
A Research Strategy for Measuring Structural Change in Psychoanalytic Psychotherapies

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Summary

The paper presents a research strategy which can be used to identify structural change. This strategy makes it possible to add to the measurement of symptomatic or behavioral changes a specifically psychodynamic level of investigation. The goal of long-term psychoanalytic psychotherapies is to induce changes at the structural level. Our assumption is that it is only by including this level that the important effects of such therapies can be depicted adequately.

Introduction

In what follows we present a research strategy which we developed to conduct the "Practitioners' Study in Analytic Long-term Psychotherapy (PAL)." In 1993 the DGPT (Confederation of German Psychoanalysts) decided to support research on long-term psychoanalysis. The DGPT's plan was to study highly frequent long-term analyses as compared with one hour/week psychotherapies. In calling for research proposals the DGPT's was on the one hand pursuing a legitimately interest, one directed toward outside addresses such as health insurance funds and political institutions; on the other hand, however, it also encountered an existing interest on the part psychoanalytic organizations in evaluating their own work and gaining a deeper understanding of it with the aid of systematic research. Aside from the question of effectiveness, the call for projects was thus also guided by the inside interest in an investigation of processes and the specific effective mechanisms of psychoanalysis.

In working on the DGPT's invitation, our considerations soon centered on the fundamental question whether the demands formulated there for a research project on psychoanalyses could, in view of the present state of research and methodology, be met in the first place. The most important problem emerged from the circumstance that, against the background of the so-called dose-effect models (Howard, Kopta, Krause & Orlinsky 1986), the research instruments used so far identify significant changes in the early phases of psychotherapeutic treatment but only slight effects in the further course of treatment. This means that the potential for mapping the beneficial effects of therapy is limited to about the first 50 hours of treatment (Grawe, Donati & Bernauer 1994). Thus, only up to the 50th hour such methods can be used to represent therapeutic effects so convincingly that the benefits of therapy become manifest; the effects then recede, and, for instance, after the 200th or 300th hour, are only weakly detectable and can thus, at best, be demonstrated only with references to large numbers of cases.

These results led us to conclude that the specific effects of psychoanalyses, which, as experience shows, materialize only following long and intensive treatment, cannot be detected with the aid of conventional research instruments. These instruments measure close to the surface by capturing above all symptomatic or behavioral characteristics. On the other hand, from the psychoanalytic point of view, the essential changes proceed at the level of personality structure, i.e. in the course of the reliquification of pathological structures that have emerged in the course of a biography and the reorganization or reintegration of the intrapsychic conflicts and vulnerabilities imbedded in them. Such processes of restructuring, which are in all probability reached only by means of long-term analytical processes, can apparently not be registered by the customary measures of change. It is as though, having turned on the cellar light, one were to measure the light on the first floor. These considerations led us to conclude that a project dealing with the effectiveness of long-term analytic therapies might meet with success only if a standardized method were available to assess central personality-structure data from a psychoanalytic point of view.

In fact, 1992 saw the constitution of a working group consisting of 40 scientists and clinicians with a psychoanalytic background and from 12 universities; the group developed, in the framework of the project on an Operationalized Psychodynamic Diagnosis (OPD), instruments that close this gap. Four years of work led to a classification system for research, teaching, and practice that is based on psychoanalytic constructs and thus goes beyond the descriptive approach of existing systems (Arbeitsgruppe OPD 1996). The instruments of the OPD thus assume a central position in our research concept, which, toward the end of 1993, was presented to the DGPT as a project proposal (Rudolf & Grande 1997). The plan was evaluated by several independent experts and classified as suitable for answering the questions posed in the DGPT's call for projects. A review committee agreed in 1995 to support our concept with a

grant.

Toward the end of 1996 we started with data collection in 3 centers (Heidelberg, Berlin, Zürich). We decided in favor of a naturalistic research design, that is to say, the patients are accepted for the study after they, together with their analyst, have opted either for a psychoanalytically oriented psychotherapy (one hour, seated) or a higher-frequency psychoanalysis (3-5 hours, reclining). This type of comparison is used to create, with regard to the therapeutic setting, a sharp contrast which, as clinical experience indicates, will render observable the specific effects and modes of impact of the two forms of therapy. Meanwhile a growing number of reputable scientists from all schools of therapy share the view that randomizations pose insuperable difficulties in the field of psychotherapy research in that they create artificial realities, thus failing to give rise to valid results (Seligman 1995; discussion in Waldvogel 1997). In studies it has been demonstrated time and again (overview in Orlinsky, Grawe & Parks 1994; see also Rudolf, Grande & Porsch 1988; Rudolf 1991; Rudolf & Manz 1993) that the initial encounter between therapist and patient and the "relationship work" continuing after the beginning of therapy constitute a crucial factor the realization of therapy in the first place and for the course of psychotherapeutic treatment.

The study will include a total of 72 cases, a further 30 cases are being investigated in the Swiss parallel study. The research experience available thus far indicates that this number of cases is perhaps somewhat small to arrive at a statistical demonstration of differential therapeutic effects. This meant that in selecting the patients care had to be taken to ensure that the anticipated differences between groups were clear-cut. To create a marked contrast, we thus restricted the study to severely disordered patients. The differences between the two forms of therapy were expected to emerge more clearly for this selection of patients, assuming that it is precisely with severely disordered patients and low-frequency therapy on the one and a psychoanalytic therapy on the other hand that qualitatively and quantitatively different results could be sought for and, according to clinical experience, achieved as well (the options can be summed up in the alternatives of "coping" versus "structural change"). The study thus deals with a section of the patient spectrum in which the specific effects of psychoanalyses are particularly marked. This selection is additionally reached with the aid of a homogenization of the patient group aimed at improving the detectability of differential therapeutic effects for purely statistical reasons (Grande & Jakobsen, forthcoming). Our study regards as severely disordered patients who show on the structural axis of the OPD a moderate or low integration level and furthermore display clear-cut symptoms. With an eye to ensuring continuous comparability of the differential effects in the two groups, each of the participating analysts brings with him/her to the project two cases, one psychoanalysis and one psychotherapy. In this way possible influencing factors associated with the person of the analyst is are compensated for in both groups (overview in Grande, Rudolf, Oberbracht 1997).

The Operationalized Psychodynamic Diagnosis is geared to those relationship patterns, conflicts, and structural characteristics that, in the view of psychoanalysis, make up the latent basis of a patient's symptoms and are thus the object of treatment. This means that the assignment of a patient to an OPD diagnosis at the same time implies a definition of his central problems, which also makes it possible to indicate the type and direction of the restructuring processes required for any substantial change. The isomorphy thus realized in the definition of the disorder in need of treatment, the focus of treatment, and the criteria of therapeutic success corresponds to the problem-treatment-outcome congruency pointed to by Strupp, Schacht & Henry (1988; see also Schulte 1993). The Operationalized Psychodynamic Diagnosis is thus, for many reasons, eminently well suited to detect structural changes.

Instruments for registering structural change

The clinical material required to assess an OPD finding can be obtained with the aid of an interview developed especially for the purpose; the interview is initially in free form and is then focused on given areas important to judging the axes "relationship," "conflicts," and "structure." The interview framework is described in Janssen, Dahlbender, Freyberger, Heuft, Mans, Rudolf, Schneider & Seidler (1996) (see also Arbeitsgruppe OPD 1996). In our project we conduct the interview in the research institution; the patient is invited to attend at the beginning of treatment, after three and six months have elapsed, and then every six months. The interview is conducted and evaluated by scientifically trained staff members.

The Operationalized Psychodynamic Diagnosis conceptualizes a set of psychodynamic findings as a combination of five axes:

- experience of illness and treatment preconditions
- relationship
- conflicts
- structure
- ICD-10

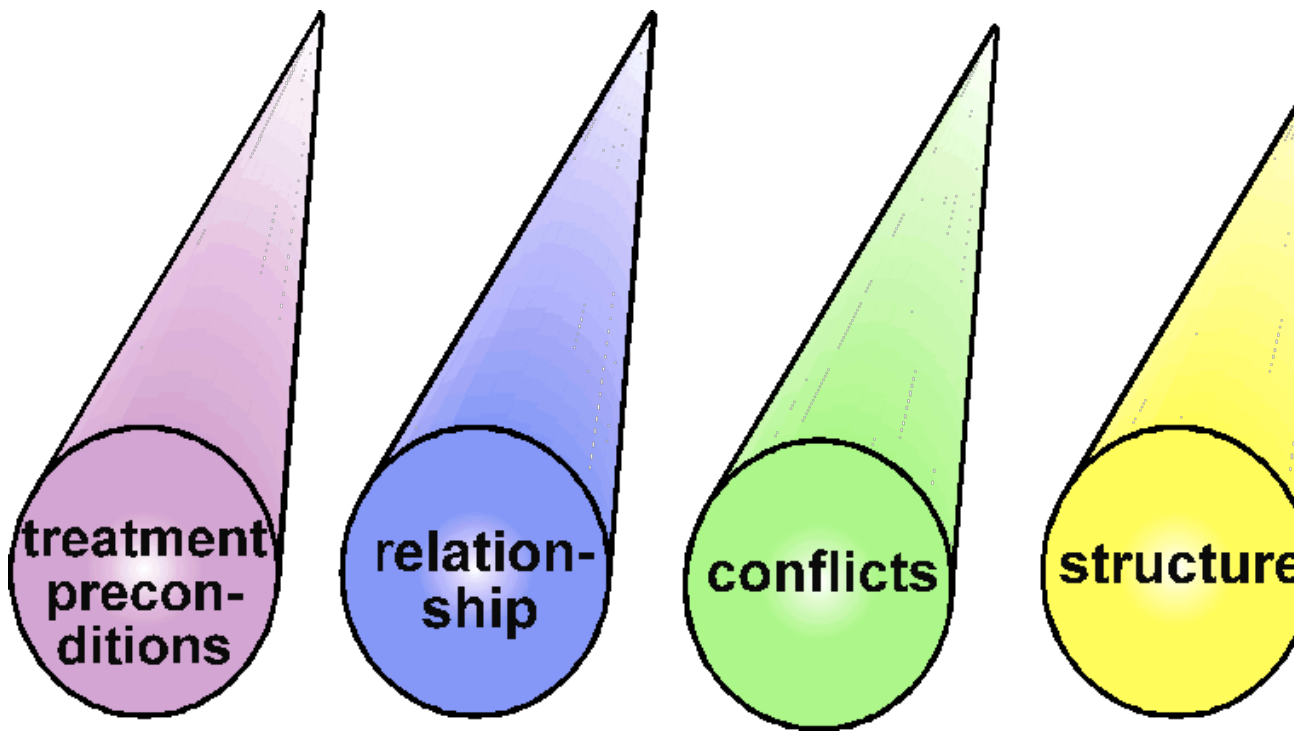


Figure 1: Operationalized Psychodynamic Diagnosis

This conceptualization registers object and goal of therapy. This does not apply to axis I and V, and for this reason these axes were not included in our study. The Operationalized Psychodynamic Diagnosis is thus well suited to deal with questions of both diagnostics of state and diagnostics of change. To be sure, structural changes are described at the level of the Operationalized Psychodynamic Diagnosis only after some time has elapsed, the reason being that the concepts operationalized here are related to personality features which are stable across time. In other words, if the goal is a differentiated picture of phases of change - and this is our goal - the Operationalized Psychodynamic Diagnosis is in need of an additional, more subtle measuring instrument. And so in the last two years we have developed a procedure that makes just this possible. The procedure consists of 3 steps.

First step: assessment as per OPD

The first step consists of assessing the patient, following an interview, with regard to relationship, conflict, and structure. The OPD manual sets out the criteria and principles according to which such judgments are to be formed.

To conceptualize the relationship axis, we note the patient's central habitual, dysfunctional relationship pattern. The elements of this pattern include the interpersonal positions habitually assumed by the patient and his objects in the dominant relationship constellation. The quality of these positions is depicted on the basis of a given list of 30 items. We differentiate here between the experiential perspective of the patient and the examiner. Both perspectives are integrated to form a concise relationship figure.

The conflict axis depicts the patient's enduring and life-defining conflicts. The eight conflict types defined here are rated on a four-stage scale in terms of their presence and significance. The types are:

- Dependency versus autonomy conflicts
- submission versus control conflicts
- need for care versus autarky conflicts
- self-esteem conflicts
- super-ego conflicts
- oedipal-sexual conflicts
- identity conflicts
- deficient awareness of conflicts and feelings

The structure axis describes six different structural capacities and likewise assigns them, in terms of their level, to a four-stage scale. The following capacities are defined:

- self perception
- self regulation
- defenses
- object perception
- communication
- attachment

Several studies have already shown that OPD findings show good reliability when assessed by independent raters. In an initial practicability study in which 134 diagnosticians from 16 centers participated, reliability levels were found that were satisfactory and moved within the range of what may be expected for complex diagnostic assessments (as compared to ICD and DSM) (Freyberger, Dierse, Schneider, Strauß, Heuft, Schauenburg, Pouget-Schors, Seidler, Küchenhoff, Hoffmann 1996). The reliability of the ratings made by the members of the OPD Working Group (a subgroup of the 134 diagnosticians within the study) proved to be "good." A further reliability study conducted with 24 patients of the Psychosomatic Clinic of the University of Heidelberg showed for the relationship axis a weighted kappa of 0.59, for "conflicts" a value of 0.61, and for "structure" a value of 0.75 (Rudolf, Grande, Oberbracht, Jakobsen 1996). A more recent - but not yet published - study conducted with 64 patients of our clinic turned up values of 0.61 for "conflicts" and 0.71 for "structure". Against the background of comparable complex clinical ratings, these values must, on the whole, likewise be termed "good" (Landis & Koch 1977).

The usual concepts used for measuring change define improvements in the course of therapy as the gradual alleviation of a pathological (symptomatic) finding. In the case of the Operationalized Psychodynamic Diagnosis, however, this model can have no more than limited significance in that structural factors change not in the sense of "more" or "less" but more along the lines of a qualitative reshaping or an enhanced integration. A patient's central conflicts are not neutralized in the successful course of an analytic process; it would be better to say, that they are constructively modified and better integrated in the important spheres of life. Nor does the central problematic relationship pattern become "less" in the course of a successful therapy; it instead loses more and more of its compulsive character and is reshaped in qualitative terms. The best way to put it would be to say that certain structural vulnerabilities (of the type registered in the "structure" axis of the OPD) become less marked; but here, too, it often seems clinically more appropriate to speak, in the case of a therapeutic success, of an enhanced integration of certain vulnerabilities, which by no means implies that the latter have simply vanished as a topic of life.

In our study we grasp change as restructuring in the sense of a growing integration of specific "central problems" that are of central significance for a patient's psychodynamics. We assume that it is possible to define for every patient a limited number of such specific "problems" that can be used to observe structural changes. This procedure implies two further methodological steps.

Second step: Individualized definition of central problems

In a second step, five central problems of the patient from the spheres "relationship", "conflicts", and "structure" are selected. This choice is based on a spectrum of findings encompassing a total of 30 areas, which are listed in Figure 2. These areas result from the core dysfunctional relationship pattern, 8 conflicts and 21 points from the structure axis. The 21 points of the structure axis constitute in turn a more detailed breakdown than the 6 dimensions of the structure axis.

Operationalized Psychodynamic Diagnosis OPD B		Heidelberg Set of Central Problems based on OPD B	
I. Relationship	Identification of patient's core dysfunctional relationship pattern	1. core dysfunctional relationship pattern	
II. Conflicts	Rating the significance of conflict types for patient; see list opposite =>	2. dependency versus autonomy	
		3. submission versus control	
		4. need for care versus autarky	
		5. self-esteem conflicts (narcissistic conflicts)	
		6. super-ego and guilt conflicts	

III. Structure

Rating the patient's level on the following structural abilities (well integrated, moderately integrated, poorly integrated, disintegrated):

IIIa. Capacity for perception and experience of the self	7. oedipal-sexual conflicts
	8. identity conflicts
	9. deficient awareness of conflicts and feelings
	10. self-reflection
	11. image of self
	12. identity
	13. differentiation of affect
IIIb. Capacity for self-regulation	14. tolerance of affects
	15. regulation of self-esteem
	16. regulation of impulses
	17. anticipation
IIIc. Capacity for defense	18. intrapsychic defenses
	19. flexibility of defenses
IIId. Capacity for object perception and object experience	20. self-object differentiation
	21. empathy
	22. awareness of total objects
	23. object-related affects
IIIe. Capacity for communication	24. contact
	25. decoding others' affects
	26. encoding one's own affects
	27. reciprocity
IIIf. Capacity for attachment	28. internalizations
	29. detaching
	30. variability of relationships

Figure 2: Heidelberg Set of Central Problems

From this set of potential problems we select those five problem areas that are of central significance and that can be used to observe changes in the course of therapy. We refer to these problem areas as "nodes" as a means of illustrating our concept, which entails selection from a nexus of dynamically interlinked features a limited number of points that assume a central position; we further imagine that they are interlinked with other features in such a way as to allow us to use the movement of the nodal points in the course of therapy to draw conclusions on the movement of surrounding structural areas or aspects. Defining them has the character of a case-related psychodynamic hypothesis specifying a patients' change-relevant characteristics.

With regard to the selection of the five central problem areas, what is intended is an expert assessment on the part of

the examiner: the problem areas rated here as central are those that are presumed to sustain the patient's psychic and psychosomatic symptoms as well as his interpersonal problems. One problem area of the OPD spectrum is judged for "central", against this background, when, in the examiner's view, something would have to change in it if the patient's problems are to be alleviated or dispelled.

The habitual dysfunctional "relationship" pattern constitutes one problem area here in any case. The remaining problems are selected from the areas "conflicts" and "structure," with the proviso that at least one problem area be selected from each of these axes. The therapist view is not considered here because the concern here is explicitly not to define a therapeutic goal from the dyad of the therapeutic working relationship, in the sense of a focus formulation, but to establish an observer framework for research purposes, from, as it were, an outside perspective.

Third Step: Heidelberg Structural Change Scale (HSCS)

In a third step we note what restructuring processes have taken place in the patient with regard to these problem areas. For this purpose we use a modified form of the "Assimilation of Problematic Experiences Scale (APES)" of Stiles, Meshiot, Anderson & Sloan (1992). This scale permits us to describe more subtle changes in a patient's dealings with given structural problems. The term "assimilation" here designates, with reference to Piaget, a process in which difficult experiences are acquired, integrated, and reshaped. The authors themselves conceptualize this process as free of theoretical school implications and without any reference to a specific therapeutic orientation. In our view, however, the scale systematically describes several important phases of change. We have revised APES with an eye to more closely assimilating it to the exigencies of psychoanalytic therapies. The revision is in line with the logic set out in Freud's 1914 study "Remembering, Repeating and Working-Through". The modifications of APES made by us are extensive, and hence we refer to this instrument as the "Heidelberg Structural Change Scale." (HSCS).

Examples from the Manual B

1. Problem warded off	1	no awareness of conflicts; problematic behaviors ego-syntonic; for the patient
	1 +	there is "no problem" at all
2. Unwanted occupations with the problem	2 -	unwanted thoughts and feelings regarding the problem area; collisions with outer reality;
	2	patient behaves defensively and tries to avoid problematic experiences
	2 +	
3. Vague awareness of the problem	3 -	the patient is aware of a problem which cannot be warded off; has an idea that
	3	this problem could be related to him/herself; nevertheless the attitude is mainly defensive
	3 +	
4. Acceptance and exploration of the problem area	4 -	the difficulty is acknowledged as a problem which can be formulated; the patient seeks explore
	4	to explore the problem area actively; now a working alliance related to the problem is

	4 +	possible
5. Deconstructions in the problem area	5 -	destabilization in concepts of self and other persons; the patient is aware of his/her
	5	limitations and injuries; efforts alternate with resignation
	5 +	
6. Reorganizations in the problem area	6 -	the patient owns up to his/her new situation and has dismissed the old; he/she tries to
	6	find new solutions in respect to the problem; there is a change in concepts of self and other
	6 +	persons
7. New integration of the problem, solution	7 -	problem solved; in the problem area the patient behaves in a self-confident way; the
	7	problem is remembered as something past

Figure 3: Heidelberg Structural Change Scale (HSCS)

Each stage marks a therapeutically significant step, beginning with the increasing awareness of a problem area not perceived until then, extending through the therapeutic working-through of the aspects and experiences associated with it, and down to the restructurings resulting from it in the patient's experience as well as in his concrete external behavior. Patients are assessed with the aid of the Scale as to the degree of structural change they have achieved. An assessment is made of the restructuring reached for each problem area defined. In our preliminary study to the "Practitioners' Study in Analytic Long-term Psychotherapy" we found an interrater agreement on the Heidelberg Structural Change Scale of 0.64 (weighted kappa; N=40).

Results

The following results derive from the preliminary inpatient study referred to above. A sample of 40 patients out of 100 were measured twice, when they were admitted and when they were released, on the basis of the methods just described. We have at the beginning three assessment steps (OPD rating, problem selection and assessment of structural change) and at the end two steps (OPD rating and the assessment of structural change). This means that at the end there is a new OPD rating, but no new selection of problems. Instead, the initial selected set of central problems is rated again with the HSCS. Normally the OPD-profile changes only slightly in inpatient therapy, so that the patient's progress can be seen better in the HSCS-profile changes.

The preliminary study indicated that at the beginning of therapy patients display average restructuring levels of 2+ for the five problem areas selected for them. This indicates that the patients are "unwantedly" confronted with their central problems at the beginning of therapy. This can result from unconscious enactments, unpleasant thoughts and feelings, or confrontation with difficulties in their social environment. We can, however, observe a tendency (+) toward the level "vague awareness of problem". This finding is in line with the clinical experience that for most hospitalized patients the primary initial concern is to build a motivation for psychotherapy, which appears to be achieved by the patients we have investigated at the end of therapy (HSCS average of 3.5, see Figure 4). According to the HSCS, this means that the patients have on average reached the threshold of "acceptance and exploration of the problem area" - a good condition for the start of an outpatient therapy after the inpatient treatment. The individual courses of the patients with regard to their therapeutic success is shown on the right side of Figure 4.

	1. Problem warded off	4					
			*	*			
			*	*			
			-	*			
				*			
start	2. Unwanted occupa-	2	*		20		
	tions with the problem		*		20		
start mean = 2.3			*	2	*	*	*
			*		*	*	*
*			-		-	*	*
*						*	*
*	3. Vague awareness of	2		10	*	*	
*	the problem				*	*	
-						*	*
						*	*
mean = 3.5 termination					-	*	
						*	
	4. Acceptance and				6	*	
	exploration of the					*	
	problem						
	problem area					*	
						*	
						-	
	5. Deconstructions in						2

the problem area

6.
Reorganizations
in

the problem area

7. New
integration of

the problem,
solution

Figure 4: Patients' progressions on the Heidelberg Structural Change Scale (HSCS)

Another method of evaluation likewise delivers informative indications on the validity of the HSCS. First we grouped all patients with respect to two different criterias; i.e. on the one hand the patients are divided in two groups, depending whether they have reached level 4 or not (see the marked column to the left in Figure 5), on the other hand all patients who showed improvement of more than one stage on the scale between the beginning and end of therapy were assigned to one group, the rest to the other group (see marked column to the right in Figure 5). We found high correlations between these two dichotomic measures and the global assessments of success made by various raters (therapeutic rounds, therapist, staff, patient), which is all the more surprising as the assessments made by the external researchers were completely independent of the ratings made by the therapeutic team, i.e. the researchers knew nothing of the assessments of the clinicians, nor were they informed on the patient's therapeutic course.

	Level of structural change at the end of the psychotherapy levels 2 to 3 versus levels 4 to 5	② Assessment④ of external rater	Difference between the levels of structural change at beginning / end less than 1 stage versus more than 1 stage
Global assessment of outcome by			
1. therapeutic rounds	.44 p<.05		.40 p<.05
2. therapist	.41 p<.05		.63 p<.001
3. staff	.62 p<.001		.54 p<.01

4. patient	.14 n.s.	.31 p<.10
retrospective assessment of the therapeutic alliance at the end of the treatment		
1. by the patient	.35 p<.05	.42 p<.05
2. by the therapist	.12 n.s.	.44 p<.01

Figure 5: Correlations between level of structural change and several outcome measures

In a last step we examined the extent to which the restructuring processes registered by us are associated with symptomatic change. We found that there is no connection whatever between these two levels of change: in the period of inpatient treatment structural changes do not regularly lead to symptom alleviation, and improvements of symptoms can take place without any structural change occurring at the same time (an exception is a depression scale). These results indicate that with the HSCS we have in fact been able to register a very important level of therapeutic success different from that observed by conventional "near-surface" (i.e. symptomatic, behavioral) measures.

Conclusions

Therapeutic success in inpatient treatment means that the patient becomes able to accept, explore and formulate his or her significant difficulties, which are summed up in the five problem areas. This ability is represented by level 4 of the HSCS "acceptance and exploration of the problem area" This kind of therapeutic success is highly correlated with global outcome assessments derived from very different sources: therapist, staff, therapeutic rounds. It also correlates with the retrospective assessment of the therapeutic alliance by the therapist and the patient (see Figure 5). Based on these results we conclude that attaining level 4 of the HSCS indicates very significant progress in therapy. On the other hand, reaching level 4 of HSCS is *not* a precondition for symptomatic change; symptomatic change can take place without structural change. Although symptomatic change is independent of structural change, the latter could be a precondition for the *stability* of symptomatic improvement. This hypothesis will be tested in our preliminary study with follow-up data. Finally, we suggest that level 4 of the HSCS is a precondition for the *ability to cope* successfully with the significant psychological difficulties formulated in the five selected problems. The higher levels of the HSCS represent further steps toward a genuine structural change of personality in the sense of new conflict solutions and integration. We assume that such progress is most likely to be reached in long-term psychotherapy. This hypothesis will be tested in our main outpatient study, the "Practitioners' Study in Analytic Long-term Psychotherapy".

On the whole we can conclude that the first application of the procedure in the study presented may be regarded as a provisional indication of the usefulness and validity of our research strategy. It appears to register clinically significant dimensions of change. We expect that the method will prove suitable to demonstrate the specific effects of psychoanalysis that are more likely to emerge in longer-term treatments than in "near-surface" (symptomatic and behavioral) changes.

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