The role of optimism in the process of schema-focused cognitive therapy of personality problems

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Abstract

The aim of this study was to examine the determinants and effects of optimism in the process of schema-focused cognitive therapy of personality problems. The sample consisted of 35 patients with panic disorder and/or agoraphobia and DSM-IV Cluster C personality traits who participated in an 11-week residential program with one symptom-focused and one personality-focused phase. This study examines the role played by optimism during the individual sessions of the second phase, using a time series approach. Decreased patient's belief in his/her primary Early Maladaptive Schema and increased patient-experienced empathy from the therapist in a session predicted increased patient-rated optimism before the subsequent session. Increased patient-rated optimism in turn predicted decreased schema belief and distress and increased insight, empathy, and therapist-rated optimism. The slope of optimism across sessions was related to change in most of the overall outcome measures. There appears to be a positive feedback in the process of schema-focused cognitive therapy between decreased schema belief and increased optimism. In addition, optimism appears to mediate the effects of schema belief and therapist empathy on overall improvement, and to serve as an antecedent to decreased distress and to increased empathy, insight, and therapist's optimism. © 2002 Elsevier Science Ltd. All rights reserved.

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1. Introduction

The role of positive thinking, that is, of optimism and hope, in psychotherapy has been emphasized by several authors (Frank, 1974). Both psychodynamic and cognitive therapies have emphas-

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ized the reduction of negative thinking rather than heightening positive thinking per se. For instance, the Core Conflictual Relationship Theme method (Luborsky & Crits-Christoph, 1990) typically addresses negative relationship schemas, the Plan Formulation method (Weiss, Sampson and the Mount Zion Psychotherapy Research Group, 1986) focuses frightening and constrictive pathogenic beliefs, whereas a schema-focused cognitive approach addresses so-called Early Maladaptive Schemas (Young, 1994). However, reducing a patient's negative thinking may in turn enhance his/her positive/optimistic thinking (Riskind, Sarampote, & Mercier, 1996). During a psychotherapy, a patient may, for instance, realize that the belief "I am a failure" relates more to the experience of being treated as a failure by a parent than to any objective evidence. Changing this belief may be quite a relief, a positive event which elicits or strengthens an optimistic mind-set. In particular, this may be the case with cognitions that have a high negative valence for the person of which negative core beliefs about the self are common examples. Furthermore, an optimistic mind-set implies a tendency to interpret events in a positive way as well as expecting positive results from his/her actions (Riskind et al., 1996). Therefore, as patients become more optimistic, they may try out previously avoided activities in the intersessional period and interpret the outcome of these activities as successful. This, in turn, may lead to reductions in negative core beliefs. Thus, there could well be a positive feed back between reduction in a negative belief and optimism/positive thinking.

Other experiences in the therapeutic process may have considerable personal significance and could potentially enter into positive feedback relationships with optimism. A reduction of emotional distress, experiencing therapist empathy (Burns & Nolen-Hoeksema, 1992), and attaining self-understanding or insight into ones own problems (Elliot & Wexler, 1994), are some examples.

Optimism can be viewed as an *enduring* state that is induced early in therapy and that may influence outcome during the remaining therapy (Garfield, 1994). Frank (1974) asserts that loss of hope characterize persons seeking help for mental problems and that the power to install hope is a crucial, non-specific factor across psychotherapies. This hypothesis has been supported in several studies (Garfield, 1994). Furthermore, a study showed that *psychiatrist's* optimism within the first days of treatment was the best outcome predictor in depressed patients (Priebe & Gruyters, 1995). This may reflect either sound judgement and/or a self-fulfilling prophecy. In any event, the enduring state perspective implies a disposition to react with optimism, which then presumably influences the rate and degree of improvement over the course of therapy. Alternately, optimism can be viewed as a *variable* state during the therapy process that may affect and/or be affected by other process variables (Garfield, 1994). This perspective presumes that episodic changes in optimism are relevant to the process of improvement. The episodic value of a variable at a certain point of time is the actual value's deviations from its expected value (Box, Jenkins, & Reinsel, 1994). Time series analysis focuses upon such fluctuations and their interrelationship with other ongoing processes. As such, it can be useful in unraveling the mechanisms of therapeutic change. To ascertain the relevance of an episodic predictor to overall change, however, one also needs to demonstrate that changes in the dependent process variable relate to overall treatment outcome.

Apparently, no previous studies have addressed the episodic relationships between optimism and other therapy process variables. Although Muran, Gorman, Safran, Twining, and Winston (1995) measured session-level optimism and other process-variables, they did not study their dynamic interrelationship. The arguments presented here suggest that optimism could follow from

a reduction in more personally significant negative beliefs. Therefore, our hypothesis of the relationship between changes in negative cognitions and positive thinking/optimism would need to be examined in therapies that systematically address a person's core beliefs and self-image. We chose to study optimism in the context of Young's (1994) schema-focused cognitive therapy model, which was developed for the treatment of personality disorders. This therapy addresses what Young calls Early Maladaptive Schemas (hereafter shortened to schemas). Young defines schemas as broad, pervasive themes developed during childhood and elaborated throughout one's lifetime, which are dysfunctional to a significant degree. The content of these schemas are negative beliefs about the self and the relationship of others to the self. When these schemas are activated, they invoke a mind-set that organizes the person's interpretations of and behaviors in concrete situations. Examples of schema beliefs are: "I am not able to take care of myself" or "I am defective".

The overall purpose of the present study was to examine the role of optimism in the process of schema-focused cognitive therapy of personality problems. Patients with panic disorder and/or agoraphobia and DSM-IV Cluster C personality traits who participated in an 11-week inpatient program were studied. The program consisted of two phases: the first phase was 5 week panic/agoraphobia-focused and based on the cognitive model of panic and agoraphobia (Clark, Salkovskis, Hackmann, Middelton, Anastasiades, & Gelder, 1994), while the second 6-week phase was personality-focused and based on Young's (1994) schema-focused approach. The individual sessions of this second phase were focused upon in the study. Homework compliance as a potential confounder was assessed. To relate the episodic effects to the overall change process, the correlations between the slopes of postsessional outcome variables across the individual sessions and the overall treatment outcome were examined. The process measures developed and used by Muran et al. (1995) were applied, but the present study differs from Muran et al.'s study in that this therapy systematically addressed the level of schemas and self-image, and the session-by-session relationships between the variables were focused upon.

First, we wished to examine the hypothesis that a reduction of a personally significant negative cognition, that is, of a schema belief, would influence patient optimism during the course of schema-focused cognitive therapy of personality problems. We also wished to examine to what extent the reduction of emotional distress, the experience of empathy, and the acquisition of insight, would influence optimism. These three variables were studied both as potentially important treatment factors in their own right and to control for them as potential confounders in the relationship between schema belief and optimism.

Second, we wished to examine the opposite relationship, that is, whether optimism exerted an influence upon schema belief, distress, experienced empathy, and insight.

Third, we wished to examine the predictive ability of therapist's optimism on behalf of the patient, as well as the sequential relationship between therapist's and patient's optimism during the therapy process.

2. Method

2.1. Participants

Subjects were selected among referrals to an inpatient clinic specializing in the cognitive treatment of panic disorder/agoraphobia and personality problems. In most cases, they were referred

because outpatient treatment attempts had failed. The applicants were given a precare evaluation interview, including the Structured Clinical Interview for DSM-IV Axis I (SCID-I) (First, Spitzer, Gibbon, & Williams, 1995) and II (SCID-II) (First, Spitzer, Gibbon, Williams, & Benjamin, 1994) diagnoses by the first author. The reliability of the first author's DSM-III-R judgments has been shown to be satisfactory in a previous study—kappas ranging from 0.75 to 1.00 for Axis I anxiety and depressive disorders and from 0.63 to 1.00 for Axis II Cluster C personality disorders (Hoffart, Thornes, & Hedley, 1995)—and this was replicated for Axis II judgments in the present study (see below). The criteria for being included to the treatment program and to the present project were: 1, Satisfying DSM-IV criteria for panic disorder with or without agoraphobia or agoraphobia without panic disorder. 2, Age from 22 to 65 years. 3, The patient presents problems related to DSM-IV Cluster C personality disorders (PDs). That is, he/she describes chronic and symptom-independent problems that express the core meaning of these disorders as described in DSM-IV. Those who met these criteria were informed that use of psychotropic medication was prohibited during the 11-week inpatient period. A plan for the reduction of or discontinuation of medication before hospital admission was agreed upon. After complete description of the study to the subjects, written informed consent was obtained.

Forty patients in five closed treatment groups with eight members in each were included. Two patients dropped out from treatment before the personality-focused phase started. For practical reasons unrelated to the study, another three patients received less than nine individual sessions in the personality-focused phase, and were therefore excluded. Among the remaining 35 patients— 28 (80%) women and seven (20%) men—the mean age was 40.1 years (S.D.=9.5 years; range, 22–60 years). The mean age at onset of the treated anxiety disorder was 25.6 years (S.D.=10.5 years). Thirty-two (91%) of the patients met criteria for panic disorder with agoraphobia, one (3%) for panic disorder without agoraphobia, and two (6%) for agoraphobia without panic disorder. Of the 35 patients, 26 (74%) met the criteria for another anxiety disorder and 32 (91%) for lifetime major depression. Sixteen (46%) had at least one Axis II disorder. According to the first author's judgment, the main presented problem pattern was related to avoidant PD for 10 patients, to dependent PD for 20 patients, and to obsessive–compulsive PD for five patients. Based on the interview notes, an independent rater agreed that the main problem was classified in the correct Cluster C category in 28 (80%) of the 35 cases.

Of the 35 patients, 22 (63%) had a lower occupational level (unskilled worker, living on social security benefit, unemployed), 20 (57%) were married/cohabiting and 32 (91%) had received previous psychiatric treatment. Twenty (57%) had used anxiolytica and 21 (60%) had used antidepressants the last month before admission.

2.2. Treatment

The patients had no individual sessions in the first 5-week panic/agoraphobia-focused phase except for an intake session. Remaining psychotropic medication was discontinued within the first 4 days after admission.

The 6-week personality- and schema-focused phase started with information about schemas and the initial identification of own schemas in a group setting. The nine to ten individual sessions of 45 min duration, twice a week, had a common structure: an agenda was first set, then the experiences collected during performance of behavioral assignments ("homework") were often

reviewed, and, towards the end of the session, new assignments were usually discussed and decided upon. At the start of the personality-focused phase, some patients were still so symtomatic that they were not yet able to concentrate fully on schema-work. Therefore, the symptom states were also addressed using the relevant cognitive model. In schema work, the patient's lifetime evidence for their schemas were elicited. The patients were encouraged to express feelings associated with painful issues, especially anger and sadness. Also imagery exercises and/or roleplay were used for activation and challenging of schemas.

The personality-focused phase also included eight 90 min schema-oriented group sessions, in which one patient was focused upon during each session. The patients participated in the ward's common program, consisting mainly of one physical training session and one ward meeting per week.

2.3. Therapists and training

The two individual therapists (the first author was one of them) are certified clinical psychologists. Four pilot treatment groups were conducted over a period of one year to train the therapists. Both during the pilot and the research period, a third psychologist conducted a 60 min weekly supervision session for the therapists, addressing immediate treatment problems and questions about adherence to the treatment model.

2.4. Process measures

Before and after each individual session, the patients completed a modified version of Muran et al. (1995) pre- and postsession impact questionnaires. All items are rated on a 0 to 100 point scale. The presession questionnaire consisted of five emotional items concerning anxiety, depression, anger, sadness, feelings of unreality, e.g. "How anxious are you right now?", and an optimism item: "How optimistic are you right now?". To determine the patient's primary schema, an open-ended statement was presented: "Describe your most primary maladaptive schema", followed by the phrase "I ….." with open space to fill in to a complete sentence. This was followed by the item: "How much do you believe that right now?". The postsession questionnaire included the same five emotional items and ratings both of maximal level during session and postsessional level were elicited. Also the patient's postsessional levels of optimism and belief in their primary schema were asked for. Ratings of therapist's empathy and insight were elicited by the questions "To what extent did you feel that the therapist understood you and knew how you felt?" and "How much did you discover promising new ways of seeing your problems?". Both items are rated on a 0 to 100 point scale. To limit potential response bias, the patients were informed that the therapists were blind to all the patients' ratings. Results of factor analyses indicated that the five emotional items could be averaged to an emotional distress index. The internal consistency of this index was satisfactory, Cronbach's alpha 0.85 for the presessional ratings and 0.81 for the postsessional ratings. All the measures were relatively stable. The average correlation between the postsessional rating one session and the postsessional rating of the subsequent one across sessions was 0.72 for patient-rated optimism, 0.67 for schema belief, 0.77 for distress, 0.69 for empathy, and 0.51 for insight. The concurrent validity of the schema belief and distress measures were examined by having patients complete them at follow-up and then relating them to relevant

overall outcome measures (see below) that were concurrently completed. Schema belief correlated with SQ scores ($r(35)=0.50$; $p<0.01$). Distress correlated with STAI-Y1 scores ($r(35)=0.67$; $p<0.001$). Concurrent validity was further investigated by having an independent sample of 17 non-psychotic, psychiatric patients in the same clinic complete the postsession impact questionnaire and other, more validated measures after one arbitrary individual session. Optimism correlated with the Credibility Scale (Borkovec & Nau, 1972), a measure of the credibility and optimism regarding the current treatment ($r(17)=0.66$; $p<0.001$). Unfortunately, the ratings on the Empathy Scale—Patient's Version (ES-P) (Burns & Nolen-Hoeksema, 1992) showed a marked ceiling effect and a highly skewed distribution. The ratings on our 0 to 100 point scale of empathy, on the other hand, appeared normally distributed. We omitted the six patients with maximum score on the ES-P and obtained a correlation of 0.48 ($p=0.14$), between the two measures. The patients' therapists completed a therapist version of the 0 to 100 point empathy scale and the Empathy Scale—Therapist's Version (Burns & Nolen-Hoeksema, 1992), containing items analogous to the patient version. The scores were relatively evenly distributed on both scales and their intercorrelation was 0.71 ($p<0.001$). Insight correlated with the Task Impact subscale of the Session Impact Scale (Elliot & Wexler, 1994), which measures insight into self, other, or problem solution ($r(17)=0.88$; $p<0.001$).

After each session, the therapist rated optimism, "How optimistic are you now on behalf of the patient?"; on a 0 to 100 point scale. The average correlation between therapist-rated optimism one session and the subsequent session was 0.58. The construct validity of a Visual Analogue Scale (VAS) from 0 to 100 of therapist's optimism has received support by its theoretically meaningful relationship to other measures (Priebe & Gruyters, 1995).

Based on the tapes of the third individual session for each patient, a cognitive therapy expert observer rated competence on the 11 scaled items (range 0–6) of the Cognitive Therapy Scale (CTS) (Vallis, Shaw, & Dobson, 1986). The Intraclass Correlation Coefficient [ICC(3, 1)] (Shrout & Fleiss, 1979) between the primary rater and another independent expert was 0.93 for the CTS total score.

The patients' performance of behavioral assignments was identified from the staffs written journal notes. As an index of homework compliance, the number of tasks performed from a session till the next session was computed for each individual session.

2.5. Outcome measures

The symptom measures include the self-report Mobility Inventory for Agoraphobia (MI; Chambless, Caputo, Jasin, Gracely, & Williams, 1985), which measures agoraphobic avoidance of a range of situations, both if the patients are alone (MI-AAL) and if they are accompanied (MI-ACC); and the self-report Panic Rating Scale (Clark et al., 1994), which measures panic attack frequency during the last two weeks. The self-report State-Trait Anxiety Inventory (STAI; Spielberger, 1983) provides scores for both state (STAI-Y1) and trait (STAI-Y2) anxiety.

The self-report Schema Questionnaire (SQ; Schmidt, Joiner, Young, & Telch, 1995) measures the person's schemas. The 64 item version of the self-report Inventory of Interpersonal Problems (IIP-64; Alden, Wiggins, & Pincus, 1990) measures interpersonal concerns. The SCID-II interview measures DSM-IV Axis II disorder (First et al., 1994). Indices for each PD in Cluster C were obtained by averaging the ratings across the criteria for each disorder, where 1=absent or false,

2=subthreshold, and 3=threshold or true. An overall PD Cluster C (PD-C) Index was computed by averaging the ratings across all the criteria. The SCID-II was conducted at the evaluation interview by the first author and at one-year follow-up—focusing on the follow-up period—by a psychiatrist who had not been involved in the treatment and was blind to the patients' outcome. The reliability appeared to be satisfactory, the ICC(1, 1) (Shrout & Fleiss, 1979) for the overall PD-C Index was 0.91 at evaluation and 0.99 at follow-up.

2.6. Procedure

A one-group process-outcome design was used. Assessment on the outcome measures took place at the precare evaluation interview (evaluation), at intake (pretreatment), at the shift of treatment phases (midtreatment), at discharge (posttreatment), and one year after end of treatment (one-year follow-up).

2.7. Data analysis

The Time Series Cross-Sectional Regression procedure (TSCSREG; SAS Institute, 1993a,b) was used to address the episodic or session-by-session influences of the various predictor variables. It examined how the session-by-session variations in these variables predicted variations in the dependent variables at lagged points of time, over and above the predictability arising from the regular behavior (time dependencies)—such as slope and autocorrelation—of the variables themselves over time. Nine sessions were analyzed for each patient. For the patients (*n*=12) who had 10 sessions, the last session was omitted.

We took extra measures to protect against artefactual findings. First, although the TSCSREG (Fuller method was used as it is robust in the presence of autoregressive and/or mixed time series processes) takes account of the time dependencies in the series, we also included the preceding session values of the dependent variable as a predictor in the analyses. Second, we repeated analyses that implied bidirectional relationships between optimism and another process variable using a modified Autoregressive Integrated Moving Average (ARIMA) (Norusis, 1993) procedure, which uses the state-space approach to estimation. This was done to control for possible bias in estimation, although such bias would probably not occur as the relationship among the variables that we studied were not simultaneous but sequential. More details on the time series procedure are described elsewhere (Sexton, 1996).

A *p* value of 0.01 was required for statistical significance in the TSCSREG-analyses. *p* values between 0.01 and 0.05 were considered statistical trends. Two-tailed tests were used.

3. Results

3.1. Integrity of treatment

Mean CTS total score was 3.30 (S.D.=0.73) for Therapist A, and 4.18 (S.D.=0.47) for Therapist B, indicating a moderate to high competence. There was a significant difference between scores (*t*(33)=4.07, *p*<0.0001).

3.2. Overall outcome

Repeated measures ANOVAs (evaluation, pretreatment, midtreatment, posttreatment, one-year follow-up) gave significant time effects on all the eight outcome scales. Some selected results: for the MI-AAL, pretreatment mean was 3.30 (S.D.=1.12), posttreatment mean was 2.77 (S.D.=1.05), follow-up mean was 2.70 (S.D.=1.18) (F(4, 31)=10.03; $p<0.001$); for the STAI-Y2, pretreatment mean was 62.0 (S.D.=13.7), posttreatment mean was 55.1 (S.D.=13.6), follow-up mean was 52.7 (S.D.=15.5) (F(4, 31)=5.55; $p<0.01$); for the PD-C index: evaluation mean was 1.61 (S.D.=0.37), follow-up mean was 1.47 (S.D.=0.34) (F(4, 31)=5.22; $p<0.05$). At follow-up, eight (23%) patients met criteria for a personality disorder.

3.3. Relating overall and intermediate symptomatic outcome

Table 1 shows that the slope of postsessional distress across sessions correlated with change on symptom measures from mid- to posttreatment. The slope of postsessional schema belief correlated only with change on the overall schema measure. The slope of postsessional patient-rated optimism correlated both with symptom- and personality-related changes, whereas the slopes of therapist-rated optimism, empathy, and insight showed few correlations with change on the outcome measures.

3.4. Predicting suboutcome from process

Our three research questions were examined using the time series analysis, and the results are reported in Table 2. Postsessional empathy and schema belief predicted patient-rated optimism just prior to the subsequent session. To determine the partial contributions of the significant predictors of patient-rated optimism, they were combined in one analysis. Both schema belief,

Table 1
Correlations of change from midtreatment to posttreatment on outcome measures and intersessional outcome slopes

	Slope					
Outcome measure[a]	Optimism patient-rated	Optimism therapist-rated	Schema belief	Distress	Empathy	Insight
MI-ACC	−0.47**	−0.10	0.33	0.63***	0.21	−0.18
MI-AAL	−0.47**	−0.08	0.25	0.49**	0.15	−0.04
PRS	−0.03	0.04	0.17	0.07	0.08	0.27
STAI-Y1	−0.38*	−0.04	−0.14	0.32	0.18	−0.12
STAI-Y2	−0.60***	−0.35*	0.01	0.29	−0.05	−0.30
IIP-64	−0.56**	0.01	0.30	0.22	−0.16	−0.21
SQ	−0.44**	−0.29	0.45**	0.36*	−0.34*	−0.16

[a] MI=Mobility Inventory for Agoraphobia (-ACC=Accompanied Subscale, -AAL=Alone Subscale) (range=1–5); PRS=Panic Rating Scale (range=0–4); STAI=State-Trait Anxiety Inventory (-Y1=State Form, -Y2=Trait Form) (range=20–80); IIP-64=Inventory of Interpersonal Problems, 64 items version (range=0–4); SQ=Schema Questionnaire (range=1–6). *$p<0.05$; **$p<0.01$; ***$p<0.001$.

Table 2
Predicting suboutcome from process[a]

Suboutcome variable and predictor	T(277) for effects at various lags		
	Presessional predictor	Previous session postsessional predictor	Previous session presessional predictor
Presessional optimism, patient-rated			
Schema belief	–	−3.02**	−2.31*
Emotional distress	–	−1.20	–
Empathy	–	2.83**	–
Insight	–	1.63	–
Postsessional schema belief			
Optimism, patient-rated	−5.47****	−2.88**	−1.99*
Optimism, therapist-rated	–	−0.52	–
Postsessional emotional distress			
Optimism, patient-rated	−5.62****	−0.94	–
Optimism, therapist-rated	–	0.42	–
Postsessional empathy			
Optimism, patient-rated	3.88****	0.77	–
Optimism, therapist-rated	–	0.51	–
Postsessional insight			
Optimism, patient-rated	6.46****	2.75**	3.63***
Optimism, therapist-rated	–	−0.19	–
Postsessional optimism, patient-rated			
Optimism, therapist-rated	–	−0.20	–
Postsessional optimism, therapist-rated			
Optimism, patient rated	4.64****	1.12	–

[a] Results of Time Series Cross-Sectional Regression (TSCSREG) when previous session postsessional ratings on the dependent variable were controlled for. Only one predictor was included in each analysis. Previous time lag values were tested until the lag was not significant in order to determine when an effect first became apparent. Two-tailed tests were used. *$p<0.05$; **$p<0.01$; ***$p<0.001$; ****$p<0.0001$.

$t(276)=-2.66$, $p<0.01$, and empathy, $t(276)=2.44$, $p<0.02$, remained significant or nearly so. Patient-rated presessional optimism predicted postsessional schema belief, distress, empathy, insight, and therapist-rated optimism. To determine the time span at which the influences could be detected, significant findings at one point of time were followed up by tests of the influence of the predictor at the preceding point of time until they were no longer significant. In all these analyses, previous session postsessional ratings of the dependent variable were controlled for.

As a bidirectional relationship between optimism and schema belief was obtained, these analyses were repeated using the modified ARIMA approach. In both cases, the size of the *t*-value remained approximately the same or increased somewhat, compared to the results of the TSCSREG analyses. Thus, it appeared that the bidirectional relationship did not lead to biased estimation.

The number of homework assignments performed between sessions was unrelated to changes in patient-rated and therapist-rated optimism in a TSCSREG analysis.

4. Discussion

Overall, the results indicate that Frank's (1974) optimism hypothesis is valid also on an episodic level. There appears to be a positive feed back loop between decreasing schema belief and increasing optimism. In addition, optimism appears to serve as a potential mediator of the effects of schema belief and therapist empathy on overall improvement, and as an antecedent to decreased distress and to increased empathy, insight, and therapist's optimism.

Reduction in maladaptive schema beliefs contributed to subsequent increases in optimism at the next session, independent of the contribution of other relevant process variables. Conversely, increased optimism, both rated before a session and at the preceding session, appeared to precede decreases in schema belief rated at the end of the session. The slope of postsessional optimism across sessions was related to change on most the overall outcome measures, whereas the slope of schema belief was related only to change on the overall schema measure. These findings are consistent with previous findings that cognitive therapy treatment response is related more strongly to changes in positive than in negative thinking (Garamoni, Reynolds, Thase, Frank, & Fasiczka, 1992). Taken together, the present results suggest that episodic changes in schema belief may affect overall outcome through its episodic effect on optimism.

Our results did not indicate that episodic fluctuations in emotional distress led to subsequent optimism. On the other hand, increased optimism predicted decreased distress, although it seemed that this influence was limited to one and the same session. This finding is consistent with Teasdale, Taylor, Cooper, Hayhurst, and Paykel's (1995) modified cognitive therapy model, where improvement of distress is as much related to shifts of dysfunctional mind-sets as to correction of particular negative thoughts. Being in a more optimistic mind-set at the start of a session may lead to less distressful interpretations and actions during the session and, consequently, to less distress at the end of it.

An increased experience of empathy contributed independently to subsequent increases in optimism at the next session. Thus, it appears that outcome is not only influenced by a stable disposition to experience empathy across sessions, as noted by Burns and Nolen-Hoeksema (1992), but also by session-by-session variations. Clinically, this would seem to indicate that therapists should try to develop an empathic disposition towards their patients not only early in therapy, but also strive to improve it throughout therapy. It could also indicate that patients capacity to experience empathy is not a constant.

Conversely, increased optimism rated before a session was related to increased experienced empathy at the end of the session. However, this path of influence may be less important to the overall change process as the slope of empathy ratings across sessions was largely unrelated to change on the overall outcome measures.

Insight did not predict later optimism, whereas increased optimism, both rated before a session and at the preceding session, appeared to lead to increased insight rated at the end of the session. This may reflect that curiosity is more likely within an optimistic mind-set. However, the results did not support that the course of insight during treatment was related to the overall change process.

There was no indications that therapist's optimism predicted the other process variables. Rather, it was the patient's presessional optimism which predicted the therapist's postsessional optimism

within the same session. This seems to indicate that therapist's optimism reflects patient's optimism, but not vice versa, and that the locus of effect is restricted to the same session.

Ratings of competence indicated a different quality level in the two therapists. However, we refrained from including the therapist variable in the analyses because we focused the internal relationship between patient process variables and not the relationship between therapist activity and patient process.

Methodologically, many general conditions required of a process-study of schema-focused therapy were present in this study. Ratings of competence performed by a cognitive therapy expert with high interrater reliability indicated that the therapies were conducted with moderate to high competence. The patients showed no change on symptom and personality-related variables during the waiting-list period before treatment, but showed changes in symptoms and in personality-related variables during treatment and/or in the one-year follow-up period. However, in the absence of an adequate comparison group, one cannot firmly conclude that the observed changes actually resulted from the therapy. For instance, the changes observed on the personality-related measures may represent changes in the anxious and/or depressed state. We assessed one assumingly potent between-session influence—performance of behavioral assignments—and this variable did not influence the results. As the results were collected by passive observation, that is, with no manipulation of the independent variables, one cannot exclude that other, unmeasured factors may account for the sequential relationships.

Psychometrically, the criterion related validity of our process measures of patient-rated optimism, schema belief, distress, empathy, and insight was largely supported by significant correlations between scores on these variables and concurrent scores on established measures. The results appeared relatively robust, considering the multiple sources of error inherent in time series designs (Box et al., 1994), and considering that most of the process measures consisted of single items.

The validity of the findings needs to be established. First, the sample size of 35 subjects allows idiosyncrasies to play a potential role and the generalizability to other groups of similar agoraphobic patients may be uncertain. Second, the results were obtained in a highly selected sample of chronic panic disorder/agoraphobia patients with Cluster C personality problems treated in a hospital setting. The results therefore need replication both in similar and in different types of samples and settings.

Further research should investigate the possibility that other therapies that take up core conflictual issues and beliefs (Luborsky & Crits-Christoph, 1990; Weiss et al., 1986) might show similar processes. Also the precise working mechanisms, for instance between optimism and schema belief, need to be clarified. Is this relationship mediated by alternative interpretations of schema-relevant events, less avoidance of potentially schema-activating situations, and/or more engagement in therapy (Garfield, 1994)? To examine such questions, one would probably need to identify and measure smaller episodes within and between sessions. In any case, it is plausible that reduced schema belief does not enhance all important aspects of the individual's positive thinking or optimism. In light of the present and previous findings indicating the importance of change in positive thinking in the improvement process, it follows that methods that directly enhance positive, hopeful thinking could be helpful in cognitive therapy.

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