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Chapter 3
Must All Have Prizes? The Munich Psychotherapy Study

Dorothea Huber, Gerhard Henrich, Judith Gastner and Guenther Klug

Keywords Cognitive-behavior therapy • depression • long-term psychotherapy • one-year follow-up • psychoanalytic therapy • psychodynamic therapy

Increasing empirical evidence [1, 2] indicates that the complex mental disorders that patients present within private practice cannot be influenced sufficiently by the short-term psychotherapies examined so far [3–5]. This finding applies in particular to major depressive disorder with recurrent episodes, of which only 27–38% remained without recurrence after short-term therapies [6]. Consequently, in the last years, research has turned more and more to long-term therapies (for example [7–9]). In a first meta-analysis on psychodynamic long-term therapies, Leichsenring and Rabung [2] found evidence of generally high effectiveness for complex mental disorders. However, studies of the effectiveness of long-term psychotherapies for major depressive disorders as a diagnostically homogeneous group do not exist, so the question regarding the effectiveness of treatments for this disorder remains unanswered so far [10]. The treatment of major depressive disorder with its frequent recurrences [11] could be considered a paradigm for the effectiveness of long-term psychotherapies, as these treatments claim to reduce not only the present symptoms but also the vulnerability for new onsets, relapse, and recurrence. So far, it remains unknown which treatment type attains this preventive effect.

Until now, studies have predominantly used efficacy designs. They have tried to maximize internal validity through the use of experimental controls, the randomized allocation of diagnostically homogeneous groups, and the delivery of manualized therapies supported by tests of

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adherence. However, these methodological guidelines were developed studying short-term psychotherapies and cannot simply be applied to the study of long-term psychotherapies. Furthermore, the pendulum in psychotherapy research has swung back in recent years from the goal of fulfilling criteria of internal validity to that of fulfilling criteria of external validity (e.g. [12]). In order to obtain representative results relevant to health service research, more interest has been directed to "real-world" therapies with "real-world" patients, studied in research designs that are close to the conditions in psychotherapy practices. Research has thus returned to the ideal of effectiveness studies once again.

The Munich Psychotherapy Study (MPS) is a comparative process-outcome study of three therapeutic approaches: psychoanalytic, psychodynamic, and cognitive-behavioral. Using a quasi-experimental design, defined as "a design in which the conditions of true experiments are approximated" [13], this study attempts to find a balance between the demands for internal and external validity while providing an answer to these research questions. The design tries to approximate the demands for external validity by studying non-manualized and representative psychotherapies conducted by experienced psychotherapists under the conditions of day-to-day practice. All patients were diagnosed with a primary depressive disorder, forming a diagnostically homogeneous sample. Patients were randomized to the psychoanalytic and psychodynamic treatment arms, hence fulfilling important criteria for internal validity, and later on patients were allocated preferably to the cognitive-behavioral treatment arm in order to fill up this group. The effectiveness of these three psychotherapeutic approaches will be examined on a symptomatic, an interpersonal, and an intrapsychic level, and the stability of these effects will be examined in particular.

Method

[AU1]

This comparative process-outcome study is based on a prospective, partly randomized quasi-experimental design with a 1-year, 2-year, and 3-year follow-up. Experimental groups are: psychoanalytic therapy, psychodynamic therapy, and cognitive-behavioral therapy. The study was performed at the Department for Psychosomatic Medicine and Psychotherapy, Technische Universitaet Muenchen (Germany), as part of an ongoing project begun in 1995. Patients seeking treatment for unipolar, single, or recurrent, depression and for double depression [14] (ICD-10 F 32/F33 and F 34.1) who fulfilled the inclusion criteria were asked to participate in the study. All subjects were informed extensively about the purpose and course of the study, and they gave their written informed consent to be included in the study. The study protocol was approved by the Ethics Committee of the University Hospital of the Technische Universitaet Muenchen. To control for researcher allegiance to some extent, the study group consisted from the very beginning of two psychoanalytic/psychodynamic therapists and two cognitive-behavioral therapists who all were involved in designing and implementing the study.[1] Inclusion criteria required subjects to be between 20 and 50 years old and to have a primary ICD-10 diagnosis of a moderate or severe episode of major depressive disorder (F 32) or recurrent disorder (F 33) or of a double depression (F 32/F 33 and F 34.1). There could be no contraindication for one of the three treatments, no psychotherapeutic treatment for the last 2 years, and no anti-depressant medication 4 weeks prior to treatment.

Exclusion criteria were: depression in connection with bipolar affective disorder, schizophrenia, severe somatic illness or somatic diseases of the brain, alcohol or substance dependence, acute suicidal tendencies.

[1]The authors want to thank Prof. L. Schindler and Dr. T. Brandl for cooperation.

Participants

During recruitment stage, 150 patients who applied to the outpatient clinic for a consultation with depressive symptoms got an intake interview after a brief telephone screening. Thirty-one patients were excluded because they did not fulfill the inclusion criteria, were not motivated enough, or did not get reimbursement from their insurance companies. One hundred and nineteen patients were allocated to the experimental groups. Seven of them did not contact the therapist, and 12 did not enter into a therapy contract, thus 16% of the sample did not start psychotherapy. In this way, 100 patients (35 of the psychoanalytic group, 31 of the psychodynamic group, and 34 of the cognitive-behavioral group) were included in the study. They were followed-up even when they did not terminate treatment. During the course of therapy, no patient of the psychoanalytic group, one patient of the psychodynamic group, and three patients of the cognitive-behavioral group dropped out of the study during therapy, and during follow-up, two patients of the psychoanalytic group, no patient of the psychodynamic group, and no patient of the cognitive-behavioral group dropped out. All in all, 6% dropped-out of the study between beginning of therapy and end of follow-up. This unusually low attrition rate [15] can be explained by the intense contact between the patients and the external investigators of the study center at all measurement points, and the patients' high satisfaction with the treatment.

Assessments and Procedures

See the procedural plan in Table 3.1 for an overview of the sequence of the study. Every patient who was referred to the Department for Psychosomatic Medicine and Psychotherapy for a consultation, who met the inclusion criteria, and who gave informed consent got three clinical intake interviews

Table 3.1 Procedural plan of the study (see text for abbreviations of the instruments)

Pretreatment measurement	*External investigator 1 and patient*: intake interview, ICD-10/DSM-IV diagnosis, BDI (>16)
	Board of three experienced therapists: decision on patient's inclusion in the study with randomized allotment
	External investigator 1 and patient: SPC interview; informed consent
	Patient: self-report questionnaires: BDI, SCL-90-R, IIP, FKBS, F-SozU, FLZ
	External investigator 1 and patient: assessment of individual goals (GAS)
	Referral to therapist
	Therapist: documentation of diagnosis, psychodynamic hypothesis, level of personality organization, treatment goals, prognosis, HAQ-T
Process measurement	Audio-recording of every session
	Patient, every 6 months: self-report questionnaires: BDI, SCL-90-R, IIP, GAS, and HAQ-P
	Therapist: retro-report after every session; Periodical Rating Scale for psychoanalytic treatment and HAQ-T every 6 months
Post-treatment measurement	*External investigator 2* ("blind" for applied therapy) *and patient*: post-treatment interview, SPC interview, life-events checklist, ICD-10/DSM-IV diagnosis
	Patient: self-report questionnaires: BDI, SCL-90-R, IIP, FKBS, F-SozU, FLZ, GAS, HAQ-P, VEV
	Therapist: Periodical Rating Scale for psychoanalytic treatment and HAQ-T, assessment of termination of treatment
Follow-up measurement (1, 2, 3 years)	*External investigator 2 and patient*: follow-up interview, SPC interview, life-events checklist, ICD-10/DSM-IV diagnosis
	Patient: self-report questionnaires: BDI, SCL-90-R, IIP, FKBS, F-SozU, FLZ, GAS, VEV

that were audio-recorded. The material of the first session of the intake interview was the basis for two psychiatrists and experienced psychotherapists to diagnose consensually the type of depressive disorder applying the ICD-10/DSM-IV checklist [16, 17]. In the second session, the external investigator 1, a psychiatrist and experienced psychoanalytic psychotherapist or a clinical psychologist in an advanced state of cognitive-behavioral training interviewed the patient with a semi-structured interview to get the necessary information to score the Scales of Psychological Capacities (SPC [18]). The SPC is an expert-rating measure to assess the dispositions constituting the intrapsychic basis of interpersonal behavior and the psychological resources needed to achieve adaptive functioning and life satisfaction. Taken together, they comprise the degree of adaptive and maladaptive, stable personality integration, and functioning. The assessment is based on a 1-h clinical intake interview together with a one to one-and-a-half hour semi-structured SPC interview; for the rating procedure an extensive manual is available. The application of the test requires a rater training to reach high agreement with a calibrated set of judgments of expert judges. Different research groups [19–24] proved independently the psychometric qualities of the instrument. Self-report questionnaires were handed out to the patient, and he/she signed the informed consent. In the third session, the external investigator 1 and the patient formulated and assessed the individual goals the patient wanted to achieve during the therapy (Goal Attainment Scaling GAS [25, 26]). Afterwards, the patient was assigned to one of the experimental groups rendering the external investigator 1 "blind" for the therapeutic modality during pretreatment measurement.

A board of two experienced psychoanalytic and psychodynamic psychotherapists and, after extending the study, an additional experienced cognitive-behavior therapist, all of whom remained the same, decided whether the patient could be assigned randomly to one of the experimental groups according to the criterion: all two (later three) treatments are possible. Due to the limited resources of the outpatient clinic, randomized allocation started with psychoanalytic and psychodynamic therapy, and cognitive-behavioral therapy was added later. Hence, there was a randomized allocation only to two treatment arms.

Outcome Measurement

The data came from three different perspectives of observation (multimodal): self-rating by patients, and assessment by therapists and by researchers (= external investigator 1 and 2). They covered different change dimensions (multidimensional): symptoms, individual treatment goals, interpersonal problems, and intrapsychic structure. A test battery of outcome measures adapted to the core battery suggested by the Society of Psychotherapy Research was applied to be comparable with other studies. The battery comprises standardized questionnaires as well as semi-structured interviews, both meeting commonly agreed upon standards of psychotherapy research (Table 3.1). A main goal of the study was to go beyond the measurement of symptoms; therefore, special instruments were administered to measure changes in interpersonal problems as well as intrapsychic changes, e.g. in structuralization, defense mechanisms, and the capacity to attain individual goals. These are the changes that go "beyond symptoms" to lead to a better capacity to work and to love [27, 28].

Measurement points for the outcome measures were pretreatment, post-treatment, and 1 year after termination of treatment. Two and three years after termination, outcome data were collected by mail; this is a work in progress which will be reported later.

At the pretreatment measurement point, the patient filled out the following self-report questionnaires: Symptom Check-List (SCL-90-R [29, 30]); Inventory of Interpersonal Problems, short version (IIP-C [31]); scale Turning against Self (TAS) of the Questionnaire for Coping Strategies (FKBS [32]); module "Health" of the Questionnaire of Life Satisfaction (FLZ [33]); Questionnaire of Social Support, short version (F-SozU-K-22 [34]).

The therapist filled out the following: Helping Alliance Questionnaire HAQ-T, the therapist's form of the German version of the HAQ [35]; Therapeutic Attitude Questionnaire (ThAt [36–38]); Documentation Form including psychodynamic diagnoses, main defenses, level of personality organization, motivation, main psychodynamic hypotheses, treatment goals, and prognosis.

At post-treatment and at 1-year follow-up, the external investigator 2 explored the patient during a 2–3 h interview. The external investigators were postgraduate physicians or psychologists in an advanced state of their psychoanalytic or cognitive-behavioral therapeutic training and already working with patients for several years; there were regular trainings and reliability checks. They examined the patient's depressive and non-depressive symptoms (e.g., anxieties, psychosomatic symptoms, etc.) and his/her life situation (significant object relations, work situation, contact with family members, etc.) following a psychodynamic hypothesis. Based on this information, the external investigator 2 assessed the degree of structural change on a 7-point scale and explored the patient's feelings about being involved in a research study. Applying the ICDL checklist, the external investigator 2 gave an ICD-10/DSM IV diagnosis, and completed a retrospective life-event checklist. Then the external investigator 2 interviewed the patient with the semi-structured SPC interview to get the necessary information to score the SPC scales. After having finished the interview, he evaluated transference and counter-transference aspects of the interview. The patient filled out the same questionnaires as at pretreatment in addition to the retrospective, self-report Questionnaire of Change in Experiencing and Behavior (VEV [39]). The therapist evaluated initiative and causes for termination of treatment, gave a global assessment of satisfaction with treatment and of the transference/counter-transference situation, and assessed the therapeutic alliance with the HAQ-T. In order to safeguard external investigator's "blindness," there was no inquiring into details of the therapy, and the patients were requested not to give any cues that could reveal the treatment modality.

At 1-year follow-up, external investigator 2 applied the same interview scheme extended by his evaluation of the course of depression in the last year following Frank et al.'s [40] definition of remission, relapse, and recurrence. The patient filled out the same questionnaires as at post-treatment measurement.

A priori, two outcome measures were chosen as primary outcome variables: the BDI on a symptomatic level and the SPC on an intrapsychic level. Secondary outcome measures are: Global Severity Index (GSI) of SCL-90-R; ICD-10/DSM IV checklist (ICDL); IIP, GAS; TAS A/B of FKBS; FLZ; F-SozU and VEV.

Process Measurement

During the ongoing therapeutic process, neither the patient nor the therapist was contacted personally in order to minimize interference. Process was measured semi-annually by means of the HAQ, filled out by the patient (HAQ-P) and the therapist (HAQ-T), and an adaptation of the Periodical Rating Scale for Psychoanalytic Treatment [41], filled out by the therapist. The latter is comprised of questions about transference, resistance, analytic work, technique, setting, sessions relevant for the patient's change, counter-transference, capacity to deal with current life events and treatment parameters, and main unconscious themes. We were inspired by Greenberg and Pinsof's [42] seminal notion that the process can be described as a series of outcomes during the ongoing treatment, which they called "little o" (in contrast to "big O," the outcome after termination of treatment) and, therefore, we measured the process by means of the BDI, SCL-90-R, IIP, and GAS semi-annually. Additionally, every session was audio-taped and evaluated by a brief therapist's session retro-report consisting of the dominant theme of the session, special events, and an evaluation of the quality of the session on a 5-point scale, and, in the case of psychoanalytic and psychodynamic

therapies, work with the transference, and, in the case of cognitive-behavioral therapies, cognitive re-structuring. Statistical analyses of the process data are planned in the near future, so they cannot be reported here.

Therapists and Treatment

The 21 study therapists were trained at and graduated from approved institutes (no candidates). They were very experienced therapists in private practice; mean duration of psychotherapeutic practice was 15 years (range: 6–29 years); mean age was 47 years (range: 38–56 years); because of their expertise, we refrained from any kind of supervision or competence checks. Fourteen therapists delivered psychoanalytic and psychodynamic therapy and seven therapists delivered cognitive-behavioral therapy only. There was no significant difference in training, expertise, or experience between the three groups. Nobody was asked to apply a therapeutic modality of which he/she was not convinced; therefore, the therapeutic modality, rather than the therapist, was assigned randomly to the patient in order not to interfere with the individual patient–therapist match.

High value was set on external validity. We therefore defined the therapies according to the German Psychotherapeutic Guidelines [43] and the therapies could not be applied in a manualized form. Psychoanalytic therapy ("analytische Psychotherapie" according to the German Psychotherapeutic Guidelines) is a "predominantly verbal, interpretative, insight-oriented approach which aims to modify or re-structure maladaptive relationship representations… that lie at the root of psychological disturbance" [44]. It "involves careful attention to the therapist–patient interaction, with thoughtfully timed interpretation of transference and resistance embedded in a sophisticated appreciation of the therapist's contribution to the two-person field" [45]. Average duration is between 160 and 240 sessions; session frequency is two to three sessions a week on the couch. Psychodynamic therapy ("tiefenpsychologisch fundierte Psychotherapie" according to the German Psychotherapeutic Guidelines) is based on the same principles of theory and technique but is more limited in the depth of the therapeutic process and in its goals. It focuses on the symptom sustaining here-and-now conflicts without encouraging regression in the therapeutic process. Its mean duration is between 50 and 80 sessions, session frequency is one session per week, sitting in an upright position. Cognitive-behavioral therapy ("kognitive Verhaltenstherapie" according to the German Psychotherapeutic Guidelines) comprises therapeutic modalities developed on the basis of a psychology of learning and of social psychology. "Behavior" means observable behavior as well as cognitive, emotional, motivational, and physiological processes. Behavior therapy requires the analyses of the conditions that cause and maintain the disease (analysis of behavior). It develops a corresponding model of the disturbance and a principal treatment strategy that enables the application of specific interventions to reach defined treatment goals. Based on the notion that behavior reflects cognitive processes, treatment focuses on evaluating, challenging, and modifying a patient's dysfunctional beliefs (cognitive restructuring) [46], and providing new information-processing skills. "The various approaches differ somewhat in the extent to which they emphasize cognitive mechanisms to the exclusion of more behavioral ones, … these various interventions can be referred to under the general rubric of cognitive-behavior therapy (CBT)" [47]. Average duration is between 45 and 60 sessions; session frequency is one session per week.

In the MPS, as expected, psychoanalytic therapy lasted the longest (39 month, range 3–91 months; 234 sessions, range 17–370), psychodynamic therapy lasted 34 months (range 3–108 months) or 88 sessions (range 12–313), and cognitive-behavioral therapy was the shortest (26 months, range 2–78 months; 44 sessions, range 7–100). Duration and dose of the three therapeutic modalities in months and in number of sessions are shown in Fig. 3.1.

We plan to measure adherence by an expert rating of audio-recorded sessions or by evaluating sessions with the Psychotherapy Process Q-Set (PQS [48]). For the moment, we have developed a

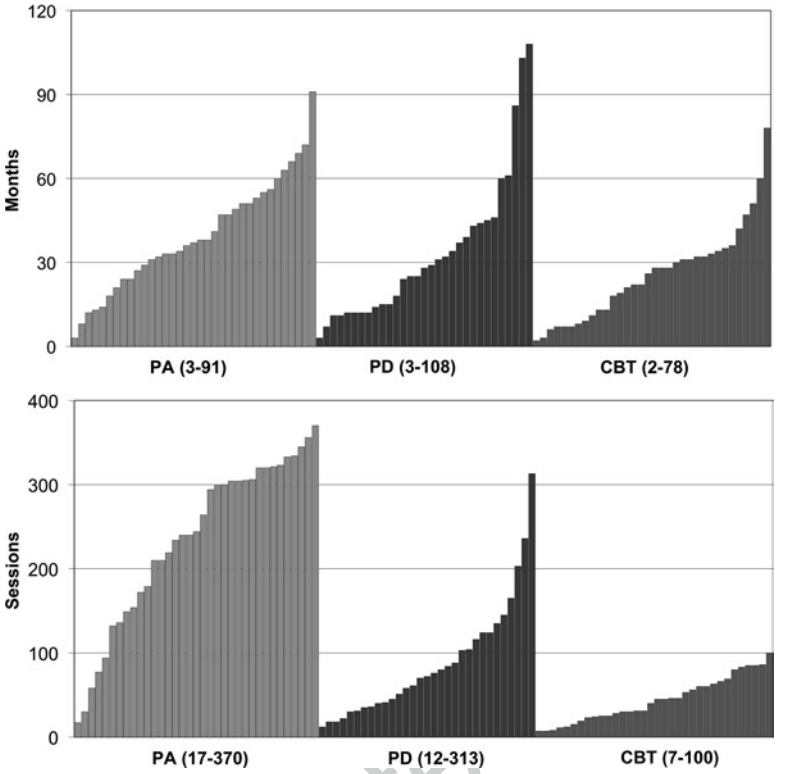

Fig. 3.1 Number of months and number of sessions of the three treatments. *PA* psychoanalytic therapy, *PD* psychodynamic therapy, *CBT* cognitive-behavioral therapy

provisional measure, the *psychoanalytic/psychodynamic differentiation score*, to approach treatment fidelity of psychoanalytic and psychodynamic therapies. The measure consists of four variables measured with the Periodical Rating Scale for Psychoanalytic Treatment 1 year after beginning of treatment, when its typical features have presumably developed. The standard commentary on the German psychotherapeutic guidelines [43] was used as a theoretical background to determine a few treatment essentials. Variables capable of differentiating between a prototypical psychoanalytic and psychodynamic treatment were selected as follows: high versus low session frequency, couch versus upright position, insight-oriented versus supportive technique, and strength of transference neurosis. Transference neurosis is characterized, according to Akhtar [49], by the coalescence of the patient's conflicts around the person of the analyst, and by the replacement of fleeting transference reactions by an intense and ongoing transference "relationship." Session frequency of two or more sessions a week, couch position, strong transference neurosis, and insight-oriented technique got a high score, typical for psychoanalytic therapy; session frequency of one session a week, upright position most of the time, weak transference neurosis most of the time, and supportive technique most of the time got a low score, typical for psychodynamic therapy. Between these extremes, every therapy of both groups was assessed, and a mean score for each group was calculated. If the mean score of each therapy differed significantly (in the theoretically expected direction), then the treatments can be assumed to be either psychoanalytic (high scores) or psychodynamic (low scores).

As to the psychoanalytic/psychodynamic differentiation score, a two-tailed t-test revealed a significant difference between the psychoanalytic and the psychodynamic mean score (psychoanalytic: mean = 5.06; SD = 1.569; psychodynamic: mean = 1.58; SD = 1.206; $t = 9.26$; df = 55; $p < .001$).

Statistical Analysis

To test for the comparative effectiveness of the experimental groups, a two-factorial analysis of variance was performed, using the general linear model with repeated measurements (3×3 ANOVA) with measurement repetition on the second factor, with the between-subject factor: "Group," and the within-subject factor: "Time." The main effect "Time" (pretreatment – post-treatment – follow-up), the main effect "Group" (psychoanalytic therapy – psychodynamic therapy – cognitive-behavioral therapy), and the interaction term "Time×Group" were calculated. To detect differences between the groups, analyses of covariance (ANCOVA) for post-treatment and follow-up were calculated with pretreatment values as covariates. ANCOVAs, too, were used as pair-wise post hoc tests to test for significant group differences. Effect sizes (ES) were calculated according to Cohen's formula [50] by dividing pre-/post-treatment or pre-/follow-up differences through pooled standard deviation pretreatment; we followed Cohen's classification of high, medium, and low ES. A two-tailed alpha level of $p = .05$ was used to determine statistical significance; clinical significance (CS) was calculated additionally [51]. Data imputation in case of missing data was performed by the last observation carried forward procedure, using the pretreatment scores at post-treatment and the post-treatment scores at 1-year follow-up [52]. Bonferroni correction (alpha-adjustment) was administered for primary outcome measures.

Results

Patient Characteristics

The mean age was 33 years with a range from 23 to 49 years; 71% were women. There was a significant gender difference between the psychodynamic and the cognitive-behavioral group: 15% of the patients in the cognitive-behavioral group, 31% of the psychoanalytic, and 42% of the psychodynamic group were male. Sixty-nine percent of the total sample was unmarried, 42% were single, 28% were separated from their partner, and only 30% were living with a partner. Educational level and vocational status was quite high: 96% of the patients have either passed junior high school exam or have high-school diploma; only 5% have no completed vocational training. In summary, the patients were well-educated and members of the middle class.

52% of the patients suffered from the first episode of major depressive disorder, 48% from a recurrent depressive disorder, 66% of the patients fulfilled the diagnostic criteria of a moderate episode, and 34% of a severe episode. Fifty-five percent suffered from double depression. Thirty-four percent of the patients suffered from a comorbid personality disorder.

Except for gender differences, there were no significant differences between the groups, neither in sociodemographic, nor in clinical characteristics.

Results of outcome measures are shown in Table 3.2a–j. We submitted a manuscript describing the comparison of the two randomized groups, psychoanalytic and psychodynamic therapy with the primary outcome variables (BDI and SPC) as well as IDCL-diagnosis of depression and IIP [53]. Therefore, they are briefly summarized here.

Results of the symptomatic measures, BDI and the GSI of the SCL-90-R, are presented in Table 3.2a, b. Both measures showed large ESs and CSs and significant main effects of time indicating substantial improvements. There are no significant effects in the ANCOVAs at 1-year follow-up and hence no significant differences between psychoanalytic, psychodynamic, and cognitive-behavioral therapy.

Results of the FLZ-G, VEV, and GAS combined as measures between symptoms and interpersonal problems, measuring beyond symptoms, are provided in Table 3.2c–e. As the VEV is a direct measure of change, there are only values for post-treatment and follow-up, and in GAS, the pretreatment score

Table 3.2 Outcome measure scores at pretreatment (pre), post-treatment (post), and 1-year follow-up (fup) for the three treatment groups psychoanalytic (*PA*), psychodynamic (*PD*), and cognitive-behavioral therapy (*CBT*). *N* sample size, *M* mean, *StD* standard deviation, *ES* effect size (**d**), *CS (%)* clinical significance, *ANOVA* analysis of variance, *ANCOVA* analyses of covariance. t2.1 t2.2 t2.3 t2.4

Table 3.2a Beck Depression Inventory (BDI)

Group	N	pre		post		fup		ES		CS %	
		M	StD	M	StD	M	StD	post	fup	post	fup
PA	35	25.5	7.3	6.6	6.0	7.1	6.1	2.4	2.3	85.7	85.7
PD	31	25.1	8.7	8.3	9.9	9.2	8.4	2.1	2.0	77.4	77.4
CBT	34	25.2	7.7	11.1	9.7	11.4	10.8	1.8	1.8	64.7	58.8

ANOVA				ANCOVA	post			fup		
Effect	F	df	p	Effect	F	df	p	F	df	p
group	1.61	2; 97	0.204	**group**	2.69	2; 96	0.073	2.65	2; 96	0.076
time	233.5	2; 194	**<0.001**	PA vs PD	---	---	---	---	---	---
group x time	1.70	4; 194	0.152	PA vs CBT	---	---	---	---	---	---
				PD vs CBT	---	---	---	---	---	---

Table 3.2b Global Severity Index (GSI) of SCL-90-R

Group	N	pre		post		fup		ES		CS %	
		M	StD	M	StD	M	StD	post	fup	post	fup
PA	35	1.27	0.52	0.44	0.32	0.48	0.45	1.5	1.4	57.1	54.3
PD	31	1.17	0.53	0.49	0.52	0.62	0.61	1.2	1.0	58.1	41.9
CBT	34	1.15	0.60	0.73	0.61	0.72	0.73	0.8	0.8	38.2	47.1

ANOVA				ANCOVA	post			fup		
Effect	F	df	p	Effect	F	df	p	F	df	p
group	0.83	2; 97	0.439	**group**	5.45	2; 96	**0.006**	2.78	2; 96	0.067
time	93.6	2; 194	**<0.001**	PA vs PD	0.81	1; 63	0.371	---	---	---
group x time	3.42	4; 194	**0.010**	PA vs CBT	10.0	1; 66	**0.002**	---	---	---
				PD vs CBT	4.27	1; 62	**0.043**	---	---	---

Table 3.2c Questions on Life Satisfaction (FLZ)–Module "Health"

Group	N	pre		post		fup		ES		CS %	
		M	StD	M	StD	M	StD	post	fup	post	fup
PA	33	16.9	35.8	56.3	37.7	64.9	36.2	1.2	1.5	42.2	45.4
PD	30	23.0	32.1	51.5	37.7	45.8	42.3	0.9	0.7	20.0	33.3
CBT	33	21.4	31.1	46.0	37.7	45.2	41.9	0.7	0.7	27.3	27.3

ANOVA				ANCOVA	post			fup		
Effect	F	df	p	Effect	F	df	p	F	df	p
group	0.68	2; 93	0.508	**group**	1.09	2; 92	0.341	3.78	2; 92	**0.027**
time	45.9	2; 186	**<0.001**	PA vs PD	---	---	---	5.97	1; 60	**0.018**
group x time	2.53	4; 186	**0.042**	PA vs CBT	---	---	---	4.98	1; 63	**0.029**
				PD vs CBT	---	---	---	0.00	1; 60	0.954

Table 3.2d Questionnaire of Change in Experiencing and Behavior (VEV)

Group	N	pre		post		fup		ES		CS %	
		M	StD	M	StD	M	StD	post	fup	post	fup
PA	35	---	---	222.5	41.6	223.1	37.1	1.5	1.5	---	---
PD	28	---	---	225.1	32.8	207.9	45.7	1.6	1.1	---	---
CBT	28	---	---	207.1	33.5	195.6	47.3	1.1	0.8	---	---

ANOVA			
Effect	F	df	p
group	2.83	2; 88	0.064
time	6.48	1; 88	**0.013**
group x time	2.15	2; 88	0.122

ANOVA	post			fup		
Effect	F	df	p	F	df	p
group	2.01	2; 88	0.140	3.20	2; 88	**0.045**
PA vs PD	---	---	---	2.13	1; 61	0.149
PA vs CBT	---	---	---	6.68	1; 61	**0.012**
PD vs CBT	---	---	---	0.97	1; 54	0.329

Table 3.2e Goal Attainment Scaling (GAS)

Group	N	pre		post		fup		ES		CS %	
		M	StD	M	StD	M	StD	post	fup	post	fup
PA	35	---	---	2.00	0.72	2.11	0.67	2.3	2.4	---	---
PD	31	---	---	1.84	0.90	1.75	0.90	2.1	2.0	---	---
CBT	34	---	---	1.31	0.96	1.38	0.99	1.5	1.6	---	---

ANOVA			
Effect	F	df	p
group	6.60	2; 97	**0.002**
time	0.24	1; 97	0.628
group x time	1.11	2; 97	0.333

ANOVA	post			fup		
Effect	F	df	p	F	df	p
group	5.93	2; 97	**0.004**	6.11	2; 97	**0.003**
PA vs PD	0.69	1; 64	0.410	3.46	1; 64	0.067
PA vs CBT	11.4	1; 67	**0.001**	12.8	1; 67	**0.001**
PD vs CBT	5.13	1; 63	**0.027**	2.39	1; 63	0.127

Table 3.2f Inventory of Interpersonal Problems (IIP)

Group	N	pre		post		fup		ES		CS %	
		M	StD	M	StD	M	StD	post	fup	post	fup
PA	35	14.4	3.4	9.6	4.6	9.3	4.7	1.4	1.5	51.4	57.1
PD	31	14.8	2.5	10.5	4.1	11.6	4.0	1.3	1.0	48.4	38.7
CBT	34	13.4	3.8	11.9	4.8	12.0	5.0	0.5	0.4	26.5	20.6

ANOVA			
Effect	F	df	p
group	1.93	2; 97	0.253
time	60.9	2; 194	**<0.001**
group x time	6.52	4; 194	**<0.001**

ANCOVA	post			fup		
Effect	F	df	p	F	df	p
group	6.40	2; 96	**0.002**	7.64	2; 96	**0.001**
PA vs PD	0.33	1; 63	0.570	4.44	1; 63	**0.039**
PA vs CBT	11.8	1; 66	**0.001**	16.3	1; 66	**<0.001**
PD vs CBT	8.24	1; 62	**0.006**	2.82	1; 62	0.098

Table 3.2g Questionnaire of Social Support (F-SozU)

Group	N	pre		post		fup		ES		CS %	
		M	StD	M	StD	M	StD	post	fup	post	fup
PA	33	3.75	0.65	4.15	0.73	4.25	0.53	0.5	0.7	12.1	9.1
PD	30	3.74	0.78	4.00	0.78	3.96	0.72	0.4	0.3	3.3	6.7
CBT	33	3.62	0.77	3.88	0.83	3.88	0.73	0.4	0.4	6.1	3.0

ANOVA			
Effect	F	df	p
group	1.32	2; 93	0.273
time	18.1	2; 186	**<0.001**
group x time	1.03	4; 186	0.392

ANCOVA	**post**			**fup**		
Effect	F	df	p	F	df	p
group	0.80	2; 92	0.453	3.21	2; 92	**0.045**
PA vs PD	---	---	---	4.84	1; 60	**0.032**
PA vs CBT	---	---	---	5.25	1; 63	**0.025**
PD vs CBT	---	---	---	0.00	1; 60	0.960

Table 3.2h Scales of Psychological Capacities (SPC)

Group	N	pre		post		fup		ES		CS %	
		M	StD	M	StD	M	StD	post	fup	post	fup
PA	35	1.05	0.21	0.60	0.25	0.54	0.23	1.8	2.0	57.1	68.6
PD	31	1.07	0.26	0.77	0.31	0.71	0.31	1.2	1.4	32.3	38.7
CBT	34	1.03	0.28	0.86	0.31	0.76	0.38	0.7	1.1	17.6	35.3

ANOVA			
Effect	F	df	p
group	4.26	2; 97	0.017
time	97.7	2; 194	**<0.001**
group x time	4.86	4; 194	**0.001**

ANCOVA	**post**			**fup**		
Effect	F	df	p	F	df	p
group	8.27	2; 96	**<0,001**	5.85	2; 96	**0.004**
PA vs PD	5.75	1; 63	0.020	6.81	1; 63	**0.011**
PA vs CBT	17.3	1; 66	**<0,001**	10.7	1; 66	**0.002**
PD vs CBT	2.37	1; 62	**0.129**	0.87	1; 62	0.355

Table 3.2i Turning Against Self – internal reaction (TAS-A) of FKBS

Group	N	pre		post		fup		ES		CS %	
		M	StD	M	StD	M	StD	post	fup	post	fup
PA	35	18.7	6.0	14.0	6.6	13.6	6.6	0.9	1.0	14.3	20.0
PD	31	19.2	4.6	14.5	6.1	15.7	5.0	0.9	0.7	25.8	22.6
CBT	34	18.7	4.8	16.9	5.2	16.6	5.2	0.4	0.4	8.8	5.9

ANOVA			
Effect	F	df	p
group	1.32	2; 97	0.273
time	42.5	2; 194	**<0.001**
group x time	3.02	4; 194	**0.019**

ANCOVA	**post**			**fup**		
Effect	F	df	p	F	df	p
group	3.95	2; 96	**0.023**	3.74	2; 96	**0.027**
PA vs PD	0.01	1; 63	0.910	2.16	1; 63	0.146
PA vs CBT	7.95	1; 66	**0.006**	6.96	1; 66	**0.010**
PD vs CBT	5.64	1; 62	**0.021**	1.43	1; 62	0.237

Table 3.2j Turning Against Self – behavioral reaction (TAS-B) of FKBS

Group	N	pre		post		fup		ES		CS %	
		M	StD	M	StD	M	StD	post	fup	post	fup
PA	35	16.0	5.3	12.3	5.8	12.2	5.7	0.7	0.8	20.0	25.7
PD	31	16.6	4.7	13.2	6.7	13.8	5.2	0.7	0.6	22.6	19.4
CBT	34	16.4	4.7	14.2	5.2	14.6	5.6	0.4	0.4	14.7	11.8

ANOVA			
Effect	F	df	p
group	0.96	2; 97	0.385
time	25.0	2; 194	**<0.001**
group x time	0.87	4; 194	0.481

ANCOVA		**post**		**fup**		
Effect	F	df	p	F	df	p
group	0.99	2; 96	0.374	1.86	2; 96	0.162
PA vs PD	---	---	---	---	---	---
PA vs CBT	---	---	---	---	---	---
PD vs CBT	---	---	---	---	---	---

is defined as zero; therefore, they were not 3×3- but 3×2-repeated measurement ANOVAs and no significant interaction effect could be expected. For post-treatment and follow-up, because of missing pretreatment scores, ANOVAs were calculated instead of ANCOVAs. Nearly all measures show large ESs and CSs. In all three measures, there are significant group differences at follow-up: psychoanalytic therapy is significantly superior to cognitive-behavioral therapy in all three measures.

Results of the interpersonal dimension, IIP and F-SozU, are reported in Table 3.2f, g. Both measures show small ESs for the cognitive-behavioral group, large ESs (IIP) and moderate ESs (F-SozU) for the psychoanalytic group, and large ESs (IIP) and small ESs (F-SozU) for the psychodynamic group. In both measures, there are significant effects in the ANCOVAs; pair-wise comparisons indicate significantly more improvement in the psychoanalytic than in the psychodynamic and the cognitive-behavioral group (for the IIP, see [53]).

Tables 3.2h–j present the results of the intrapsychic measures, SPC, and TAS-A/B (internal reaction = A and behavioral reaction = B) of the FKBS. According to tendency, psychoanalytic therapy has large ESs, and cognitive-behavioral has small ESs in most measures, and psychodynamic therapy is in between. Effects of group in ANCOVA are significant in the SPC and in the TAS A of the FKBS. Comparisons of pairs show that psychoanalytic therapy is significantly superior to both other treatments in the SPC and to the cognitive-behavioral condition in the TAS A of the FKBS.

According to ICD-10/DSM IV checklist, "no depressive episode" at post-treatment was diagnosed for significantly more patients in the psychoanalytic group (91%) than patients in the cognitive-behavioral group (53%); patients of the psychodynamic group (81%) were in between. At follow-up, 91% of the psychoanalytic, 76% of the psychodynamic, and 42% of the cognitive-behavioral patients no longer met the criteria for a depressive episode. These differences were significant (chi-square test) between psychoanalytic and cognitive-behavioral therapy, between psychoanalytic and psychodynamic therapy, and between psychodynamic and cognitive-behavioral therapy.

Discussion

Discussion of Design

The discussion of the design focuses on internal and external validity orienting by Kazdin's review [13], and the method paper of the Wissenschaftlichen Beirat Psychotherapie (Research Council Psychotherapy), version 2.7 [54].

Crits-Christoph and Barber [55] conclude their review article on long-term psychotherapies stating that the mental health field has abandoned their research endeavors too quickly and that they remain optimistic that it is possible to investigate this therapeutic modality with scientific rigor, randomized clinical trials included. This optimism turned out to be true, as DeMaat et al.'s review [AU2] [1] and Leichsenring and Rabung's meta-analysis [22] demonstrated. Psychoanalysts in particular resisted the empirical investigation of their long-term psychotherapies because they considered empirical research methodology inadequate to grasp the process and outcome; for a critical and balanced discussion of the topic, see Thomae and Kaechele [56]. We shared Crits-Christoph and Barber's [55] optimism and tried to investigate empirically long-term psychotherapies.

As the study was enrolled at the outpatient clinic of a university department, well-known for diagnosing and referring of depressed patients, it was possible to recruit a diagnostically homogenous group of patients with a primary diagnosis of unipolar depression. The intuitive experts' diagnosis at intake was corroborated by a diagnostic checklist, that of the ICD-10/DSM-IV. Comorbid personality disorder was assessed consensually by experts' evaluations, using all measures (self-report and observer ratings) available at intake. Nevertheless, a structured clinical interview, like the SCID, would have rendered more reliable and valid diagnoses, and this is certainly a threat to the internal validity of the study. The central claim to empirical comparative psychotherapy research methodology is the randomized allocation to therapy or control conditions to maximize the likelihood to draw correct causal inferences on the effect of the independent variable on the dependent variable. The allocation to the three treatment branches could not be done simultaneously, as patients for cognitive-behavior therapy could only be recruited 3 years after study onset. Although all patients fulfilled the same randomization criteria, this is a threat to internal validity. However, from the perspective of external validity, randomized controlled designs have been criticized for not taking into account patients' preference for one specific type of treatment on conceptual (e.g. [57]) and on empirical ground [58], and thus diminishing expectancy as an unspecific curative factor or, at worst, pushing the patient into a conscious or unconscious protest against the unwanted treatment. In a meta-analysis, Swift and Callahan [59] demonstrated that patients' treatment preferences seem to have a small effect on treatment outcome. Fortunately, our study was enrolled at an outpatient clinic of a university hospital where patients were referred to by primary-care mental health practices to "get psychotherapy." These patients had no preferences for one type of psychotherapy or another but preferred to let the "specialists" decide the best treatment for their disorder. Patients' preference for the type of therapist, however, was very much taken into consideration because the individual patient–therapist matching is one of the essentials of a successful psychotherapy. No patient or therapist was pushed to work with any other. In order not to interfere with the delicate patient–therapist match, only the type of treatment – and not the type of therapist – was assigned at random. This procedure requires good cooperation between the study center and study therapists, safeguarding that patients were re-referred to the study center if a therapy could not be realized. This good cooperation between the study center and study therapists, in the service of internal validity, was absolutely necessary in order to perform correctly the many process measurements, the audio-taping of every session, the completion of retro-reports after every session, the half-yearly process rating scales, and the very intimate questionnaire about therapeutic socialization, therapeutic style, beliefs in therapeutic process, and curative factors and one's strengths and weaknesses (ThAt). Researchers have to strike a balance between maintaining good relations with the therapists in order to minimize missing data on the one hand and becoming too involved in the therapies on the other hand and thus making them less generalizable [60]. In order to avoid the latter problem as a threat to external validity, we refrained from personal contact with patients and therapists during the ongoing therapy, as well as from feedback and from supervision by the study center.

We decided to investigate, in a quasi-experimental design, "real-world" therapies conducted by "real-world" therapists, and thus purposefully refrained from developing a treatment manual, as is often employed to reduce within-group variance attributable to sources other than standardized techniques, clearly in favor of external validity. This decision was very much facilitated by the fact that there is, to

our knowledge, no treatment manual for long-term psychotherapy of depression, and, furthermore, our experienced study therapists with their individual style and attitude would have never agreed to the constraints of a manual. On the other hand, and in favor of internal validity, the therapies investigated are daily routine for therapists, and there are long detailed descriptions in the earlier mentioned German Psychotherapeutic Guidelines serving as a basis for education and training of institute candidates. In addition to "real-world" therapies and therapists, we also investigated the "real-world" patients of our mental health system. All patients were referred from primary-care or medical specialist's practices and were diagnosed on an ICD-10/DSM-IV axis I level. Nearly one third of them had an ICD-10/DSM-IV axis II comorbidity, and the scores of self-report and observer rated measures at intake were clearly beyond the cut-off points in the pathological range.

Outcome measures were adapted to the core battery suggested by the Society for Psychotherapy Research to be as comparable as possible with other international studies in the field, and they were multidimensional and multimodal according to standards in psychotherapy research [60]. We have set great value on measuring mode-specific effects to control for measurement bias as much as possible. In order to measure the construct of interest of each therapeutic modality – the so-called mode-specific effects – we applied the SPC to grasp structural changes specific to psychoanalytic and psychodynamic therapy, the BDI to grasp specific changes of cognitive-behavioral therapy. All external investigators at all measurement points were blind for the treatment modality; therefore, the external investigator at pretreatment was not the same as at post-treatment and at 1-year follow-up. To keep the external investigator at post-treatment and at follow-up blinded, the patient was informed not to give any clues (e.g., session frequency, position) revealing the therapeutic modality applied. In order to take into due account the recurrent natural course of the disorder, we chose a 3-year follow-up period, thus considering external validity, while the increasing rate of uncontrollable intervening variables and of drop-outs is a threat to internal validity, of course. Lambert and Ogles [61], discussing the preference of one treatment to another, noted investigator's allegiance as one of the most common artifacts leading to the conclusion that one treatment is superior to another. Researcher's own therapy allegiance [62, 63] is ubiquitous, because "who else but a partisan would take the time and energy to do a comparative treatment study?" as Luborsky et al. [63] laconically stated, and so it is a distortion of the results in comparative psychotherapy research. We tried to minimize this inevitable distortion and to neutralize researcher's allegiance by including into the study center two psychoanalytic therapists and two cognitive-behavioral therapists, all involved in designing the study and collection, management, and processing of the data.

Discussion of Outcome

General preliminary remark: We considered 1-year follow-up results superior to post-treatment results because of the recurrent nature of the depressive disorder. The central finding of the study was that psychoanalytic, psychodynamic, and cognitive-behavioral therapies were very effective in the treatment of unipolar, single, or recurrent depression, as well as double depression.

The effect sizes of the *symptomatic* measures were large for all treatments according to Cohen's benchmarks [50]. In Leichsenring and Rabung's meta-analysis [2], as well as in DeMaat et al.'s review [1] of long-term psychotherapies, lower effect sizes were reported for psychoanalytic and psychodynamic therapy for symptomatic measures. Comparing the three treatments in pairs, as a whole, neither psychoanalytic nor psychodynamic nor cognitive-behavioral therapy was significantly superior when emphasizing the follow-up results.

In terms of ESs and CSs, psychoanalytic and psychodynamic therapies are more effective than cognitive-behavioral therapy. Scrutinizing the total scores of the BDI and the GSI of the SCL-90-R at post-treatment and at 1-year follow-up reveals, however, that the patients in the cognitive-behavioral

condition continue to have a mild depressive disorder [64–66]. These residual symptoms have long been neglected as insignificant, minor fluctuations during the course of the illness, but recent research suggests that they predispose for relapse and recurrence (e.g. [67, 68]). The observer-rated ICD-10/DSM-IV checklist at 1-year follow-up corroborates this hypothesis, showing that 58% of the patients in the cognitive-behavioral group still or again have the diagnosis of a depressive episode, significantly more than in the psychoanalytic or the psychodynamic groups. These findings can be interpreted in the context of more recent calculations of a dose–effect relationship, which demonstrate that for psychotherapy of eclectic orientation, more than 50 sessions are necessary for 75% of patients to improve clinically significantly on a symptomatic level [61]. In our study, only 13 of 34 patients in the cognitive-behavioral group received more than 50 sessions (compared to 33 of 35 patients in the psychoanalytic and 20 of 31 patients in the psychodynamic group), evidently not enough to protect sufficiently against symptom persistence or relapse. Recent research in cognitive-behavioral therapy supports this argument, suggesting an increase in treatment dose and the introduction of new intervention modules [69] because residual symptoms are common after the treatment of the acute symptomatology [70] and they predispose patients to relapse and recurrence, as already mentioned. In an outpatient study of long-term psychotherapy, psychoanalytic therapy needed 17 months (approximately 170 sessions), and psychodynamic therapy 18 months (approximately 60 sessions) for the patients to leave the severely impaired range of the GSI of the SCL-90-R [71].

We combined the results of the FLZ-G, the VEV, and the GAS (in which patients formulated at least one of their individual goals on an interpersonal level), because they can be conceived of as a set of similar measures to gauge an outcome domain between symptomatic and interpersonal measures. In this domain, only psychoanalytic therapy produced stable ESs and significant differences to cognitive-behavioral therapy, whereas ESs of psychodynamic and cognitive-behavioral therapy were lower and tended to decrease at 1-year follow-up. This is a first indication that psychoanalytic therapy becomes significantly superior to the other treatments when domains beyond symptom relief are the focus of measurement. The earlier-mentioned trend becomes even more evident on the *interpersonal* level tapped by the IIP and the F-SozU. In both measures, psychoanalytic therapy is superior to cognitive-behavioral therapy at both measurement points and is superior to psychodynamic therapy at follow-up. At post-treatment, there is a tendency towards psychodynamic therapy being superior to cognitive-behavioral therapy, but the results are unstable because the ESs and CSs of psychodynamic therapy decrease markedly during the follow-up period. An explanation may come from the dose–effect model again, because as Howard et al. [72] have already demonstrated, improvement in the interpersonal domain lags behind symptomatic recovery and requires more sessions. Our results suggest that the dose (in terms of sessions) of cognitive-behavioral therapy is not high enough to improve significantly in ESs and CSs, nor is the dose of psychodynamic therapy high enough to produce long-lasting effects.

FKBS, our measure for the defense mechanism "Turning against Self," and SPC, based on the concept of structural change, are outcome measures on an *intrapsychic* level, measuring beyond symptoms. Differences between the FKBS and the SPC may be attributed to the different sources of observation [73]. In the SPC, our primary intrapsychic outcome variable, all treatments are effective in ESs and CSs, but psychoanalytic and psychodynamic therapies show distinctly larger ESs than cognitive-behavioral therapy. Comparisons in pairs reveal that psychoanalytic therapy is significantly superior to cognitive-behavioral therapy and to psychodynamic therapy in the SPC. In psychoanalytic theory, structural change is regarded as a quantitative shift in intrapsychic conflicts, that "their poignancy is reduced; they are not only reduced in intensity, but are lifted into more conscious awareness so that, as conflict-instigating situations arise, the individual is more immediately alerted and can take more appropriate coping steps in reality" [74]. Relapses and symptom persistency are an adequate, clinical operationalization of underlying structural change, and our data support this finding, because psychoanalytic therapy shows significantly less ICD-10 diagnoses at follow-up compared to both psychodynamic and cognitive-behavioral therapy. Cognitive-behavioral theory

explains relapses in connection with the prominent role of the frequently impaired personality functioning (social maladjustments and dysfunctional attitudes and attributions) in predisposition (for an overview see [68]). Vittengl et al. [75] reported no significant change in pre- to post-treatment in the trait constructs of the IIP and only a small overall reduction of psychosocial dysfunction [68] after cognitive-behavioral therapy. They concluded that it may be necessary to increase frequency of sessions, change the focus of cognitive-behavioral therapy, or increase treatment duration [70]. One can assume that psychoanalytic therapy with its higher dose allows treatment to address these vulnerabilities effectively, whereas cognitive-behavioral therapy, with its more limited time frame does not, while psychodynamic psychotherapy does, but not enough. Seen from the perspective of internal validity, the extremely differing dose and duration of the treatments is just a confound, but the dose–effect relationship may be misleading here because it assumes different treatments to have the same curative ingredients given in different doses, an assumption Kiesler [76] called a uniformity myth, subsumed under the "therapist uniformity assumption" rubric. Seen from the perspective of external validity, the tacit "more is better" assumption is an abuse of the drug metaphor in psychotherapy [77]. Therapy sessions are not like pills, consisting of the same curative ingredients given in different doses during a treatment. Each treatment has a different underlying working model that needs a specified time frame with a stipulated number of sessions and specific interventions to initiate a specific process. Therefore, even extended fourfold, a cognitive-behavior therapy is qualitatively different and cannot be compared to a psychoanalytic therapy. Moreover, in the quasi-experimental design of the study, no therapist was obliged to terminate any treatment at a fixed time point, but was free to take as much time as he/she considered appropriate for the treatment modality applied.

The results of the study can be summarized as follows: psychoanalytic, psychodynamic, and cognitive-behavioral therapies are very effective in the treatment of unipolar depression and double depression. Comparisons of pairs reveal that psychoanalytic therapy is superior to psychodynamic therapy and to cognitive-behavioral therapy at follow-up, not in self-rated symptomatic relief but in most other measures. These results support empirically the proposition [55] that patients with recurrent or chronic Axis I disorders like recurrent depressive disorder should be treated with long-term psychotherapy in order to effect change beyond symptoms and to be effective in preventing relapses and chronicity. Taking into consideration the natural course of the disease, these results need corroboration by a more extended follow-up period that allows a more precise assessment of their stability. Last but not least, an important result of this study is that researchers and practitioners (who even initiated the study) can work together in such a delicate research endeavor, thus proving impressively that the notorious gap between science and practice can be bridged.

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Author Queries

Chapter No.: 3 0001331383

Queries	Details Required	Author's Response
AU1	Kindly confirm the identified head levels.	
AU2	The author name "Leichsenring and Rabung" given along with reference [22] does not match with the reference list. Please check.	
AU3	Please update Ref. [53].	
AU4	Please confirm the inserted publisher location of Refs. "[52, 57, 61]".	