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Self-ratings of pathogenic beliefs: A study based on the psychodynamic control-mastery theory

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Abstract

Single-case studies by the San Francisco Psychotherapy Research Group have shown psychotherapy to be successful if pathogenic beliefs are disproved by the therapist. To date, however, no systematic knowledge regarding relevant thematic areas of pathogenic beliefs has been available. The authors examined whether those pathogenic beliefs judged by trained raters to be of regular occurrence also prove symptomatically relevant according to the self-ratings of patients and whether these beliefs can be classified along content-related dimensions. The authors presented 49 items, obtained from expert ratings in the context of diagnostic interviews with 35 differentially diagnosed patients and on the basis of verbal, scenic, and biographical informational levels, were presented to three samples: 74 individuals selected from the normal population, 79 patients with somatoform disorders, and 165 clients with various diagnoses receiving inpatient psychotherapy. Based on these results, the List of Pathogenic Beliefs (LPB) comprising 23 items was developed. Individuals receiving inpatient psychotherapy attained significantly higher scores than those from the normal population on the Self-Doubt, Doubt of Others, Expression of Anger, Fear of Close Relationships, and Guilt of Success subscales. Significant correlations were found between the total LPB scale and the Global Severity Index of the Symptom Checklist ($r = .70$) as well as the total score of the Inventory of Interpersonal Problems ($r = .74$). Results thus demonstrate the symptomatic relevance of self-rated pathogenic beliefs. More extensive application of the LPB could help supplement previous case-study research on control-mastery theory.

The concept of pathogenic beliefs constitutes a central construct within the psychodynamically oriented control-mastery theory (Weiss, 1993; Weiss, Sampson, & Mount Zion Psychotherapy Research Group, 1986). On the basis of Freud's late writings (1926/1977, 1940/1989), a disease model was developed. In this context, pathogenic beliefs were conceptualized as irrational, often unconscious, assumptions and fears. They have a pathogenic effect in so far as they impede the realization of adequate goals. Pathogenic beliefs are the result of life experiences. Traumatic encounters that are subjectively experienced as a consequence of one's own behavior can lead to the development of beliefs that, in the mind of the affected individual, secure bonds with central attachment figures. (For example, a child secretly ascribes herself the blame for her parents' conflicts. In doing so, the child subjectively

ensures a certain amount of control over familial bonds, which in turn serves to avoid feelings of being unable to take action and of helplessness.) Although it is possible that such beliefs originally represent a productive achievement in terms of adaptation, they can prove maladaptive and pathogenic in the context of other relationships. Because the pursuit of goals is often unconsciously associated with threats to the self or to important figures of attachment, pathogenic beliefs prevent their attainment.

This model of pathogenic beliefs resembles other psychodynamic and cognitive theory concepts. The assumption that conscious and unconscious elements of earlier relationship experiences are transferred onto current interactional occurrences is also to be found in the core conflictual relationship theme (CCRT) method (e.g., Luborsky, Barber, & Diguier, 1992; Luborsky et al., 2004) as well as in

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interpersonal theory (Sullivan, 1953), which forms the foundation of the Inventory of Interpersonal Problems (IIP; Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988). Similarities are also found with Strupp and Binder's (1984) assumptions regarding cyclical maladaptive patterns as well as with Bowlby's (1973) internal working models, to which considerable significance is attributed within attachment theory (e.g., Zimmermann, 2002). The pathogenic relevance of negative self-communication (e.g., Tönnies, 2002) is especially elaborated in cognitive psychological approaches tracing back to Beck (1976) and Ellis (1962) and further developed by Caspar (e.g., 1997).

It is in particular to the merit of control-mastery theory (Weiss, 1990) that an empirically indirectly testable treatment theory was developed based on the dynamics of the unconscious. The theory postulates that patients bring their systematic and mostly unconscious pathogenic beliefs into the therapeutic situation. Therapy is successful in so far as the therapist is able to invalidate these beliefs (e.g., by means of interpretation, comments, or actions) in such a way that a corrective relationship experience is able to evolve. This notion of testing pathogenic beliefs places one aspect at the enter of the theory, an aspect that cannot be considered new within the analytical literature (e.g., Fairbairn, 1952) and has become known under the concept of complementary therapeutic relationship tailoring (Grawe, 1998, p. 67).

The treatment assumptions of the control-mastery theory have been widely confirmed by numerous studies of the San Francisco Psychotherapy Research Group (SFPRG). For example, it was shown that a relatively large proportion of those therapeutic interventions managing to disprove pathogenic beliefs were associated with greater therapy success (Silberschatz & Curtis, 1993; Silberschatz, Fretter, & Curtis, 1986). Furthermore, these interventions were followed by positive immediate effects, such as a direct increase in the level of insight (Broitman, 1985; O'Connor, Edelstein, Berry, Weiss, 1994; Silberschatz, 2005; Sammet, Rabung, & Leichsenring, 2006) or a reduction in negative affect (Volkart, Walser, & Zalunardo, 2000).

On account of their pivotal status, the diagnostics of pathogenic beliefs within control-mastery theory are of high scientific and clinical importance. With the establishment of the plan formulation method (Curtis & Silberschatz, 1996; Curtis, Silberschatz, Sampson, & Weiss, 1994), a research instrument was developed that permits reliable assessment of pathogenic beliefs by an expert team, under consideration of multilayered information (verbal utterances, biographical data, expressions of emotion, interpersonal

behavior), at the level of the individual. However, on account of the time-consuming nature of the procedure, an investigation of larger samples is almost impossible. Consequently, there are no systematic empirical findings regarding pathogenic beliefs that can be drawn on within the diagnostic process. From a theoretical point of view, connections with other psychopathological models, as described previously, have scarcely been established. One of the scarce references to the fundamental psychoanalytical notion of the dynamics of the unconscious interposes a criticism of the theory's naivety and simplification. Yet despite the wealth of individual nuances, knowledge surrounding interindividually similar themes within pathogenic beliefs would ease and improve the diagnostic process.

This would presuppose investigations based on larger samples. To this end, it would be of interest to determine the usability of self-rating measures, which validly measure conscious elements of pathogenic beliefs or, rather, those elements that are able to access the consciousness. The use of self-rating measures for other psychodynamic constructs has been successfully demonstrated. Examples include the Defense Style Questionnaire (Andrews, Singh, & Bond, 1993; Schauenburg, Willenborg, Sammet, & Ehrenthal, in press) for the evaluation of defense mechanisms and the Interpersonal Guilt Questionnaire (O'Connor, Berry, Weiss, Bush, & Sampson, 1997; Albani et al., 2003).

Against the backdrop of these considerations, it is the aim of the current pilot study to explore whether conscious and preconscious elements of pathogenic beliefs are assessable by means of the self-rating method and whether central themes of symptomatically relevant pathogenic beliefs are identifiable.

A corresponding list of frequent pathogenic beliefs resulting from this study could

1. Be applied as a clinical screening instrument for patients or checklist for therapists to balance the self-perceptions of the patient with the diagnostic considerations of the clinician and further reflect on the focal problem to be treated
2. Be drawn on within the framework of cross-sectional investigations to gain systematic knowledge concerning frequent pathogenic beliefs.

Method

List of Pathogenic Beliefs

The material initially used to construct a list of pathogenic beliefs was based on the investigation of

35 inpatients (23 women, 12 men, "construction sample") receiving psychotherapy (Andreas, 2000) for a variety of mental disorders (primary diagnosis: depressive disorder [$n=16$]; anxiety disorder, [$n=8$]; eating disorder [$n=5$]; somatoform disorder [$n=4$]; personality disorder [$n=2$]). Using video recordings of a 1-hr diagnostic interview, two raters, who had received instruction in the control-mastery theory, consensually determined two central pathogenic beliefs by means of the plan formulation method. Raters were instructed, in accordance with the method guidelines, to incorporate biographical data, emotional expressions, and interpersonal behavior in addition to verbal utterances to register unconscious elements. In formulating items, raters were to ensure that specific fears leading to certain behaviors or attitudes were also registered (e.g., "Whenever I enter a close relationship, I am scared of losing my autonomy"). This insight into behavior-controlling fears constitutes the basis for therapeutic interventions in the context of control-mastery theory and simultaneously represents an enhancement of existing questionnaires that measure dysfunctional cognitions or attachment styles.

The resulting individual pathogenic beliefs were additively combined to form a total list of 70 items. To complete the list in terms of content, 20 items, which the SFPRG had unsystematically collected as "frequently occurring pathogenic beliefs" in the context of their diagnostic studies, were added. After elimination of items that were linguistically misleading or repetitive, a 63-item list was administered to patients, who rated items on a 6-point Likert scale. Item and factor analyses resulted in a final version comprising 49 items. This version was applied in the current study.

Other Instruments

Symptom severity was measured using the Symptom Checklist-90-Revised (SCL-90-R [German version]; Franke, 1995). In addition, all participants received a questionnaire requiring the provision of basic sociodemographic information. Patients from Subsample 3 (inpatients; see later discussion) were additionally administered the IIP (Horowitz, Strauss, & Kordy, 1994).

Sample and Data Collection

A second sample of 318 participants was investigated using the LPB. The total sample comprised three subsamples. Subsample 1 consisted of 74 healthy participants who, in accordance with the principle of quota sampling, were selected from the patronage of a newspaper kiosk to approximately match the ages

of participants from Subsample 3 (see later discussion). Participants completed their questionnaire immediately at the kiosk site. Subsample 2 was composed of 79 former patients who had been admitted to various departments of a German university clinic (internal medicine; ear, nose, throat; urology; gynecology) for inpatient diagnostics between 2001 and 2004 and who, in the context of a psychosomatic examination by a consultant, had received the clinical diagnosis of somatoform disorder (International Classification of Diseases, 10th edition [ICD-10] F45) or psychological and behavioral factors associated with disorders or diseases classified elsewhere (ICD-10 F54). Participation of former patients was requested in written form. A retrospective survey method was selected to secure an adequate sample size within a manageable time-frame. Within this subsample, currently relevant distress as a result of somatoform symptoms was examined by means of the Screening for Somatoform Symptoms (Rief, Hiller, & Heuser, 1997). An assessment of whether patients had received suitable psychotherapeutic aftercare was also included. The mean somatization index based on ICD-10 for this sample was 5.50 ($SD=3.98$) and was thus higher than both the average value for the normal population ($M=2.0$, $SD=2.2$) and for inpatients receiving psychosomatic treatment ($M=5.1$, $SD=3.0$; Rief et al., 1997, p. 29). This indicates that clinically significant somatoform symptoms were present at the time of survey. The rate of return for the written survey was 33.3%, which, in consideration of comparable investigations, is viewed as typical. Subsample 3 comprised all 165 patients who had received psychotherapeutic inpatient treatment according to a psychodynamic concept with elements of behavioral therapy in a German university clinic for psychosomatic medicine and psychotherapy between January 2001 and July 2004. Questionnaires were completed in the first 3 days of inpatient therapeutic treatment in the context of routine quality assurance assessment. Characteristics of a typical inpatient clientele sample are presented in Table I. Sixty-six patients also completed the questionnaires during the last week of the, on average, 10-week treatment period to assess changes in the gravity of pathogenic beliefs and whether these changes were associated with symptomatic adjustments. Approval of the ethics commission was obtained for each phase of data collection.

Evaluation

Item analysis based on data from the total sample led to the elimination of 20 skewed distributed items (z value for skew index; Lienert & Raatz, 1994,

Table I. Description of Sample ($N=318$).

Variable	Subsample 1 ($n=74$)	Subsample 2 ($n=79$)	Subsample 3 ($n=165$)
Data collection	Patronage of a newspaper kiosk (healthy control group)	University clinic ^a patients w/SDs or essential psych. component	Inpatient PT treatment ^a patients
Diagnoses	None	SDs (ICD F45.0), 55.7%; somatic diseases w/essential psychogenic components (F54.0), 4.3%	Main disorders ^b : depressive, 42.4%; anxiety, 21.8%; adjustment, 15.8%; dissociative, 2.4%; somatoform, 5.5%; eating, 8.5%; personality, .4%; other, 1.2%
Age (years)			
<i>M</i>	40.2	43.5	38.4
<i>SD</i>	9.4	7.8	9.8
Women			
<i>n</i>	44	53	124
%	59.5	67.1	75.1
Symptom load GSI ^c			
<i>M</i>	0.480	0.949	1.332
<i>SD</i>	0.356	0.756	0.607
IIP (total score)			
<i>M</i>	—	—	1.543
<i>SD</i>	—	—	0.601

Note. ICD = International Classification of Diseases; GSI = Global Severity Index; IIP = Inventory of Interpersonal Problems.

^aUniversity Clinic of Göttingen, Germany. ^bMostly multiple diagnoses; comorbid personality disorders in 45% of cases. ^cOf Symptom Checklist-90-Revised; significant differences between subsamples ($F=18.954$, $p=.000$).

p. 148) from the 49-item list of pathogenic beliefs. Principal-component analyses with varimax rotation were performed for the 29 remaining items for both the total sample and subsamples. The number of factors was set according to the eigenvalue criterion (scree test).

On the grounds of factor analysis results for the total sample, six additional items were discarded because they did not clearly load onto any of the resulting factors (factor loadings $<.50$). The remaining 23 items, arranged in a random order, constitute the List of Pathogenic Beliefs (LPB). Subscale scores (average of those items loading onto given factor) as well as total LPB score (average of all 23 items) were calculated in correspondence with factor analysis results for the total sample. Reliability estimates in the form of internal consistencies (Cronbach's alpha) were calculated for individual subscales and the total score. Construct validity was determined using multiple regression analyses (forward selection) to examine relationships between subscales on the one hand and symptom distress, as measured by the Global Severity Index (GSI), and the total IIP score on the other. The significance of changes in pre-post scores on the LPB and SCL-90-R within the inpatient subsample was tested by means of a t test for dependent samples. Given that those beliefs assessed are indeed pathogenic, the assumption that a significant proportion of variance in sympto-

matic change is accounted for by changes in pathogenic beliefs should be confirmed. This assumption was tested in a multiple regression analysis.

Results

Factor loadings for the 23 items, together with internal consistencies and estimates for test-retest reliabilities based on the total sample, are displayed in Table II.

Six factors were obtained. Five items loaded onto the first factor. Because these items refer to doubts surrounding one's own capabilities and attractiveness, Factor 1 is labeled Self-Doubt. Factor 2 encompasses four items that capture doubt concerning the dependability of others (Doubt of Others). The four items loading onto Factor 3 embody the expression of anger (Expression of Anger). Factor 4 comprises three items reflecting the avoidance of close relationships (Fear of Close Relationships). Factor 5 comprises items that refer to feelings of guilt in the case of personal success (Guilt of Success). Factor 6 covers feelings of responsibility toward others (Responsibility Guilt). This six-factor solution explained 63.3% of the total variance. Internal consistencies for the factors, ranging from .68 to .89 (Cronbach's alpha), can be viewed as satisfactory to good and for the total scale ($\alpha=.92$) as very good.

Table II. Factor Analysis of List of Pathogenic Beliefs Items.

Variable	Factor 1	Factor 2	Factor 3	Factor 4
Internal consistency (Cronbach's alpha; $N=318$)	.89	.75	.84	.82
Retest reliability ($n=78$)	.58	.60	.53	.56
I doubt that I can rely on my abilities.	.837			
I doubt that I am an attractive person.	.768			
I doubt that I am a person worth being loved.	.739			
I fear that others perform better than I do.	.723			
I fear to be rejected if I make mistakes.	.590			
I doubt that I can rely on others.		.798		
I fear that others cannot help me if I need them.		.790		
I doubt that others mean well.		.689		
I fear being a burden if I ask people for help.		.650		
I fear to be wrong when showing anger.			.761	
I fear hurting others' feelings if I express anger.			.743	
I come into conflict if I express anger.			.667	
I am afraid of being rejected if I ask too much from others.			.537	
I am afraid of being disappointed if I live in a close relationship				.787
I am afraid of losing my autonomy if I live in a close relationship				.766
I am afraid of getting hurt if I live in a close relationship.				.765
	Factor 5	Factor 6	Total score	
Internal consistency (Cronbach's alpha; $N=318$)	.72	.68	.92	
Retest reliability ($n=78$)	.61	.66	.66	
If I succeed, I cannot really feel happy.	.759			
If I follow my own interests, I have a bad conscience.	.713			
If I succeed, I sometimes believe that I do not deserve it.	.579			
If others feel bad, I am not able to feel really happy.		.765		
If others feel bad, I am going to help, even if it means personal disadvantages.		.732		
If I am away from home, I worry about my family.		.660		
If I succeed, at work or in private life, I usually play down my achievements.		.539		

Note. Factor 1: Self-Doubt; Factor 2: Doubt of Others; Factor 3: Expression of Anger; Factor 4: Fear of Close Relationships; Factor 5: Guilt of Success; Factor 6: Responsibility Guilt.

Factor analysis results for Subsamples 1 and 3 (healthy participants and inpatients receiving therapy, respectively) proved predominantly consistent with results for the total sample: The factorial structure remained constant, with the exception of two items that formed an additional factor in the sample of healthy participants (doubt concerning reliability of others and doubt whether others are well-disposed; both items loaded onto Factor 2 in the total sample), leading to a seven-factor structure. In contrast, a five-factor solution was found in the sample of somatoform disorders: Here items from the Doubt of Others factor were associated with items from the factors Doubt Concerning Own Attractiveness and Fear of Rejection Because of Personal Mistakes. In the sample of somatoform patients, three of the four items comprising Expression of Anger in the total sample loaded onto a separate factor also embodying fear of close relationships¹.

Because the factorial structure for the subsample of somatoform patients substantially deviated from the structure for the total sample only in that two of the total sample factors were collapsed to form a

single factor, the formation of subscales on the basis of factor analysis results stemming from the total sample is justifiable. Table III presents a comparison of the subsamples with respect to these subscales and total LPB scores.

The subsamples differed significantly on all subscales with the exception of Responsibility Guilt. It is suspected that this scale is subject to effects of social desirability, which makes it less helpful in identifying pathogenic beliefs. Subsample 1 participants yielded significantly lower values on all scales compared with Subsample 3 (inpatients). The subsample of patients with somatoform disorders, which ranked between normal population participants and inpatient participants in terms of symptom distress GSI, also attained scores on the five LPB scales (except "Responsibility Guilt"), which lay in the middle of scores for these two groups. Table IV shows significant differences between subsamples on the various subscales. The somatoform sample reached significantly higher scores on the Self-Doubt and Expression of Anger subscales compared with the normal population sample.

Table III. Means and Standard Deviations of List of Pathogenic Beliefs Scales for the Subsamples: Analysis of Variance Results.

Factor	Subsample 1 (<i>n</i> = 74)		Subsample 2 (<i>n</i> = 77)		Subsample 3 (<i>n</i> = 165)		<i>F</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
1. Self-Doubt	2.143	0.998	2.709	1.316	3.715	1.460	39.768	.000
2. Doubt of Others	2.820	1.175	3.058	1.329	3.675	1.249	14.036	.000
3. Expression of Anger	2.665	1.074	3.207	1.429	3.753	1.316	31.100	.000
4. Fear of Close Relationships	2.418	1.232	2.500	1.504	3.483	1.416	20.817	.000
5. Guilt of Success	2.211	1.028	2.688	1.351	3.035	1.363	10.494	.000
6. Responsibility Guilt	3.712	1.090	3.645	1.227	3.801	0.964	.600	.550
Total score	2.662	.726	2.977	1.070	3.57	0.966	26.220	.000

Note. Subsample 1: healthy controls; Subsample 2: somatoform disorder; Subsample 3: psychotherapy inpatients.

Results of multiple regression analyses with GSI or IIP total score as respective dependent variables and LPB subscales as independent variables are displayed in Tables V and VI. In each case, a linear regression model showed the best fit in estimating the relationship between the given variables.

The LPB scales were significantly correlated on multiple levels with both symptom distress GSI ($r = .70$) and interpersonal problems measured by the IIP ($r = .74$). As seen in Table V, 48.9% of symptom distress GSI variance was accounted for by LPB scales, whereby the subscales Self-Doubt and Doubt of Others made the greatest contributions. In predicting the total score for interpersonal problems, Self-Doubt, Guilt of Success, and Fear of Close Relationships proved to be significant regression parameters. The model explained 54.5% of the total variance.

Pre-post measurements, taken in the first and last weeks of therapy for 66 participants of the inpatient subsample, served to assess symptomatic and pathogenic belief change. Among the findings, the GSI of the SCL-R-90 decreased with an effect size of 1.20, which is indicative of good therapeutic success ($M_{\text{pre}} = 1.417$, $M_{\text{post}} = 0.690$, $t = 10.053$, $p = .000$, $df = 64$). At a significance level of $\alpha = .05$, three of the six LPB scales showed a significant reduction. Effect sizes were, however, small (Self-Doubt $M_{\text{pre}} = 3.823$, $M_{\text{post}} = 3.297$, $t = 3.403$, $p = .001$, $d = 0.34$; Responsibility Guilt $M_{\text{pre}} = 3.913$, $M_{\text{post}} = 3.702$, $t = 2.138$, $p = .036$, $d = 0.22$, $df = 64$). With $p = .076$, the pre-post difference in LPB total score marginally failed to reach significance. Multiple

regression analysis revealed that 43.1% of GSI reduction was accounted for by reductions in the LPB subscale scores ($r = .656$, $F = 7.312$, $p = .000$, $df = 64$).

Discussion

The present study investigated whether those elements of pathogenic beliefs with access to the consciousness, as conceptualized within the framework of control-mastery theory, are assessable using the self-rating method. To this end, the LPB was developed. The list comprises 23 six-point items, from which, in addition to a total score, six subscales with satisfactory to good internal consistencies can be calculated.

The predominant difference between the LPB and instruments originating from a cognitive therapeutic perspective (e.g., Klages's, 1989, Irrational Attitudes Questionnaire or Hautzinger, Lika, & Trautmann's, 1985, Dysfunctional Attitude Scale) is the construction of items, which in the case of LPB was based on an item pool created in a psychodynamic context, using observer ratings with explicit consideration of potentially unconscious aspects.

Significant relationships between the LPB total score and total symptom distress (based on the SCL-90-R GSI) on the one hand and the total interpersonal problems score from the IIP on the other indicate that the LPB does indeed assess symptomatically and problematically relevant beliefs. Furthermore, both the LPB total score and subscale scores are able to distinguish between patients and healthy

Table IV. Significance of the Differences Between Subsamples Regarding List of Pathogenic Beliefs Scales Means (Scheffé Post Hoc Tests).

Sample	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Healthy/somatoform	.034	.508	.038	.939	.078	.927
Healthy/inpatient	.000	.000	.000	.000	.000	.840
Somatoform/inpatient	.000	.002	.011	.000	.153	.569

Note. Factor 1: Self-Doubt; Factor 2: Doubt of Others; Factor 3: Expression of Anger; Factor 4: Fear of Close Relationships; Factor 5: Guilt of Success; Factor 6: Responsibility Guilt.

Table V. Multiple Regression Analysis of List of Pathogenic Beliefs Subscales (Independent Variables) and Symptom Load Global Severity Index (Dependent Variable).

	<i>r</i>	<i>r</i> ²	Revised <i>r</i> ²	<i>SE</i>	
	.70	.489	.479	.49727	
Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Regression	70.059	6	11.676	47.220	.000
Residuals	73.194	296	.247		
Totals	143.253	302			
Coefficients					
Variable	Unstandardized <i>β</i>		Standardized <i>β</i>	<i>t</i>	<i>p</i>
Constant	-0.423			-3.724	.000
Factors		0.113			
1. Self-Doubt	0.125	0.030	.272	4.234	.000
2. Doubt of Others	0.127	0.029	.240	4.313	.000
3. Expression of Anger	-0.022	0.030	-.044	-0.734	.464
4. Fear of Close Relationships	0.077	0.025	.165	3.037	.003
5. Guilt of Success	0.077	0.029	.149	2.675	.008
6. Responsibility Guilt	0.073	0.031	.113	2.352	.019

participants: Patients with somatoform disorders (medium symptom distress) display significantly greater self-doubt and misgiving when it comes to expression of anger compared with the normal population sample. In comparison, inpatients with the highest level of symptom distress also show significantly greater doubt of others and more fear of close relationships. Subsample factor analyses further indicate that the internal attitudes of healthy participants are more strongly independent from one another (seven-factor in place of a six-factor solution for inpatients receiving therapy). This supports the

widespread belief that mental health is associated with greater flexibility. In contrast, a relatively narrow dimensionality of pathogenic beliefs is found for patients with somatoform disorders (five-factor solution). To be noted here is, first, that the factor explaining the greatest proportion of variance embodies those items referring to doubt regarding the dependability of and help from others as well as the attractiveness of one's own person. It is possible that negative experiences of not having received help with respect to physical complaints may play a causal role when it comes to the relevance of this factor for the

Table VI. Multiple Regression Analysis of LPB Subscales (Independent Variables) and Inventory of Interpersonal Problems Total Score (Dependent Variable).

	<i>r</i>	<i>r</i> ²	Revised <i>r</i> ²	<i>SE</i>	
	.74	.545	.520	.41944	
Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Regression	22.779	6	3.797	21.580	.000
Residuals	19.001	108	.176		
Totals	41.780	114			
Coefficients					
Variable	Unstandardized <i>β</i>		Standardized <i>β</i>	<i>t</i>	<i>p</i>
Constant	-0.049			-0.268	.789
Factors		0.182			
1. Self-Doubt	0.128	0.041	.303	3.154	.002
2. Doubt of Others	0.042	0.047	.082	0.889	.376
3. Expression of Anger	0.018	0.040	.039	0.455	.650
4. Fear of Close Relationships	0.071	0.036	.158	1.968	.052
5. Guilt of Success	0.128	0.041	.275	3.100	.002
6. Responsibility Guilt	0.065	0.053	.101	1.236	.219

given subsample. Second, it is notable that fear of expressing anger loads onto the same factor as fear of close relationships. This could represent an interpersonal pattern that is specific to somatoform disorders. This result also suggests that, in addition to the analysis of internal attitude characteristics, future studies may wish, above all, to assess dimensionality, which could prove illuminative in revealing pathogenic structures specific to particular disorders.

In summary, the present results support the assumption that pathogenic beliefs are assessable using self-ratings. The concept of pathogenicity must, however, be subject to critical discussion. First, in a strict sense, it is more appropriate to refer to "beliefs that become pathogenic when they exceed a certain magnitude" than simply "pathogenic beliefs," because healthy participants also considered the assessed beliefs to be true to a certain extent. On the basis of the present findings, a distinction between pathogenic and nonpathogenic beliefs thus pertains to quantitative and not qualitative aspects. Second, it is to be emphasized that the notion of internal beliefs as a causation of symptoms, which is expressed in the concept of pathogenicity, is justified in light of the compatibility of the empirical results with hypotheses derived from the control-mastery theory. The empirical correlative relationships found between symptom distress and those beliefs assessed in the current study obviously do not, in themselves, warrant a causal interpretation. However, beyond these significant correlations, the expected relationships are also confirmed by pre-post measurements in which the reduction of pathogenic beliefs, which is relatively minor on account of the brevity of the treatment period, is associated with a diminishment of symptom distress. In agreement with the analytical single-case microprocess studies carried out by the SFPRG, in which immediate positive effects following the enervation of pathogenic beliefs have been demonstrated (e.g., Broitman 1985), the findings of the present investigation support the concept of pathogenicity.

To further develop systematized categories of pathogenic beliefs for the purpose of easing and improving diagnostic processes, it would be useful, as has been the case in other approaches to describing interpersonal problems (e.g., CCRT; Luborsky & Crits-Christoph, 1990; Arbeitskreis Operationalized Psychodynamic Diagnostics, 1996), to draw on the existing systematic findings of other developmental models. Attachment theory models would, on the basis of the LPB factors attained in the present study, lend themselves as a potential ordering principle. The Self-Doubt and Doubt of Others subscales resemble the axes self-model and other-model, which Bartholomew and Horowitz (1991)

envisage in the definition of their four attachment types (secure, preoccupied, dismissing, fearful). The remaining LPB scales refer to emotions that regulate the self-object relationship (Fear of Close Relationships, Expression of Anger, Guilt of Success).

Conjoining attachment theory and control-mastery theory, as suggested by Albani, Blaser, Geyer, and Kächele (1999), could prove useful within therapeutic practice: Attachment theory represents a well-established developmental psychological model, which offers a differentiated description of pathogenic internal working models and their genesis. With its test concept of pathogenic beliefs, which can be conceived of as relationship-forming internal working model, the control-mastery theory provides a psychodynamically based theory of the treatment of these beliefs: More elaborate details of this treatment theory can be found in articles by Weiss (1993; Weiss et al., 1986).

Limitations of the present study should not be overlooked. These include the disputable representativeness of the subsample of patients with somatoform disorders, from which a relatively low rate of return, although also typical for comparable studies, was attained in the context of a written survey. Second, for economic reasons, scale construction of the LPB and external validation with regard to symptom distress were performed using the same sample. A replication study should be carried out to confirm these results. Third, with only 23 total items, which, however, stem from an original item pool of more than 70 items, and a low number of items loading onto each factor, the LPB presumably does not display adequate reliability and validity in the assessment of the spectrum of pathogenic beliefs. The current LPB can thus serve as a foundation for the enhancement of a categorical system of pathogenic beliefs. Fourth, it remains unclear whether the conscious aspects of pathogenic beliefs targeted in the present study are more relevant for therapeutic interventions than unconscious elements, which are not accessible to self-ratings. Future studies comparing the therapeutic process including and excluding unconscious material on the basis of self-ratings and observer ratings according to plan analysis will help address this open question. Such studies should consider several points. Although the procedural experiences of patients with developmental disorders are potentially not able to enter consciousness (and hence be evaluated by self-ratings), explicit declarative experiences common to conflict pathologies are capable of becoming conscious (Ermann, 2005). Yet even in the case of conflict pathologies, self-ratings carry no more and no less a function than the uncovering of conscious aspects of potential pathomechanisms from the viewpoint of the patient. The

symptomatic relevance of these is indicated by the significant relationships found with self-ratings of symptom distress. Self-ratings thus constitute an important building block within psychodynamic diagnostics. Automatically introduced into the therapeutic process in a nonverbal form and handled within a successful therapeutic dyad (Krause & Merten, 1999; Merten & Benecke, 2001), maladaptive relationship patterns, together with their corresponding affect, require extended diagnostics incorporating, but not limited to, self-ratings.

Summary and outlook

The empirical results of the current study demonstrate that pathogenic beliefs formulated according to the fundamental psychodynamic principle of control-mastery theory can be assessed by means of the self-rating method. On account of the content-related resemblance of the factor analytically derived pathological belief dimensions to attachment theory models, future studies could attempt to systematize the content of pathogenic beliefs on the basis of such models. With an embedment in attachment theory, control-mastery theory, which involves the treatment of mental disorders, could be extended to cover a further systematic diagnostic aspect. Conversely, the control-mastery approach of unconscious systematic action, with its goal of debilitating attachment-relevant pathogenic beliefs, supplies a model that facilitates an understanding of the effect of the therapeutic dyad.

Note

¹ Numerical factor analysis results for the subsamples provided by the authors on request.

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