, 1975; Zedeck, 1971). This procedure implies that an interaction term "Stressor × Coping" is introduced into a hierarchical regression equation as the last term. If this interaction term proves to be significant

TABLE 5.2 Coping Factors

IF SOMETHING BOTHERS ME IN MY WORK, THEN (Pressure, argument with colleague, argument with spouse)

- 1. Positive outlook (5 items; Alpha = .68) "...I say consciously to myself: 'Now be calm'"
- 2. Socially focussed positive outlook (9 items: Alpha = .78) "...I think that there are better sides to him/her"
- 3. Brooding (6 items; Alpha = .81) "... I think about it for some days"
- 4. Socially oriented coping (6 items; Alpha = .70) "...I ask other colleagues for help"
- 5. Attention diverting (5 items; Alpha = .72) "... I try to divert my attention from this"
- 6. Repression
- "... I swallow down my anger"

^{* =} p < .05

^{** =} p < .01

after coping and stressors and the dependent variable measured at t1 have been included into the regression equation, then a change of the dependent variable at t2 can be said to be due to the moderator effect of coping. If the beta of this interaction term is positive, it means that the particular coping strategy turns out to reduce the effect of stressors on ill health. Thus, coping works as a buffer, as most theorists of coping would have it (e.g., Lazarus & Folkman, 1984). In contrast, if the interaction term is negative, it means that coping actually enhances the negative effects of stressors on ill health.

Table 5.3 presents the significant betas for the interaction terms in both longitudinal studies. Since moderated regressions are rather conservative, a significance criterion of .10 was used throughout. Only the two stressors psychological stressors and social stressors were included into the regressions. In contrast to the other analyses described so far in this article, four ill health variables were used as dependent variables: psychosomatic complaints, anxiety, irritation/strain, and

TABLE 5.3 Coping Strategies and the Effects of Stressors on Ill-Health

	Longitudinal studies					
	16 months (t2) Function of coping		5 1/2 years (t3) Function of coping			
Coping strategy	Negative betas	Positive betas	Negative betas	Positive betas		
Socially focused positive outlook		3	4			
Positive outlook	2		2			
Socially oriented coping	1	1	3	1		
Repression		1	2	1		
Brooding	1		1			
Attention diverting		2		2		
Denial	1		1			
Avoidance	1	1	1	1		

Note. Moderated regression: Number of significant betas of psychological and social stressors 11 x coping 11; dependent variables: Psychosomatic complaints 12/13, anxiety 12/13, irritation 12/13, and depression 12/13.

depression (the t1 of these variables was always partialled out within the hierarchical regression procedure, so that actual change of ill health was measured).

There are at least three possible interpretations of the results presented in Table 5.3. First, the results just show a random pattern. Since there were two stressors. eight coping strategies, and four dependent variables, a total of 64 regression analyses were computed. The 14 significant interaction terms of the first longitudinal study might just be random. The same would apply for the 19 significant interaction terms in the second longitudinal study. The divergent patterns of the two studies would just be due to noise in the data.

The second interpretation can be placed in a different methodological framework. Frese (1986) has analyzed the coping data of the 16-month study with a different method (cross-lagged panel correlations). He has suggested that questionnaire studies on coping can only tap conscious thoughts (of course, this is also true of interview studies). Since most coping strategies are not consciously reflected but used automatically (as most action strategies are), only a certain part of the coping strategies are ascertained within these studies. Automaticity is usually interrupted if something goes wrong, and then the person turns toward conscious strategies. Thus, the more things do not work out (e.g., a set of coping strategies), the more they are consciously represented or reconstructed. Therefore, a higher score on coping in questionnaires may actually imply that more things went wrong. Therefore, there are positive correlations between coping strategies and ill health.

The third interpretation is one of content. According to this interpretation, the data show that some coping strategies, like "socially focused positive outlook", may actually be positive over the shorter run (across the 16 months of the first longitudinal study), but in the longer run, the same strategies turn out to have a negative effect (an enhancing effect of stressors on ill health). It is interesting to see that there were more significant negative betas in the longer longitudinal study. While, the negative betas in the first longitudinal study usually remained negative in the second one, the positive betas turned into negative ones in the second study. There was only one exception: attention diverting.

I think that the first interpretation is probably wrong. A pure random result is unlikely because our 19 significances with the criterion p < .10 represent about 30% of all the computations. Thus, the second and the third interpretations are more interesting. It is difficult to decide between them. My recent thinking has shifted in the direction of the third interpretation because the data seem to show a difference between the two longitudinal studies.

Whatever the preferred interpretation: There is no evidence whatsoever that coping has a consistent positive effect. The coping strategies researched in these studies were of the emotion-focused type (Lazarus & Folkman, 1984) with the exception of "socially oriented coping." As a matter of fact, we would assume with Carver, Scheier, and Weintraub (1989) that problem-oriented coping strategies may actually produce positive results on health. This would be so, we assume, because problem-oriented strategies have an impact on objective reality.

Others have observed similar findings, Carver et al. (1989) have found negative relations between their emotion-focused coping strategies and anxiety (unfortunately, this was not a longitudinal study). Aldwin and Revenson (1987) have shown that nearly all of their coping strategies had negative effects on health. Only one problem-solving strategy, namely instrumental action, which presumably is most directly related to actually changing objective conditions, showed a positive buffer effect.

GENERAL DISCUSSION

Thus, a pessimistic point of view on coping prevails. As long as the objective conditions are not changed, or the prerequisites for changing these conditions do not exist (namely monitoring the stressors), negative effects are to be seen. They may not appear immediately but they show up over the long run.

As a matter of fact, even coping strategies that initially have a positive impact. like optimism, turn out to be negative when the objective situation stays negative (i.e., unemployment prevails or reappears). Attempting to reduce one's aspirations may work but again it does not override objective reality (as in the case of control rejection). Monitoring may be negative in a short-term threat situation or when the actual threat does not really turn out to be existent (as in some experiments). But with continuing stressors, like those at work, it is more useful to attend to them closely. In the last two longitudinal studies, the general picture occurs again: Even those few coping strategies that have positive buffer effects in the 16-month study become negative enhancer effects in the 66-month longitudinal study. With one exception, emotion-oriented coping does not seem to work very well.

Of course, this is not true of all coping strategies at all times. As suggested in the introduction, the situation of work and its stressors, as well as unemployment are special situations. They are long-term, they afford action, they are obtrusive and salient, and they are difficult to talk away or to blank out of one's mind.

The question is now, what should one do. Is my position possibly quite inhumane because it leaves people with their doubts and pessimism? In my view, a way out is a sort of existentialist approach. Just as the physician in Camus' Black Plague did his work in spite of his knowledge of futility, people can approach stressors in a similar way. I was recently asked by a popular journal what I would suggest to the unemployed. My answer took the same direction: Just continue to apply, even though you should know that there is very little chance that the application will have any positive consequences. Just continue to be active because it is part of being unemployed. It belongs to unemployment to attempt to find a job—even if this is futile. Attempt to deal with life, knowing full well that there is little chance that you are able to, because it is part of life to be active in spite of everything that we correctly perceive in a pessimistic light.

I am not arguing for unrealistic pessimism, of course. Those things that can be influenced and can be accomplished should be seen within an optimistic perspective. But when there is reason for pessimism, the approach of taking the bitter pill of dealing with the objective reality now can contribute to being able to feel better later because it may lead to better action strategies. In this light, Germanic pessimism may have optimistic consequences after all.

REFERENCES

- Aldwin, C., Folkman, S., Schaefer, C., Coyne, J. C., & Lazarus, R. S. (1980). Ways of coping: A process measure. Paper presented at the 88th annual meeting of the American Psychological Association. Montreal, Ouebec.
- Aldwin, C. M., & Revenson, T. A. (1987). Does coping help? A reexamination of the relation between coping and mental health. Journal of Personality and Social Psychology, 53, 337-348.
- Carver, C. S., Scheier, M., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. Journal of Personality and Social Psychology, 56, 267-283.
- Cohen, J., & Cohen, P. (1975). Applied multiple regression/correlational analysis for the behavioral sciences. Hillsdale, NJ: Erlbaum,
- Frese, M. (1984). Do workers want control at work or don't they: Some results on denial and adjustment. Berlin: Institut für Humanwissenschaft in Arbeit und Ausbildung der Technischen Universität Berlin (available from the author).
- Frese, M. (1985). Stress at work and psychosomatic complaints: A causal interpretation. Journal of Applied Psychology, 70, 314-328.
- Frese, M. (1986). Coping as a moderator and mediator between stress at work and psychosomatic complaints. In M. H. Appley & R. Trumbull (Eds.), Dynamics of stress. Physiological, psychological, and social perspectives (pp. 183-206). New York: Plenum.
- Frese, M. (1987). Alleviating depression in the unemployed: Adequate financial support, hope, and early retirement. Social Science and Medicine, 25, 213-215.
- Frese, M. (1989). Theoretical models of control and health. In S. L. Sauter, J. J. Hurrell, Jr., & C. L. Cooper (Eds.), Job control and worker health (pp. 107-128). Chichester: Wiley.
- Frese, M., & Mohr, G. (1987). Prolonged unemployment and depression in older workers: A longitudinal study of intervening variables. Social Science and Medicine, 25, 173-178.
- Frese, M., & Sabini, J. (1985). Action theory: An introduction. In M. Frese & J. Sabini (Eds.), Goal directed behavior: The concept of action in psychology (pp. 17-25). Hillsdale, NJ: Erlbaum.
- Greenwald, A. G. (1980). The totalitarian ego: Fabrication and revision of personal history. American Psychologist, 35, 603-618.
- Johnson, J. V., & Hall, E. M. (1988). Job strain, workplace, social support, and cardiovascular disease: A cross-sectional study of random sample of the Swedish working population. American Journal of Public Health, 78, 1336-1342.
- Karasek, R. (1989). Control in the workplace and its health-related aspects. In S. L. Sauter, J. J. Hurrell. Jr., & C. L. Cooper (Eds.), Job control and worker health (pp. 129-159). Chichester: Wiley.
- Karasek, R. A., Baker, D., Marxer, F., Ahlbom, A., & Theorell, T. (1981). Job decision latitude, job demands, and cardiovascular disease: A prospective study of Swedish men. American Journal of Public Health, 71, 694-705.
- Lazarus, R. S. (1982). The costs and benefits of denial. In S. Breznitz (Ed.), Denial of stress (pp. 1-30). New York: International Universities Press.
- Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping. New York: Springer.
- Miller, S. M. (1987). Monitoring and blunting: Validation of a questionnaire to assess styles of information seeking under threat. Journal of Personality and Social Psychology, 52, 345-353.
- Miller, S. M., Brody, D. S., & Summerton, J. (1988). Styles of coping with threat: Implications for health.

- Miller, S. M., Brody, D. S., & Summerton, J. (1988). Styles of coping with threat: Implications for health. Journal of Personality and Social Psychology, 54, 142-148.
- Mohr, G. (1986). Die Erfassung psychischer Befindensbeeinträchtigungen bei Industriearbeitern. Frankfurt: Peter Lang.
- Sauter, S. L., Hurrell, J. J., Jr., & Cooper, C. L. (Eds.). (1989). Job control and worker health. Chichester: Wiley.
- Schönpflug, W. (1986). Behavior economics as an approach to stress theory. In M. H. Appley & R. Trumbull (Eds.), Dynamics of stress. Physiological, psychological, and social perspectives (pp. 81-98). New York: Plenum.
- Semmer, N. (1984). Streßbezogene Tätigkeitsanalyse: Psychologische Untersuchungen zur Analyse von Streß am Arbeitsplatz. Weinheim: Beltz.
- Semmer, N., & Frese, M. (1990). Control as a moderator of the effect of stress at work on psychosomatic complaints: A longitudinal study with different measures. Unpublished manuscript, University of Munich or University of Bern.
- Taylor, S. E. (1989). Positive illusions. Self-deception and the healthy mind. New York: Basic Books. Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. Psychological Bulletin, 103, 193-210.
- Zedeck, S. (1971). Problems with the use of "moderator" variables. Psychological Bulletin, 76, 295-310.