The German Journal of Psychology · Vol. 10 · No. 4 · 315–326

Report

Appraisal, Coping, and Attribution Processes by Depressed Persons: An S-R-S-R Approach

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Depressive behavior can be characterized by how persons appraise, cope with, and attribute causes after stressful episodes; it is conceptualized according to the theoretical aspects of control and coping. An S-R-S-R test procedure (UBV) is developed to assess these processes sequentially (3 phases; 2 outcomes) by two types of stressful episodes: aversive or ambiguous situations, and situations characterized by loss or failure. Stimulus situations and sequences are constructed so as to represent certain objective parameters (e.g., high/moderate controllability). The study compares a group of 30 depressed patients and a group of 30 normal controls. The responses to the process items show several predicted differences: The depressed group appraises more strain, less controllability and changeability, and seems less adaptive. Its environment-directed coping is characterized as less active, more evasive and passive; self-directed coping focuses on palliation and self-punishing cognitions; attributions after negative outcomes are more internal. Some group-by-phase interactions indicate process specifity (e.g., appraisal adaptivity).

Traditional theoretical analysis of etiology proceed from a given psychopathological category or syndrome of behavior in order to explain its origin. In the last decade, an increasing amount of attention has been focused on the process-oriented view of psychopathological phenomena. Certain authors have referred to this point of view as "performance theory" (Patterson, 1982) as opposed to the theories of acquisition. In this context we have formulated our inquiry by asking how depressed persons deal with the stress factors of everyday life. In the most recent research literature, many references are made to the fact that depressed persons may be characterized by specific types of behavior when coping with their environment, especially with stress situations (that is to say, with events that place psychological demands on the person) (e.g., Becker, 1981; Blöschl, 1982; Fisher, 1984).

For this purpose we conceptualize depressive behavior according to the theoretical aspects of coping and control. The psychological models on which our approach is based are the theories of Lazarus et al. (e.g., Lazarus & Launier, 1978), Seligman (1975) and Garber, Miller and Abramson (1980). The Berkeley group has discussed the process of coping with stress as a transactional process between the situational components and the cognitive and behavioral re-

sponses. They have conceptualized in greater detail the *cognitive appraisal* of stressors and the appraisal of the self-efficacy of the person, and finally the *coping* response. The control theories – especially by Seligman (1975) and Garber, Miller and Abramson (1980) – focus on the psychological dimensions of the *situation.*

Thus, we focus on the following main parameters of situations:

- Controllability: defined as a given probability (p) that a situation is able to be influenced in the sense of the outcome (O) by the person's best available reaction (R): (p (O/R)).
- Changeability: defined as a given probability that a situation changed by its own dynamics: (p (O/Non-R)).

We discriminate between controllability and changeability in an *objecitve* sense and the *subjective* cognitive representation of these properties by an individual person.

According to Seligman (1975; see also Prystav, 1979), we assume that the situational parameters of controllability, changeability, ambiguity, and valence have a predictive value for the regulation of emotions and behavior. If we take into consideration the subjective appraisal of the two main parameters, controllability and changeability, we can describe theoretical assumptions concerning various combinations of this variables (cf. Garber, Miller and Abramson, 1980):

- The lower the values of the two variables, the stronger the subject has feelings of hopelessness and helplessness. The bad outcome (i.e., the absence of the good outcome) subjectively becomes more certain. As a consequence, on the instrumental behavior level, we expect passive behavior and evasive escape behavior with higher probability.
- The higher the values of the two variables, the stronger the person feels helpless but not hopeless; the good outcome is considered as more independent of the person's behavior, i.e., the case of uncontrollability. On the behavioral level we expect higher probability for passivity.
- The more estimations of the two probabilities are in the medium area, the stronger are the person's feelings of uncontrollability, helplessness, uncertainty, and anxiety. Passivity and evasive escape behavior are predicted.
- The higher the net controllability (i.e., controllability minus changeability), the higher the probability for active environment-directed instrumental coping.

The perception of these situational parameters will, on the one hand, influence emotions, and on the other hand the probability of environment- and self-directed coping behaviors.

Hypotheses

The most important predictions to be tested about depressed versus nondepressed behavior in face of aversive and ambiguous situations are:

(1a) The depressed persons perceive and evaluate potential stressors as more straining (negative valence is augmented).

(1b) They perceive lower controllability and changeability.

(2a) Environment-directed coping behavior: The depressed persons exert less influence on the stressor by action, and they behave more evasive and/or passive (they hesitate, resign, etc.). If the stressing event continues, the depressed persist less in actively influencing the situation.

(2b) Self-directed coping behavior: The depressed persons try more to palliate their emotions (e.g., emotional discharge), they search for more (internal) information, and they reevaluate the stressing situations less. On the other hand, they tend more toward self-punishment, self-reproaches, etc.

(3) In attributing causes to the final outcome of stressing episodes, the depressed tend toward internal, global, and stable causes to explain negative outcomes – when situations turn out bad. For positive outcomes they prefer more external, specific, and unstable causes.

Process assumptions are not described here in greater detail.

Method

Research instruments suitable for the description of the coping processes outlined above have been lacking up to the present time. The available studies concerning depressives single out individual aspects of the process, e.g., characteristics of the cognitive appraisal (tendencies toward distortion, e.g., Lefebvre, 1982; Krantz & Hammen, 1979), or tendencies toward certain causal attributions (Firth & Brewin, 1982; Golin, Sweeney & Schaeffer, 1981; Coyne & Gotlib, 1983). An exeption is the study of Folkman and Lazarus (1985), which includes information about primary and secondary appraisals, emotions, and coping behavior comparing stress processes by depressives and nondepressives. We have developed a process-oriented method to describe the processes of cognitive appraisal, the self-directed and environment-directed coping behaviors, and the representation of causal attribution in face of standardized situations. The characteristics of this method will be outlined.

Process-Oriented S-R-S-R Items

A hypothetical situation (S_0) is presented to the person being tested. He or she has to imagine the situation and thereupon evaluate the feelings this situation arouses on a polarity measurement scale. Subsequently, the subject evaluates the subjective probability of the controllability, the changeability, and the valence of the situation. Next the person indicates the probability with which he or she in the given situation would choose the different self- and environment-directed coping behaviors. The coping behaviors to be rated are: assertive, evasive, passive (environment-directed), and search for information, suppression of information, reevaluation, palliation of emotion, and self-punishment (self-directed).

Figure 1
Example of an S-R-S-R Process Item (from Subtest ASAM, UBV-Research Version)

Process	Phase 1 Initial Situation (S_0) →	Phase 2 Following Situation (S_1) →	Phase 3 Following Situation (S_2) →	Outcome Positive (S+)
Situational Stimulus	You have forgotten to do something important for your partner[1]. You became aware of it just at the moment when your partner asks a out it. Your partner gets seriously angry and blames you. [1] or another person relevant to the subject	After a while your partner is still angry and once again he blames you for your mistake.	Some time later your partner blames you again for your mistake. He makes an angry remark.	At last you find a way to repair your mistake. And your partner has apologized for having been so vehement. Negative (S−) For a while your partner remains angry and reproachful. And up to now you haven't found a way to repair your mistake.
Test responses	rating of emotions (3 bipoplar dimensions)	idem	idem	idem
	appraisals (controllability, changeability, valence)	idem	idem	valence only
	self-directed coping actions (5 types)	idem	idem	/
	environment-directed coping actions (3 types)	idem	idem	/
	/	/	/	attributions (3 dimensions of causality)

This is not the end of the task sequence. The further course of the situation (S_1) is presented. The subject goes through the same steps and responds to same questions as before. The third situation-reaction series (S_2) follows. After this, the entire situation-reaction chain comes to a positive or negative conclusion. Finally, the person is to comment on the causal attribution (3 dimensions). The entire sequence is shwon in the S-R-S-R item example.

Two subtests were developed containing different types of situations. The one has a sample of aversive and ambiguous situations (ASAM) of medium to high controllability, and the other situations of loss and failure (LOFA) of a somewhat lesser controllability. The entire questionnaire (UBV) is based on a criterion-referenced approach of measurement. The test construction comprised rule-guided item generation, expert ratings, and criterion-oriented test analysis with the data of another sample of normal subjects (N = 65). The measurement approach, method, and procedure of the construction of the UBV are described in more detail in Reicherts (1985) and Perrez and Reicherts (1986).

Design and Procedure

The study compares the process item responses between two groups: a group of depressed subjects and a matched group of normal controls (N = 60). The results reported here refer to 10 sequential items from the research version of the developed questionnaire (UBV): 6 items from the subtest ASAM (aversive and ambiguous stimulation) and 4 items from the subtest LOFA (loss and failure). The responses represent the beginning (phase 1), the continuance (phase 3), and the outcome (positive and negative) of the stressful episodes.

The measures used here are sum scores of the raw values of 6-point Likert-scales (appraisals and attributions) or of transformed values (1 = low; 2 = medium; 3 = high) according to the ratings of subjective probability (0 to 100 "percent"-scales) of the different coping actions.

Statistical procedures: One-tailed t-tests were conducted to test single differences between group means for each phasic variable as predicted by the hypotheses, and MANOVA F-Tests to test the effects of the between-subjects factor (group), the within-subjects factors (phase or outcome resp.; repeated), and their interaction.

Subjects

The group of the clinically depressed subjects consisted of 22 woman and 8 men (mean age of 35.9 years; range: 20 to 62 years). These patients had been placed in psychiatric clinics with the diagnosis of major depression. The group probably included patients with severe dysthymic disorder. In addition to the 30 patients, 30 matched normal control individuals were recruited. The latter formed a group similar in age, sex, and educational level. In order to control the clinically relevant

characteristics of depression and anxiety, Beck's depression inventory (BDI; Blaser, Löw & Schäublin, 1968) and the Spielberger's state-trait-anxiety inventory (STAI, Laux, Glanzmann, Scheffner & Spielberger, 1981) were used as a supplement to the psychiatric diagnosis (see Table 1),

Table 1
Group Means of Depression and Anxiety (Inventory Scores).

Group	BDI	STAI 1 (State)	STAI 2 (Trait)
Normal	5.3	33.2	48.6
Depressed	24.2	67.7	53.5

Results

The results presented in more detail are the self-ratings of cognitive appraisals, of environment- and self-directed coping actions, and of causal attributions in aversive and ambiguous situations of daily life (subtest ASAM, 6 process items). The results of the situations of loss and failure will be briefly mentioned later.

Appraisal

The results (see Table 2) fit the hypotheses concerning the appraisals of the potential daily life stressors: The negative valence, or strain, rated by the depressed and the normal control group differ significantly ($p < .05$) at the beginning of the episodes (phase 1) and if stress continues (phase 3), and for both positive and negative outcome (difference is somewhat greater for the finally positive outcome; $p < .01$). There is no interaction effect. Further, the depressed group describes less hope for positive outcome, as well for controllability as for changeability. The differences of controllability appraisals are greater at the beginning of the stressing events ($t = -2.90$, $p < .01$ versus $t = -1.55$, $p < .10$, which indicates only a tendency). The interaction effect of phase by group ($F = 5.62$; $p < .05$) indicates different sequential patterns of appraisals: the nondepressed seem to be more optimistic at the beginning – but more adaptive if the stress persists – and some efforts to influence the situation may have failed. The changeability too is rated lower by the depressed group: the differences are significant both in the beginning and with continued stress. There is no interaction effect between phase and group.

Table 2
Daily Life Stressors: Appraisals (Subscale ASAM, UBV-Research Version).

Variable	Phase of Stress (Episode)	Depressed Mean	Normals Mean	Single Group Diff.[1] T	Effect Group total F	Interaction Phase × Group F
Valence (Strain)	Beginning	4.27	3.94	2.02*	3.83^{+}	0.04
	Continuat.	4.39	4.09	1.70*		
	Outcome −	4.45	4.13	1.90*	8.44**	0.68
	Outcome +	3.04	2.54	2.57**		
Controllability	B	3.83	4.37	−2.90**	5.58*	5.62*
	C	3.68	3.95	−1.55^{+}		
Changeability	B	2.29	2.58	−1.74*	4.51*	0.31
	C	2.22	2.58	−2.17*		

[1] one-tailed; $^{+}$ $p < .10$; * $p < .05$; ** $p < .01$

Environment-Directed Coping

In its environment-directed coping probabilities (see Table 3) the depressed group exhibits significantly less active influence on the situation, i.e., assertiveness toward social stressors, in phase 1 and in phase 3. But contrary to the assumption, there is no interaction effect of phase by group which could indicate the lower persistence of the depressive.

The analysis of type of situation shows an interaction tendency for the aversive situations ($F = 3.76$; $p = .06$; 3 items), but not for the ambiguous episodes (3 items). This may indicate that lower persistence of the depressives here is revealed only in the assertive resistence to social stressors, but not in active (and maybe assertive) search for information to desambiguate the meaning of the stressor.

As predicted, the depressed group reports more withdrawal or evasion ($p < .05$ level at the beginning and during the episode) and more passive behavior (e.g., hesitating or resignating, $p < .05$ in phase 1; and a tendency, $p < .10$, in phase 3). Taken together, the self-reported probabilities of instrumental coping demonstrate a consistent and well-described pattern of depressive behavior: less active (assertive), more passive (hesitating and resigning) and more evasive (active avoidance and withdrawal).

Table 3
Daily Life Stressors: Environment-Directed Coping
(Subscale ASAM, UBV-Research Version)

Variable	Phase of Stress (Episode)	Depressed Mean	Normals Mean	Single Group Diff.[1] T	Effect Group total F	Interaction Phase × Group F
Active	Beginning	2.64	2.84	−2.15*	5.90*	0.11
	Continuat.	2.52	2.76	−2.26*		
Evasive	B	1.49	1.33	1.80*	4.01*	0.03
	C	1.65	1.47	1.69*		
Passive	B	1.67	1.47	1.82*	2.79	0.50
	C	1.69	1.54	1.31+		

[1] one-tailed; + $p < .10$; * $p < .05$

Self-Directed Coping

The predictions about strengthened search for information and lower reevaluation of the depressives are *not* confirmed by the data (see Table 4). For these intrapsychic coping actions there were no differences from the normal controls. As predicted, the depressed group tends to palliate their emotions more ($p < .05$ for both phases) and exhibits by far more self-punishing cognitions ($p < .001$ for both phases). These self-directed coping activities are stronger both in the beginning and during the stressing episodes. There was no other effect, neither by phase nor by interaction. The depressed group reported a slightly stronger tendency ($p < .10$) to suppress information about the stressor at the beginning of the episodes, perhaps as an attempt to protect themselves by slutting out the discomfort. With respect to the other coping tendencies (self-punishment, evasion etc.) however, it doesn't seem a very appropriate cognitive effort in face of a prevailing controllable situation.

Attributions after Positive and Negative Outcome

The depressed group apparently makes no difference between positive or negative outcomes of the situation; the normal control does (see Table 5). As predicted, they explain negative outcomes by more external causes ($p < .001$). The interaction effect ($p < .01$) underlines the different group-by-outcome pattern for the

Table 4
Daily Life Stressors: Self-Directed Coping
(Subscale ASAM, UBV-Research Version)

Variable	Phase of Stress (Episode)	Depressed Mean	Normals Mean	Single Group Diff.[1] T	Effect Group total F	Interaction Phase × Group F
Search for information (internal)	Begin.	2.59	2.67	−0.83	0.26	0.76
	Cont.	2.53	2.55	−0.15		
Suppression of information	B	1.37	1.22	1.46^{+}	2.10	0.15
	C	1.39	1.29	1.05		
Reevaluation/ Reappraisal	B	1.84	2.02	1.23	0.49	1.37
	C	2.22	2.22	0.00		
Palliation	B	2.12	1.81	1.90*	3.92^{+}	0.00
	C	2.07	1.77	1.86*		
Self-Punishment	B	2.06	1.49	4.26**	23.25**	0.10
	C	1.88	1.28	4.80**		

[1] one-tailed; $^{+}$ $p < .10$; * $p < .05$; ** $p < .001$

internal-external causality dimension. But in having been more active, the normals seem to attribute correctly. This constrasts some other results, e.g., from a experimental study of Alloy and Abramson (1979), where the nondepressed *over*estimated their control only in the "winning" condition, but not in the "lose" condition (see also Fisher, 1984). A similar interaction effect ($p < .05$) is revealed for the global-specific causality dimension. Although the single effects are not significant here, the results reveal different trends: The normals tend more to emphasize specific causes to explain negative outcomes than positive outcomes, whereas the depressed group doesn't discriminate between the outcomes. For the stable-unstable causality dimension the normal group attributes the negative outcomes somewhat more to unstable causes (tendency, $p < .10$).

Results of the Situations of Loss and Failure

The results of the subtest LOFA (4 process items of loss and failure), which are not reported in detail, also reveal several predicted differences between the depressed and the normal group. In the beginning of the episodes, when loss or

Table 5
Daily Life Stressors: Attributions (Subscale ASAM, UBV-Research Version)

Variable	Phase of Stress (Episode)	Depressed Mean	Normals Mean	Single Group Diff.[1] T	Effect Group total F	Interaction Phase × Group F
Attribution External Causes	Outcome +	3.30	3.28	0.14	6.03*	11.63**
	Outcome −	3.33	4.00	−3.90***		
Attribution Global Causes	Outcome +	3.35	3.38	−0.19	0.35	4.85*
	Outcome −	3.38	3.14	1.25		
Attribution Unstable Causes	Outcome +	3.73	3.77	−0.33	1.16	1.85
	Outcome −	3.63	3.88	−1.46+		

[1] one-tailed; + $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

failure is still looming (phase 1), the depressed group differs only little from the normal control group. But when loss or failure become definitive (phase 3), the depressed are still trying to prevent or undo it, and they abstain from engaging in active reorientation, i.e., active substitution or restoration of the lost reinforcers. For the loss and failure episodes, again palliation and self-punishment as self-directed coping of the depressed are strengthened, and the efforts to reevaluate are slightly lowered. The depressed persons again rate more strain or valence and less changeability in the continuance of the stressing episodes (phase 3). In contrast to this no significant difference of controllability existed.

Discriminant Validity

Discriminant analyses were conducted to evaluate the discriminant validity of the instrument. Both subtests ASAM and LOFA, and both phases and outcomes, taken together a classification result of 100% for the depressed and nondepressed subjects was obtained. By entering only the subtest ASAM, and only the subtest LOFA, classification results of 95% were obtained. The set of the variables from phase 3 (when stress continued) and from outcome produced a slightly better result than the variables from phase 1, the beginning of stress (100% vs. 95%). Subsequent responses in such S-R-S-R stressing episodes, which are continued in the

imagination, seem somewhat more powerful in discriminating depressed and non-depressed control subjects than only the first reactions to the beginning of the stress.

The results, discriminant analyses and functions included should be replicated and cross-validated in other samples, also for nondepressed clinical controls. Comparisons between the matched normal controls and the other sample of non-depressed normals (N = 65), which had been recruited for test analysis, etc., yielded good correspondances between most variables.

Discussion

The study compared the S-R-S-R questionnaire responses of a depressed group with those of a matched normal control group. Subjective appraisals of the situations, coping reactions, and causal attributions were analyzed. The statistically significant differences and tendencies found were nearly always in the directions of the expectations. Whether this method is capable of differentiating between other clinical groups, and sub-groups of depression as well, cannot yet be decided on the basis of this sample. This deficit is somewhat compensated for however by the fact that the method produces data that confirm construct validity: deficiencies of the depressive, on the levels of cognitive appraisals and subjective probability for coping actions, and of causal attribution tendencies. The hypotheses of the performance theory are reproduced satisfactorily by this correlational design.

These results should be a further step in the development of a more comprehensive testing system. We believe that this teating approach – virtual behaviors and cognitions (concerning appraisal, coping, and attrivution) in relation to standardized, and imagined situations of daily life stressors, both in a sequential episodic structure – is worth being pursued. This would open a new access to intervention-oriented diagnostics and therapeutic control, so as to focus on circumscribed shortcomings or deficits of the client and to retest them after intervention.

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The research reported here was supported by the Swiss National Fund for Scientific Research, grant no. 1.600–0.82.