

The Role of Psychodynamic Assessment in Diagnosis and Treatment of Personality Disorders

Reliability and Validity of the Developmental Profile

Theo Ingenhoven

Dedicated to Robert E. Abraham
for all his wise lessons

and with love to Aglaé
Merlijne and Clarinde

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**The Role of Psychodynamic Assessment
in Diagnosis and Treatment of Personality Disorders**

Reliability and Validity of the Developmental Profile

**De betekenis van psychodynamische diagnostiek voor
diagnose en behandeling van persoonlijkheidsstoornissen**

Betrouwbaarheid en validiteit van het Ontwikkelingsprofiel.

Proefschrift

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Introduction



Chapter 1

**Perspectives on Diagnosis of Personality
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The aim of this thesis is to improve our understanding of the role of psychodynamic models, and their assessment procedures, in diagnosis and treatment of patients with personality disorders. In this introduction we briefly describe the current status of personality disorders and their treatment (1.1); diagnostic strategies for personality disorders (1.2); the Developmental Profile as the instrument for psychodynamic personality diagnosis in study (1.3); a comprehensive model for establishing reliability and validity by empirical research (1.4); and the treatment center where we conducted our research (1.5). Finally, we present the aims of this thesis and the research questions involved (1.6), and briefly outline the contents of this thesis (1.7)

1.1 Personality disorders and their current treatment

Personality disorder is a common psychiatric diagnosis, whether as a primary focus for therapy, or as a co-morbid diagnosis complicating the course and outcome of the treatment of other psychiatric disorders. The lifetime prevalence of personality disorders within the general population is estimated to be about 10-12%. Its presence is associated with substantial impairment, loss of social functioning, increased family burden and high health care costs. Limited evidence available so far suggests that patients with personality disorder are extensive users of psychiatric services and other mental health care resources (Soeteman et al., 2008).

The effectiveness of psychotherapy and pharmacotherapy for personality disorders is well documented with favorable randomized clinical trials, meta-analyses and systematic reviews (CBO, 2008; Leichsenring et al., 2008; Rinne & Ingenhoven, 2007; Ingenhoven et al., 2009^{a and b}).

Generally, psychotherapy is advocated as a cost-effective and necessary intervention (Beecham et al., 2005; Bartak et al., 2007). But not every patient with a personality disorder seems to benefit from psychotherapeutic treatment. Research suggests that improvement during psychotherapy is significantly associated with the length of treatment duration (number of outpatient sessions, weeks in day hospital or inpatient treatment), but outcome does not seem to be systematically correlated with sociodemographic features, pre-treatment descriptive psychiatric diagnoses on DSM IV Axis I and Axis II, and with symptom severity at admission (Ford, Fisher and Larson, 1997; Bateman & Fonagy, 1999; Vermote, 2005; Leichsenring & Rabung, 2008; Spinhoven, Giesen-Bloo, van Dyck & Arntz, 2008).

Yet, it is of clinical interest to know which personality disorder patients will benefit from intensive psychotherapy programs, and which patients will not. Research findings suggest that different types of patients may respond in different ways to

different kinds of treatments (Blatt, 1992, 1994), and that the major determinants of therapeutic success appear to depend on the patients' personality characteristics. The psychological qualities a patient brings in to the treatment are often assumed to be highly important in determining treatment outcome (Lambert & Asay, 1984). However, very little is known about which personality characteristics have the power to predict the outcome of psychotherapy in personality disorder patients. Personality characteristics are regarded as one of the most relevant clinical factors predicting the course and outcome of treatment. Although DSM-IV is still regarded to be the standard when it comes to the diagnostic classification of personality disorders, there is no evidence for the clinical utility of Axis II diagnosis in individual case formulations, or clinical decision making like planning the most appropriate psychotherapeutic treatment offer. As today, it is unclear which patient will benefit most from what kind of treatment. Therefore, emphasis is placed on the development of diagnostic models and assessment strategies to unfold relevant personality characteristics in predicting longitudinal course and treatment effectiveness, i.e. patient-treatment matching.

1.2 Diagnostic strategies for personality disorders

From the perspective of a traditional medical approach Sacket et al. (1991) distinguishes four clinical strategies to come to a diagnosis: pattern recognition; the multiple-branching or arborization strategy; the strategy of exhaustion or dragnet strategy; and the hypothetico-deductive approach.

- 1) *Pattern recognition* is described as “the instantaneous realization that the patient’s presentation conforms to a previously learned picture (or pattern) of disease” (Sackett, 1991, p. 5). In psychiatry, examples of this “gestalt method” are the instantaneous recognition of schizophrenic catatonia or severe Parkinsonism induced by anti-psychotic medication. Most of the time personality disorders are not reliably recognized at first glance since the outwardly presentation of the persona, the mask, can represent the facade behind which maladaptive personality traits can be hidden. The patient can present himself stronger than he is (“faking good”), or even worse (“faking bad”). So, more time and other information are needed to build up a clear picture before drawing final conclusions and, therefore, pattern recognition is probably not the most suitable strategy for identifying personality disorder diagnosis.
- 2) In the *multiple-branching* or *arborization* strategy, the diagnostic process follows “preset paths by a method in which the response to each diagnostic inquiry automatically determines the next inquiry to be carried out and, ultimately, the correct diagnosis” (Sackett, 1991, p. 6). In DSM-IV we find several decision trees for the differential diagnosis of axis I disorders, but not for personality disorders on Axis II. However, such algorithms are not common in the literature on the diagnosis of personality

disorders (although some DSM-IV instruments for the assessment of personality disorders, like SCID-II, have partly incorporated this strategy).

- 3) The strategy of *exhaustion* “depicts diagnosis as a two-stage process” (Sackett, 1991, p. 13). The first step of this *dragnet* strategy is to collect all relevant data (without paying immediate attention to them), followed by the second step of “sifting through the data for the diagnosis”. In clinical interviews this strategy is seldom used, but in the use of self-report questionnaires for the assessment of personality traits, this strategy is rather common.
- 4) The *hypothetico-deductive* strategy is the most common strategy in the diagnostic process in routine clinical practice. “It is the formulation, from the earliest clues of a short list of potential diagnoses...., followed by.... maneuvers that will best reduce the length of the list” (Sackett, 1991, p. 16). This is done by gathering data that disprove or support working hypotheses. In the personality domain this strategy is explicitly used as a specific assessment procedure for diagnostic purposes in the “Structural Interview” as developed by Kernberg (1984).

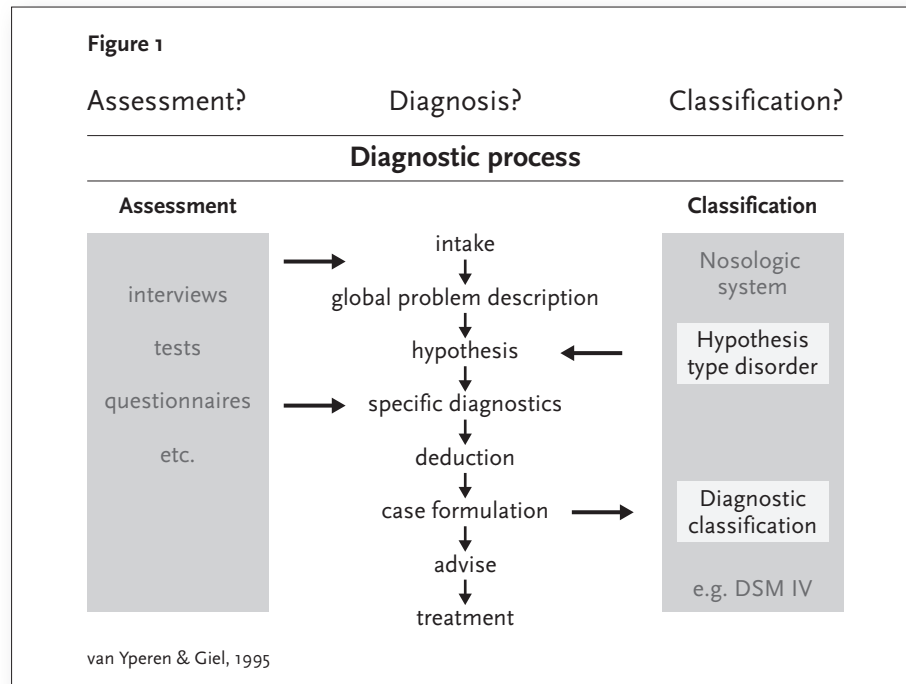
In the consulting room, clinicians traditionally rely heavily on the hypothetico-deductive approach to construct a clear picture of the unique complaints and problems of the individual in the light of his/her habitual behavioral patterns and social performances (van Yperen & Hirs, 1995). During the diagnostic process (figure 1), clinicians integrate data derived from all different domains: disease specific clinical history, biography, psychiatric and family history, self-report questionnaires and other specific assessment procedures (Gabbard, 1994). These data can be obtained from a direct confrontation with the patient, his/her relatives or by reports of earlier treatment efforts. During this hypothetico-deductive and integrative process clinicians are influenced by “explanatory ideas” (Sackett, 1991, p16), schemata and paradigms derived from current classification systems based on a variety of theoretical models. These models give guidance through the labyrinth of concepts and constructs that crosses their minds.

Assessment procedures for personality characteristics, such as self-report questionnaires, specific semi-structured interview methods, and inferential techniques like projection tests can be helpful to gather data in a more specific and formalized way, which enable us to bring to the surface underlying traits, structural derivatives or psychodynamic characteristics of the patients' personality. Most of these instruments rely on the dragnet strategy.

Data derived from different sources should be integrated, during the diagnostic process, to enable the clinician to come to a final conclusion, the individualized diagnostic case formulation. So, theory based classifications, diagnostic processes and assessment procedures are not fully mutual exchangeable, but have their own underpinnings and can be complementary to one another. Today, our multi-conceptual,

multi-method and multi-trait approach relies on integration of information derived from divergent sources during the diagnostic process.

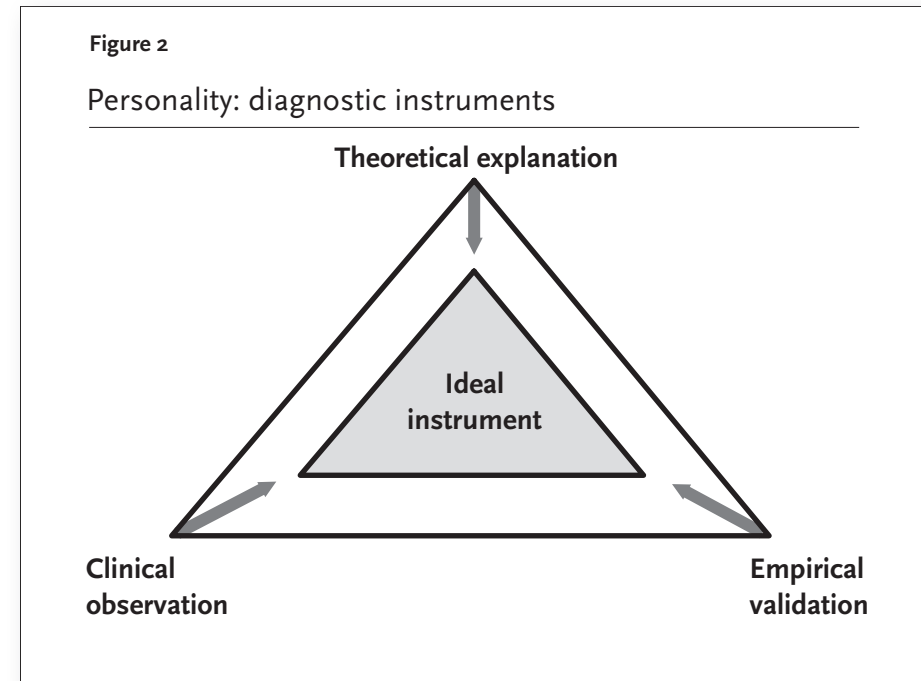
As stated elsewhere (Abraham et al, 2001; Abraham, 2005; Ingenhoven, 2005),



instruments and methods for personality diagnostics should (1) be related to relevant clinical observations to make the functional significance of habitual behavior explicit; (2) have a theoretical-explanatory frame of reference to arrange the observations in a meaningful hierarchical way in order to explain their clinical significance, and (3) should be constructed in a way that empirical research is feasible to establish its reliability and aspects of its internal and external validity. An ideal instrument for personality diagnosis should simultaneously satisfy all three conditions (figure 2), but in clinical practice such an ideal instrument does not exist yet. All current instruments have their advantages and disadvantages when it comes to the clinical-observational, theoretical-explanatory, and statistical-empirical requirements.

Clinical observations as a conceptual point of departure

Based on the descriptive-phenomenological tradition of clinical psychiatry we find the current operationalization of several personality disorders distinguished as discrete categories within the Diagnostic and Statistical Manuals such as DSM-IV and ICD-10 (figure 3). Diagnostic instruments, such as the SCID-II and the IPDE, were developed in order to establish reliable measures for empirical research and clinical diagnostic



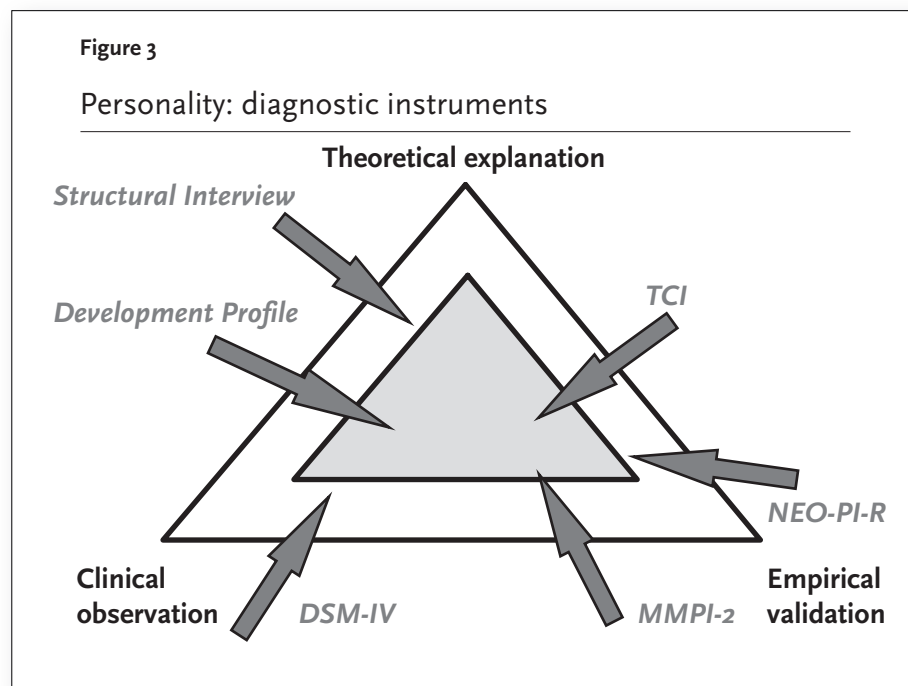
purposes. However, the explicit “a-theoretical” background of these efforts limit the possibility to explain the way people with specific personality disorders feel, think and act. Unfortunately, these diagnostic labels also do not give sufficient information to allocate patients to specific treatment approaches, and the predictive power of these instruments with respect to effective treatment allocation has never been established. Although these descriptive phenomenological and a-theoretical approaches have attributed to a common nosologic nomenclature, and to basic epidemiological knowledge about personality disorders, it is unlikely that they will contribute to the process of indication and treatment allocation to specific treatment approaches in clinical practice, because of the lack of an explanatory framework.

Theory driven understanding of habitual behavioral patterns

The theoretical understanding of personality pathology can be approached from a number of viewpoints, e.g. the psychodynamic, interpersonal, cognitive, and evolutionary-biological perspective (Clarkin & Lenzenweger, 1996). Psychodynamic models provide a rich frame of reference for understanding the “structural” or “motivational” aspects of human behavior. Based on principles of the object relation theory, Kernberg (1984) significantly extended the traditional psychiatric interview in his Structural Interview (figure 3). Relying both on direct clinical observations and theoretical anchor points like reality testing, identity characteristics and

defense mechanisms, Kernberg uses a hypothetico-deductive strategy to find the patients' underlying "personality organization". This process takes place during the Structural Interview. Although, the reliability and validity of this clinical model and its accompanying assessment procedure were hardly empirically evaluated during the last decades, this hierarchical model is frequently used by clinicians who search for a global orientation with respect to their patients' ego-strength.

Other efforts to bridge the gap between observational-exploratory models and empirical standards can be found in the ongoing research on defense mechanisms and attachment styles, using self-questionnaires or specific diagnostic interviews.



The empirical approach as the leading principle

Current instruments for personality diagnostics that are primarily developed from an empirical perspective are for instance the NEO-PI-R (Big Five) and the MMPI-2, (figure 3). Although the Big Five is based on a lexical theory of normal personality characteristics and is extensively tested on its reliability and validity, it lacks a solid theoretical-explanatory frame of reference to explain psychopathologic behavioral patterns in a clinical useful way. This makes it difficult for clinicians to rely directly on the results of this instrument because the scorings on the domains and facets, and the profile derived from it, first have to be "translated" or "theoretically interpreted" for practical clinical purposes. The MMPI-2 is confronted with the same limitations.

Till today, its predictive and incremental value for treatment allocation is hardly tested. Despite its recommendations for clinical diagnosis and treatment planning, the MMPI-2 lacks a solid theoretically based explanatory system (Eurelings-Bontekoe, Onnink, Williams & Snellen, 2008).

1.3 Psychodynamic diagnosis and the Developmental Profile

From a theoretical developmental-psychological stance the Developmental Profile (Abraham, 1993, 1997, 2005; Abraham et al, 2001) attempts to standardize psychodynamic personality diagnostics for clinical diagnosis and treatment planning, and to make it more accessible for empirical validation. Its semi-structured interview relies on the dragnet strategy and provides a comprehensive overview of adaptive and maladaptive behavioral patterns during the past ten years of life. The DP describes the degree to which psychosocial functioning is determined by mature adaptive and by "early" maladaptive behavioral patterns (Abraham, 1993; Abraham & van Dam, 2004). DP consists of a matrix of 10 Developmental Levels (rows) and 9 Developmental Lines (columns) (Table 1). Each Developmental Level describes a central characteristic in the development of psychosocial capacities. These central characteristics are, in ascending order of development, Lack of Structure, Fragmentation, Self-centeredness, Symbiosis, Resistance, Rivalry, Individuation, Solidarity, Generativity, and Maturity (Appendix 1; this chapter). Each DP-level score is made on the basis of the nine psychosocial domains representing the Developmental Lines (Appendix 2; this chapter), referring to Social Attitudes, Object Relations, Self-Images, Norms, Needs, Cognitions, Problem Solving (thoughts and feelings), Problem Solving (actions), and Miscellaneous Themes. Developmental levels in the DP matrix are hierarchically organized, according to the degree to which they affect psychosocial functioning, and range from a primarily primitive level (Lack of Structure) to ultimately mature level (Maturity). These Levels are not assumed to be mutually exclusive. The lowest six Developmental Levels (Lack of Structure, Fragmentation, Self-centeredness, Symbiosis, Resistance and Rivalry) refer to maladaptive behaviors, while the highest four Developmental Levels (Individuation, Solidarity, Generativity and Maturity) refer to adaptive functioning. DP is assessed with a semi-structured interview. A detailed description is obtained of the patients' daily functioning over the past ten years, by focusing on the way the patient functions in the context of family and friendships, education and work, sports and hobbies. Other issues include distressing events and feelings of fear, anger, guilt, shame, and self-esteem. The interview lasts 2–3 hours and is usually spread over two sessions. To interpret the verbatim information derived from the interviews, a scoring protocol is used. This protocol describes in observational terms all 90 items comprising the DP-matrix (10 DP-levels x 9 PD-lines). The rater indicates on a

four-point scale the extent to which the behavior of the patient corresponds to the relevant operational definitions.

1.4 Validation strategies for diagnostic models and their assessment procedures

From an evidence based medicine perspective, Skinner (1981) offers a comprehensive framework for research based on principles of construct validation. Particular emphasis is placed on starting with theory rather than description, and on applying psychometric principles. His framework facilitates an evaluation of the strengths and weaknesses of a given nosologic system, points out areas that require further development, and encourages the comparison of the system to alternative diagnostic classifications. According to Skinner (1981, 1986), a key challenge for the scientific understanding of abnormal behavior is to achieve a synergism between theoretical formulation, clinical description and empirical validation. The emphasis is on the continual interplay between these three perspectives. A three-stage paradigm is proposed: theory formulation, internal validation and external validation. Basically, the **theory formulation** component involves a precise definition of the typical constructs and their functional linkages in a so-called nomological network, and a description of hypothetical relationships to external variables such as treatment process and outcome. Next, an **internal validation** process entails the development of an empirical taxonomy, followed by an evaluation of its reliability, homogeneity, and coverage. Finally, a process of **external validation** involves a series of studies that address the prognostic value of the diagnostic system, as well as their clinical meaningfulness, descriptive validity, and generalizability to populations and settings. All three components interact to form a program of research in which successive refinements can be made to both the empirical typology and the underlying theoretical model.

1.4.1 Theory formulation

The theoretical component of the construct validation framework involves a specification of the theoretical typology. Ideally, this would include a precise definition of each characteristic and the functional relations among the various subcategories. In an effort to describe the development and testing of such a “personologic taxonomy”, Davis and Millon (1995) use two leading principles: (1) a **descriptive empirical approach**, which focuses on exploring the structure of the measures or instruments themselves, which is contrasted with an **explanatory theoretical orientation** that tries to generate new concepts by a process of theoretical refinement, and (2) a **monotaxonic approach**, which is limited to a single entity, which is contrasted with a **polytaxonic approach** that studies entire sets of categories or dimensions in

Table 1. The Developmental Profile, R.E. Abraham, 2005

	SOCIAL ATTITUDES	OBJECT RELATIONSHIPS	SELF-IMAGES	NORMS	NEEDS	COGNITIONS	PROBLEM SOLVING (thoughts & feelings) (actions)	MISCELLANEOUS THEMES
90. MATURITY	91. Retirement	92. Altruism	93. Authentic self-image – existential	94. Authentic norms – existential	95. Significance	96. Meta-cognitions	97. Synthesis 98. Restructuring	99. Dying
80. GENERATIVITY	81. Responsibility	82. Care	83. Authentic self-image – social	84. Authentic norms – social	85. Integrity	86. Context-related cognitions	87. Respect for controversial (sub)cultures 88. Reorganization	89. Mourning
70. SOLIDARITY	71. Living Together	72. Mate	73. Authentic self-image – relational	74. Authentic norms – relational	75. Intimacy	76. Empathy	77. Respect for the controversial other 78. Alliance	79. Collectivity
60. INDIVIDUATION	61. Productivity	62. Equal	63. Authentic self-image – individual	64. Authentic norms – individual	65. Identity	66. Self – reflection	67. Respect for the controversial self 68. Assertiveness	69. Primary-process experiences
50. RIVALRY	51. Status	52. Unattainable love	53. Ideal related self-image	54. Excessive ideals	55. Triumph	56. Histrionic cognitions	57. Reversal 58. Pretending	59. Feelings of sexual insufficiency
40. RESISTANCE	41. Defiance	42. Oppressor	43. Norm-related self-image	44. Excessive norms	45. Domination	46. Objectifying cognitions	47. Elimination 48. Defensiveness	49. Moral masochism
30. SYMBIOSIS	31. Dependencee	32. Parent	33. External self-image	34. External norms	35. Passive need for love	36. Suggestive cognitions	37. Detachment 38. Giving Up	39. Lack of basic trust
20. SELF-CENTEREDNESS	21. Soloist	22. Servant	23. Overrated self-image	24. Selfish norms	25. Mirroring	26. Self-referring cognitions	27. Disclaiming 28. Self-overestimation	29. Coldness
10. FRAGMENTATION	11. Changeability	12. Frame	13. Vague self-image	14. Dichotomous norms	15. Sensation-seeking	16. Non personality-related cognitions	17. Primitive externalization 18. Acting Out	19. Dissociation
00. LACK OF STRUCTURE	01. Bizarre behaviour	02. Lack of Affectivity	03. Lack of a self-image	04. Lack of norms	05. Primary satisfaction of needs	06. Lack of psychological phenomena	07. Falsification 08. Impulsive behavior	09. Disorganization

the personality domain. Based on these two principles Davis and Millon (1995) distinguish two sophisticated theoretical approaches:

- The **Explanatory Monotaxonic Theoretical Orientation** is limited in scope by a within-category theoretical orientation. These models tend to be reductionistic in a passive way, i.e. other diagnostic domains are ignored. It is primarily concerned with the essential elements that eventuate in and sustain a particular kind of personality pattern. It accounts for the developmental origin of the pathology in scope in terms of a single-area clinical domain, whether it is behavioral, interpersonal or intra-psychic. Examples of this orientation can be found in the hierarchical ordering of defense mechanisms as proposed by Anna Freud (1936), in the developmental origin of self-pathology in the narcissism construct of Kohut (1971), or in the development of the nine individual Developmental Lines within the DP, e.g. the DP line of *Cognitions* (Abraham, Overeem-Seldenrijk & Ingenhoven, 2005).
- The **Explanatory Polytaxonic Theoretical Orientation** bridges theories of multiple clinical domains by studying entire sets of taxonomic units. The aim is the justification of a predominant personology that must be justified scientifically and theoretically. By a deductive approach relations are seen more clearly, categories are conceptualized more accurately and elements are integrated in a more logical, consistent and intelligible fashion. Such a holistic, cohesive structure can be found in the work of Millon & Davis (2000), and in the use of the ten hierarchical ordered Developmental Levels within Abraham's Developmental Profile matrix.

1.4.2 Internal validation

The second stage in developing a classification system involves the development of operational definitions of the constructs and to examine various properties concerning the internal structure of the derived classifications. As described above, Davis and Millon (1995) distinguish two empirical approaches:

- The **Descriptive Monotaxonic Empirical Approach** tends to focus on a single diagnostic category, dimension or prototype. Measures are decomposed psychometrically into their constituent elements. The aim is to explore the internal structure of the concept or instrument in order to prove validity by its factor-structure or internal consistency (i.e. by item-to-remainder correlations or Cronbach's alpha). It is working top down, moving in the direction of greater specificity as larger units are disentangled into smaller ones. An example of this approach is the study of the internal consistency of the individual Developmental Levels of the DP (as described in chapter 2).
- The **Descriptive Polytaxonic Empirical Approach** is driven by the refinement of neighbouring representations concerning entire sets of categories or dimensions. It seeks to distill commonalities or clusters by gathering many diverse measures and subjecting these to its principal components (e.g. by multivariate analysis).

This approach works bottom up, moving in the direction of greater communality, combining smaller units into those of greater bandwidth. An example of this approach can be found in the search for empirical validation of the hierarchical structure of the matrix of the DP (see chapter 2 for an overview), the use of aggregate variables like the Developmental Profile Index (chapter 6, 7 and 8), or of concurrent relations between diagnostic instruments (chapter 4).

In the review presented in chapter 2, studies on the DP elaborate on the internal validation component.

1.4.3 External validation

If these research findings have to have impact, then further efforts must be directed at establishing its predictive relatedness to external issues. Therefore, the third and final stage in developing a classification system involves an ongoing series of studies aimed at establishing external validity. These studies bear on its prognostic usefulness, its descriptive validity (convergent and discriminant properties), clinical meaningfulness, and generalizability to different populations (Skinner, 1981). Recently, special emphasis is placed on the incremental validity of psychodiagnostic assessments, i.e. does a measure add to the prediction of a relevant criterion above and beyond what can be predicted by other sources of data (Hunsley and Meyer, 2003)?

1.5 Intensive treatment for personality disorders

Most of the studies in this thesis are based on the results of empirical explorations with the DP in the Treatment Centre for Clinical Psychotherapy, De Zwaluw, patient department of the Symfona group in Amersfoort, The Netherlands. In this treatment centre adolescent and young adult patients with personality disorders and a variety of non-psychotic Axis I disorders, intent to stay in treatment for about one year for five days a week, weekends spent at home. In this milieu and group oriented approach patients follow an intensive and consistent treatment program. Sociotherapy (twice a day), group psychotherapy (twice a week), and art therapy, psychodrama, music therapy and psychomotor therapy (all once a week), are arranged in an integrated treatment approach. Relatives are involved in the treatment process via family or couple therapy. Whenever possible, after about nine months patients make the transition into a step down phase to continue their treatment in a day clinical format within the same therapeutic milieu. As described elsewhere (Ingenhoven, Abraham & Hartman, 2000; Ingenhoven & Abraham, 2005), all these verbal and non-verbal treatment efforts are integrated in order to focus on dominant structural and psychodynamic themes underlying symptomatology, maladaptive behavioral patterns, interpersonal problems and social maladjustments (see footnote).

Footnote: an impression of treatment within this therapeutic milieu can be seen in the program "Vinger aan de pols. Borderline, de kliniek als laatste redmiddel" broadcasted on the Dutch television in 2005 (see: www.tvopjpc/programma/127/30/0).

1.6 Scope of this thesis: aims and research questions

The scope of this thesis is to improve the understanding of the role of psychodynamic models, and their assessment procedures, in diagnosis, treatment allocation, and treatment outcomes of patients with personality disorders. In the light of the background considerations mentioned above, three general aims are formulated that are elaborated into 10 research questions.

Aim I: Psychodynamic assessment of personality in clinical psychiatry

To gain more insight in the Developmental Profile as a method for psychodynamic diagnosis of personality:

- Q.1. What is the theoretical frame of reference of the DP, and what are its clinical derivatives?
- Q.2. What is the current empirical psychometric status of the DP?

Aim II: Reliability of semi-structured psychodynamic interview methods

To explore the interrater reliability of the Developmental Profile (DP) and the Structural Interview (SI) in clinical practice and for empirical research:

- Q.3. Can the DP be reliably applied after adequate training?
- Q.4. Can the SI be reliably applied after adequate training?

Aim III: Concurrent validity of psychodynamic assessments

To explore the relation between structural and psychodynamic diagnostic models using different semi-structured assessment procedures:

- Q.5. Can structural SI derivatives (like deficient reality testing, primitive defenses and identity diffusion) significantly be predicted by psychodynamic characteristics as defined and measured by the DP?
- Q.6. To what extent are DP variables able to predict the personality organizations (neurotic, borderline, psychotic) as described by Kernberg and assessed with the SI?

Aim IV: Predictive validity of psychodynamic assessment by the DP

To explore the predictive power of the DP in a naturalistic treatment setting, with respect to the process and outcome of psychotherapy:

- Q.7. Can DP predict treatment duration and dropping out in a naturalistic clinical psychotherapeutic treatment setting?
- Q.8. Can DP predict patients treatment disrupting behaviors and treatment contract violations during inpatient psychotherapy?
- Q.9. Can DP predict the outcome of psychotherapy in terms of decrease in symptom severity during inpatient psychotherapy treatment and follow-up?

- Q.10. If questions 7 to 9 are answered confirmative, what is the incremental predictive value of DP (variables) over and beyond basic diagnostic information like sociodemographic variables, descriptive psychiatric diagnoses and baseline symptom severity.

1.7 Contents of the thesis

These four aims, are addressed in the following themes and studies:

Introduction

Chapter 1. **Perspective on Diagnosis of Personality. Scope of this Thesis.**

Chapter 2. **Making Diagnosis more Meaningful.**

The Developmental Profile: a Psychodynamic Assessment of Personality

(Aim I; Q. 1 & 2) In this overview we summarize the taxonomic frame of reference of DP, the Developmental Lines and Developmental Levels building up the hierarchical matrix, and the way DP can be assessed by a semi-structured interview using a scoring protocol. We describe DP from a theoretical and clinical point of view. Currently available empirical research findings with regard to reliability and validity issues are reviewed. We discuss the use of DP in clinical practice with respect to other psychodynamic diagnostic methods and assessment procedures, and its properties in supporting the treatment process. Directions for further empirical research are explored.

Reliability of Psychodynamic Personality Assessment

Chapter 3. **The Developmental Profile: Preliminary Results on Interrater Reliability and Construct Validity**

(Aim II; Q.3) This chapter presents the preliminary results of research into the interrater reliability and construct validity of DP. A total of 108 written verbatims of DP's were assessed and scored, drawn from three different categories of patients: psychiatric patients, normal controls and somatic patients. Interrater reliability was estimated. The discriminative properties of the DP with respect to the three populations in the study were explored.

Chapter 4. **Interrater Reliability for Kernberg's Structural Interview for Assessing Personality Organization**

(Aim II; Q.4) Interrater reliability is considered a precondition for studies on the validity of theoretical models and their corresponding diagnostic instruments. Yet, little research is available on the reliability of assessment procedures on the structural level of personality pathology. This study investigated the interrater reliability of the Structural Interview (SI) designed to assess neurotic, borderline and psychotic personality organization according to Kernberg. Videotaped SIs of 69 psychiatric patients were randomly and independently rated by trained psychologists. Interrater reliability was estimated. An additional question was whether refining Kernberg's nosological system by adding subcategories ("low level" versus "high level" Borderline Personality Organization) would influence the reliability estimates.

Concurrent Validity

Chapter 5. **"Here and Now" or "There and Then"? Convergent Validity of Psychodynamic Personality Assessments using Different Interview Methods.**

(Aim III; Q. 5 & 6) The Structural Interview (SI), focusing on current interactions, and the Developmental Profile interview (DP), assessing the last ten years of life, were assessed in 60 difficult to diagnose psychiatric patients with a mixture of Axis I and II disorders. DP variables were used to predict structural derivatives as Deficient Reality Testing, Primitive Defenses and Identity Diffusion, as well as Psychotic, Borderline and Neurotic Personality Organization (PPO, BPO, NPO) as defined by Kernberg and assessed with the SI.

Predictive Validity

Chapter 6. **Treatment Duration and Premature Termination of Psychotherapy in Personality Disorders: Predictive Validity of the Developmental Profile assessing Psychodynamic Personality Diagnosis.**

(Aim IV; Q. 7 & 10) Little is known about predictors of treatment duration and premature termination of clinical psychotherapy. Sociodemographic and psychiatric characteristics were assessed in 148 personality disorder inpatients in psychotherapy. To evaluate psychodynamic characteristics, the DP was assessed to predict treatment duration and premature termination. The incremental value over and beyond demographics and descriptive diagnosis was estimated for the psychodynamic DP variables.

Chapter 7. **Treatment Disruptive Behaviors during Psychotherapy of Patients with Personality Disorders: The Predictive Power of Psychodynamic Personality Diagnosis.**

(Aim IV; Q. 8 & 10) During psychotherapy, treatment disruptive behaviors are a serious clinical problem. DP variables were used to predict violations of the treatment contract, impulsive acts, anger outbursts and parasuicidal gestures, during the first months of treatment in 89 personality disorder inpatients (part of the cohort as described in chapter 6). The incremental value for each psychodynamic variable over and above demographics and descriptive psychiatric diagnosis was determined.

Chapter 8. **Predictive Value of Psychodynamic Personality Assessment for Outcome of Inpatient Psychotherapy for Personality Disorders.**

(Aim IV; Q. 9 & 10) Outcome of psychotherapy for personality disorder patients is determined by a multitude of factors, yet little is known about the predictive performance of psychodynamic personality characteristics. Sociodemographic characteristics, descriptive psychiatric diagnoses and symptom severity, and psychodynamic personality characteristics were assessed in 110 young adults referred to inpatient psychotherapy for personality disorders (part of the cohort as described in chapter 6). Psychodynamic characteristics, as measured with the DP, were used to predict outcome as determined by symptom reduction on SCL-90 between admission and discharge, and during follow-up. In addition, the incremental value of the psychodynamic personality variables over and beyond sociodemographics, descriptive psychiatric diagnosis, baseline symptom severity and treatment duration was determined.

Epilogue

Chapter 9. **Summary of Findings and General Discussion**

This last chapter contains an overview and critical review of the main findings of the studies of this thesis. General methodological pitfalls are considered. Significant findings are evaluated. Finally, clinical implications are formulated, leading to recommendations for future research.

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Appendix 1. Definitions of the Developmental Levels (Abraham, 2001)

90. Maturity	Decentralization whereby one's personal interests are no longer of primary importance: no longer placing oneself in the centre of things
80. Generativity	A true joint responsibility for the function of society.
70. Solidarity	Functioning in a relationship. Being part of a larger entity, With out losing one's own personality
60. Individuation	Self-realization: living life in one's own way, taking into account the existing possibilities as well as the interests of others.
50. Rivalry	Insecurity about one's own qualities as an adult man or woman, together with a striving to prove oneself.
40. Resistance	The lack of autonomy; a lack of inner freedom.
30. Symbiosis	An incomplete separation or an inability to function independently.
20. Self-centeredness	An excessive egoistic attitude.
10. Fragmentation	A lack of inner consistency.
00. Lack of Structure	The lack of a frame of reference and/or the lack of certain general human abilities.

Appendix 2. Definitions of the Developmental Lines (Abraham, 2001)

Social Attitudes	The habitual behavior of the patient in daily contacts.
Object relationships	The meaning or role the patient ascribes to his significant others or to people in general
Self-Images	The criteria that determine one's sense of self-esteem.
Norms	A frame of reference for assessing the correctness or feasibility of the behavior.
Needs	A general desire or urge for something one lacks.
Cognitions	The manner in which one attributes meaning to ones experience.
Problem solving (thoughts and feelings)	Thoughts and feelings as a reaction to internal or external stress.
Problem solving (action)	Action as a reaction to internal or external stress.
Miscellaneous themes	Other specific complementary habitual behavioral patterns.

Chapter 2

Making Diagnosis more Meaningful.

**The Developmental Profile:
a Psychodynamic Assessment of Personality**

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2.1 Abstract

The Developmental Profile (DP) offers a psychodynamic description of the degree to which an individual has developed adaptive functioning appropriate to his or her age, and the extent to which daily functioning is determined by “early” maladaptive patterns. In this article we summarize the taxonomic frame of reference of the DP, the Developmental Lines and Developmental Levels, and the way it can be reliably assessed by a semi-structured interview using a scoring protocol. We describe the DP from a theoretical and clinical point of view. Current empirical research findings with regard to reliability and validity issues are reviewed.

We discuss the use of the DP in clinical practice with respect to other diagnostic methods and assessment procedures, and its properties in supporting the treatment process. Directions for future empirical research are explored.

2.2 Introduction

Personality characteristics are regarded as one of the most relevant clinical factors predicting the course and outcome of psychotherapy (Lambert, 1992; Clarkin and Levy, 2004). Although DSM-IV is still the standard to classify personality disorders, Axis II is strongly criticized: descriptive diagnostic constructs have limited reliability and validity, diagnostic overlap between categories is substantial, and a large proportion of cases cannot be classified specifically (Widiger, Simonson et al., 2006; Livesley, 2008). In addition, there is no evidence for the clinical utility of Axis II diagnosis in individual case formulation or clinical decision making, like planning appropriate psychotherapeutic treatment (Verheul, 2005). As DSM-IV does not systematically operationalize useful clinical concepts such as self esteem, interpersonal functioning and habitual coping strategies, criticisms has lead to several proposals to improve DSM-IV, or to replace current categorical AXIS II diagnoses by an alternative model. Based on empirical tradition in psychology, alternative dimensional models are available for measuring personality traits, like the MMPI (Lima et al., 2005), the Five-factor Model (FFM) (Markon, 2005), or alternative assessment procedures like the Temperament and Character Inventory (Cloninger, 2000) and Dimensional Assessment of Personality Pathology (Livesley and Jackson, 2000). The relevance of these dimensional models is supported by large amounts of research, confirming their reliability in measuring personality traits, the possibility of relating it to genetic and neurobiological characteristics, and its broad coverage. However, a point of concern regarding these trait models is their lack of a clinical typology. For use in daily clinical practice, where clinicians have to make decisions frequently based on incomplete information, and without the possibility of applying measuring

instruments, underlying typical images of the diagnostic issues and categories are needed (Verheul, 2005; Westen and Muderrisoglu 2006). Another concern is the lack of predictive validity of these methods with respect of the process and outcome of treatment, and the absence of incremental value over and beyond basis descriptive patient characteristics like sociodemographic variables and descriptive psychiatric diagnoses (Lima et al., 2005). So, it is questionable to which extent these dimensional trait models are able to provide an alternative or more sophisticated comprehensive diagnostic system for personality pathology.

In contrast, psychodynamic concepts, as yet less scientifically elaborated and more difficult to measure, are closely related to the way clinicians think about their patients behavior and offer theoretical concepts that elucidate their problems. A central and distinctive feature of the psychodynamic approach is its adoption of a developmental perspective on personality. As personality develops during the lifespan, intrapsychic and interpersonal levels of functioning are ultimately determined by the interplay of adaptive and maladaptive personality characteristics. Therefore both pathological and healthy features of personality need to be addressed in order to obtain a balanced view on the structure of personality and its psychodynamic features, and their role in diagnosis, treatment allocation and the therapeutic process. An example of such a theoretically and clinically driven instrument for personality assessment that takes a hierarchical arranged view on personality is the Developmental Profile (Abraham, 1993; Abraham et al., 2001; Abraham, 2005). Especially when the clinician is confronted with complex and multifaceted personality problems, former treatment efforts failed, or an expensive specialized treatment in a psychotherapeutic (day)clinic is considered, a thorough understanding of the patients psychodynamic functioning is warranted. For that purpose, the Developmental Profile (DP) can provide information on both adaptive as well as maladaptive psychodynamic components of the patients' daily functioning, the suitability of specific psychotherapeutic approaches, the direction for setting relevant targets and realistic goals for treatment, and indications for managing the therapeutic process and complex (counter) transference issues within the therapeutic relationship.

In this article we discuss the theoretical background of the DP, and how the DP was constructed and further developed. The DP interview method and the scoring procedure will be described. Comparisons to other current comprehensive psychodynamic methods will be made. Next, we present an overview of current empirical research on reliability and validity issues regarding the DP. Finally, we present clinical applications and discuss the challenges for future research.

2.3 Theoretical background

The DP is based on psychodynamic developmental psychology. This theoretical frame of reference refers to the clinical observation that adult personality characteristics, especially irrational maladaptive behaviors, often show considerable similarities to behavioral patterns seen in (early) childhood (Pine, 1985; Tyson and Tyson, 1990). Freud (1905) was the first to associate early childhood development with the occurrence of psychological disorders in adulthood. He used the concept of stages in psychosexual development as the foundation for a model that linked adult habitual behavior to developmental levels, thereby formulating the concepts of an oral, anal, or genital character, further elaborated by K. Abraham (1925). This model assumes a gradual transition between psychologically healthy and disturbed functioning. These developmental levels are hierarchically organized (Gedo & Goldberg, 1973; Wilson and Gedo, 1993). Adult behavior can best be understood as the result of an interaction between these levels of functioning (Bellak and Goldsmith, 1984).

The DP attempts to standardize psychodynamic personality diagnostics to make them more feasible for clinical diagnosis and treatment planning, and accessible for empirical validation. The DP consists of a matrix (see Table 1. Chapter 1) including ten *Developmental Levels* (rows) and nine *Developmental Lines* (columns). The Developmental Levels refer to successive stages in psychological development. The Developmental Lines, as introduced by A. Freud (1963) and Nagera (1963), describe the behavioral manifestations of the developmental levels on the various psychosocial domains.

2.3.1 Item selection

After the framework of the DP was constituted (Abraham, 1993), the next step was to search for specific personality characteristics to define the content of the cells of the matrix. This was no simple task, since (a) the number of clinically relevant personality characteristics and behavioral patterns described in the literature was very large, (b) the complexity and abstraction of the descriptions of the patterns were very diverse, and (c) a lot of terms were not well defined or were defined differently. In arranging this highly heterogeneous body of material, the following criteria were used (Abraham, 1997). First, the selected personality characteristics must have clinical significance; it must be possible to relate them to adaptive or maladaptive aspects of the individual's functioning. By adaptation we mean the degree to which a person has developed capabilities suited to the demands of the environment and appropriate to his age. Second, the personality characteristics must be related to one single developmental level. This excludes phenomena as feelings of general anxiety or tension. Third, only items referring to manifest behavior were included. This criterion excludes meta-psychological themes like ego strength, because such constructs symbolize concepts that transcend observable behavior. Attempts were made to make

testable operational definitions. Based on testing in clinical practice and the preliminary results regarding interrater reliability and internal consistency, Abraham (2005) revised the Developmental Profile by extending the 1997 matrix schema (including the original Developmental Levels and Developmental Lines) and replacing or sharpening the operational definitions of some of the 90 cells (Abraham, Overeem-Seldenrijk and Ingenhoven, 2005).

2.3.2 Developmental Levels

Each Developmental Level describes a central psychodynamic theme referring to one of the phases in the development of psychosocial functioning (Abraham and van Dam, 2004). These central themes are in order of increasing psychological maturity: *Lack of Structure, Fragmentation, Self-centeredness, Symbiosis, Resistance, Rivalry, Individuation, Solidarity, Generativity, and Maturity* (See Appendix 1. chapter 1). The Developmental Levels within the DP-matrix are hierarchically organized, according to the degree to which they affect psychosocial functioning, ranging from primarily primitive (*Lack of Structure*) to ultimately mature (*Maturity*). The highest four levels *Individuation, Solidarity, Generativity, and Maturity* refer to adaptive functioning, while the lowest six levels *Lack of Structure, Fragmentation, Self-centeredness, Symbiosis, Resistance and Rivalry* refer to maladaptive behavioral patterns.

The lowest or most primitive two levels, *Lack of Structure* and *Fragmentation*, correspond to Kernberg's (1981, 1984) psychotic and borderline personality organization (defined by impaired reality testing, primitive defenses and identity diffusion). The level of *Self-Centeredness* refers to narcissistic problems as elaborated by Kohut (1971), Kernberg (1984) and others. The next three levels, *Symbiosis, Resistance and Rivalry*, correspond to Freud's (1905) oral, anal and phallic developmental phases. The four levels in the adaptive realm, *Individuation, Solidarity, Generativity and Maturity*, are derived from the models of normal adult development, such as described by Erikson (1950, 1959).

2.3.3 Developmental Lines

Each Developmental Level is characterized by nine Developmental Lines (see Appendix 2. chapter 1), referring to *Social Attitudes, Object Relations, Self-Images, Norms, Needs, Cognitions, Problem Solving (thoughts and feelings), Problem Solving (actions), and Miscellaneous Themes*.

The Developmental Line of *Social Attitudes* follows the successive stages in development as described by Erikson (1963). The foundation of the Developmental Line of *Object Relations* was laid by the work of Fairbairn (1952), Winnicott (1965) and Mahler (1974). The importance of *Self-image* for human development was elaborated in the work of Hartmann (1948/1964) and Kohut (1971). The Developmental Line of *Norms* is based on the stages of moral development as described by Loewinger (1976) and Kohlberg (1981). *Needs* goes back to the libidinal phases described by Freud (1905), Hartmann (1948/1964), Maslow (1954) and Klein (1976). The development of the way people give meaning to their experiences, as described by Piaget (1962), Inhelder and Piaget (1958) and Fonagy

and Target (1996), is described in the Developmental Line of *Cognitions*. The two Developmental Lines of *Problem Solving* draw on *thoughts and feelings* (defense mechanisms) and *actions* (coping strategies) as described by A. Freud (1936), Vaillant (1994), Perry and Cooper (1989), Lazarus (1993) and others.

2.3.4 Developmental Profile Interview

The information is obtained using a semi-structured interview and interpreted with the aid of a scoring protocol (Abraham, 1997, 2005). The aim of the interview is to get a detailed description of the patients' daily life over the past ten years, focusing on the way the patient functions in various areas such as family and friendships, education and work, sports and hobbies. Other questions elaborate distressing events and feelings of fear, anger, guilt, shame and self-esteem. In discussing these matters, special attention is given to the way the patient copes with stressors and whether previous treatment was experienced as helpful or not. The interview is carried out according to the so called "a-b-c-m model", referring to the affective valence (a), the actual behavior (b), the cognitive content (c), and the personalized meaning (m) of the events explored. Some examples: questions pertaining the patient's ability of living alone explore the degree of *Dependence* (item 31). In the assessment of education, work or hobbies, the patients *Identity* (item 65) is explored by asking him to indicate whether he experiences his choices as suitable for himself. To explore object relations of the *Mate* type (item 72) of his relationships, the patient is asked to indicate whether on occasion the patient and his relatives take each other into confidence or ask each other for help when necessary.

The interview usually lasts 2-3 hours, divided in two sessions. Patients who show sufficient insight and psychological mindedness during an initial interview can be asked to answer the questions by themselves on paper. Later, in a complementary interview lacunas and unobvious statements can be clarified.

2.3.5 Scoring procedure

The interpretation of the derived information is based on a scoring manual. This protocol consists of a description in observational terms of the 90 personality characteristics, a clarification of each item, and a number of clinical examples. The rater indicates on a 4-point scale the extent to which the patients' habitual behavioral patterns correspond with each of the operational definitions of the ninety items. The 4-point scale is coded: not applicable (0); marginally applicable (1); largely applicable (2); or fully applicable (3).

For **example**, when exploring the social situation of patients who live alone, aspects such as cooking, cleaning, and laundry by themselves are explored. It is important to know whether the patient can be at home alone and how he experiences these moments. These questions may offer information about the patient's *Dependence* (item

31). He may be capable of caring for himself and feel perfectly well at home (score 0). Or, although he manages all right on his own, he may often feel lonely so that he prefers to spend the weekends with his parents (score 1). Or, a patient having a place on his own, furnished to his own tastes, but he may still always be off somewhere because he cannot stand it to be alone. In effect he uses his house only as a place to sleep (score 2). And finally, there are adult patients who say they have a place on their own but do not actually live there, and others who have tried to live independently but could not stand it and went back home to live with their parents (score 3). The final score for each Developmental Level is calculated by summing the individual scores of the nine corresponding items (Developmental Level raw score, theoretically ranging from minimal 0 to maximal 27). A weighted score for each Developmental Level can be computed as: 0 (raw scores 0 – 2); 1 (raw scores 3 – 5); 2 (raw scores 6 – 8); or 3 (raw scores \geq 9), to give us a global clinical impression of the most relevant psychodynamic issues.

2.4 The DP and other psychodynamic personality assessments

Current comprehensive psychodynamic classification systems differ in the way information is obtained using related assessment procedures, covering different psychodiagnostic domains, differences in the refinement of subcategories, using categories that are mutually exclusive or not, and using successive domains that are interrelated clinically or not.

Kernberg's *Structural Diagnoses* (Kernberg, 1984) are broad and not very specified. His categories: *Psychotic*, *Borderline* and *Neurotic Personality Organization*, based on assessments in three functional domains (reality testing, defense and identity), contain three mutually exclusive categories that offer a global but fundamental understanding of the vulnerability of the patients' underlying psychic structure. The DP offers more differentiated information in both the adaptive and maladaptive realms. In contrast to the DP the *Structural Interview* (SI) (Kernberg, 1981, 1994) focuses on the patient-therapist interaction and makes use of tension and anxiety provoking interpretations about current interactions with the interviewer, the "here and now".

Like the DP, and in contrast with the SI, the *Structured Interview for Personality Organization* (STIPO) (Clarkin et al., 2003) also focuses on the "there and then" to assess psychodynamic variables in every day life. The STIPO score form qualifies domains covering identity, object relations, defenses, coping, aggression, moral functioning and reality testing. But in contrast to the DP, the quantifications of the STIPO excludes scores in the adaptive and maladaptive realm, making them mutually exclusive. Moreover, the STIPO offers no interrelated matrix for the successive domains.

Other efforts made to build an overview of psychodynamic function include the *Personality Assessment Interview* (PAI) (Selzer, Kernberg, Fibel et al., 1987) and the *Karoliska Psychodynamic Profile* (KAPP) (Weinryb, Rossel and Asberg, 1991). They offer a multi-dimensional diagnostic framework next to Kernberg's structural diagnoses, but no interrelated hierarchical matrix.

The *Defensive Functioning Scale* (DFS), as described in DSM-IV (APA, 1994), has a limited scope delivering a hierarchical overview of defense mechanisms. The *Psychodynamic Diagnostic Manual* (PDM Task Force, 2006) also contains standardized issues like self-perception, self-regulation, object perception, communication and attachment. Unfortunately, the DFS and PDM do not describe a specific assessment procedure, like a semi-structured interview method.

2.5 Psychometric evaluation

The empirical testing of the Developmental Profile (version 1997 and revision 2005) so far focused on interrater reliability, internal consistency, construct validity, and discriminative validity.

2.5.1 Interrater reliability

Using verbatims of interviews, interrater reliability was assessed for both the DP 1997 version (Van, Ingenhoven, van Foeken et.al., 2000; Spijker van 't et.al.2001^a) and the DP 2005 revision (Van, Polak, Abraham et. al., 2005). Squared weighted Kappas (Cohen, 1968) ranged between 0.53 and 0.84, which can be qualified as "moderate" to "almost perfect" (Landis and Koch,1977). The overall Kappa of the Developmental Levels (0.70) was "substantial". The fact that it is possible to obtain acceptable reliability using an instrument of such complexity and abstraction, was explained by the clear operationalization of the concepts, the standardization of quantification in the scoring protocol, and by the training and supervision of experienced clinicians in the Developmental Profile Foundation [www.ontwikkelingsprofiel.nl]. Overall, these results can be qualified as acceptable for the use of the DP in clinical practice and further research. [see footnote 1.]

2.5.2 Internal consistency and construct validity

The construct of the DP can be evaluated by empirical verification of two underlying assumptions, (a) the "horizontal" arrangement of items on each Developmental Level and the internal consistency of the nine corresponding components, (b) the "vertical" ordering of the successive Developmental Levels, representing a hierarchical maladaptive-adaptive dimension.

Horizontal arrangement. The internal consistency of the DP levels was determined

by estimating the item-remainder correlations for every cell in relation to the other cells on the corresponding Developmental Level. 86% of the items fell within the range of 0.10 to 0.50, representing an adequate level of homogeneity. In addition Cronbach's α coefficients ranged from 0.65 to 0.83, indicating acceptable internal consistency for the Developmental Levels within the DP-matrix (Abraham, Van, van Foeken, Ingenhoven et al., 2001). [See footnote 2.]

Hierarchical ordering. The vertical arrangement of the ten Developmental Levels within the Developmental Profile matrix is hierarchically structured. As the DP levels are arranged in a bipolar order from maladaptive and most primitive (*Lack of Structure*) to adaptive and most mature (*Maturity*), the construct validity of this vertical hierarchical arrangement of the Developmental Levels was confirmed by reverse coherence analysis (Abraham, Van, van Foeken, Ingenhoven et al., 2001) and correspondence analysis (Polak, Van, Overeem-Seldenrijk et al., accepted for publication). [See footnote 3]

2.5.3 Discriminant validity

In order to test the ability to distinguish clinical relevant groups on psychodynamic characteristics, the DP was conducted in forensic inpatients, psychiatric inpatients, psychiatric patients in a psychotherapeutic day-clinic, psychiatric outpatients, dental patients and normal controls (Van, Ingenhoven, van Foeken et al., 2000; Van, Palmer-Bouva, Eurelings-Bontekoe, et al., 2005; Willemsen, van der Woude, Huijsman & Abraham, 2005; Polak, Van, Overeem-Seldenrijk et al., accepted for publication). These studies confirmed the hypothesis that different patient groups can be distinguished by the DP variables. [see footnote 4]

2.5.4 Predictive validity

One of the most intriguing research questions is related to the predictive and incremental validity of the DP. Till today, studies that use the DP on these issues are hardly published (Ingenhoven, Duivenvoorden, Lim, et al., 2005). In two studies a selection of the Developmental Lines predicted the course and outcome of psychotherapeutic treatment for depression (Van, Hendriksen, Schoevers et al., 2008; Van, Dekker, Peen et al., 2009). [See footnote 5]

2.6 Clinical implications

In clinical practice, the DP can be used as a hierarchically ordered system of knowledge, as a systematic assessment procedure for psychodynamic classification, and as a guidance for treatment.

2.6.1 System of knowledge

As a hierarchically ordered system of knowledge, the DP offers an explanatory theoretical framework allowing responsible clinical diagnostic reasoning. The 9x10 matrix of the DP accommodates a nomological network of hierarchically structured psychodynamic concepts (Campbell, 1960). Within this framework hypotheses can be deduced (Sacket, Haynes and Tugwell, 1985) and tested in every day clinical practice, without necessarily conducting the whole DP interview.

Example 1: During her first visit to an outpatient clinic, a 25 years old woman with an anxiety disorder and recurrent suicidal thoughts, presents herself with little adaptive qualities. She did not finish school, never worked (*Social Attitude* 61:-), nor had she longstanding intimate relations (*Object Relation* 72:-). She reflects some capabilities for psychological mindedness (*Cognition* 66:+). Without the direct care of a boyfriend she seems unable to manage a life on her own. As soon as her new lover leaves for his job, she feels empty, starts chatting and telephoning with men, finally engaging in promiscuous behavior. The therapist assumes her problems trace back to *Symbiosis* (Hypothesis one: DP-items 31 and 32), but also considers a borderline personality organization on the corresponding DP-level of *Fragmentation* (Hypothesis two: DP items 12, 15 or/and 18). Assessing her mental state after her partner left for his work, she describes that she panicked, not being able to structure her train of thoughts. For her, this has always been a familiar pattern! The therapist concludes that she fulfills the definition of the *Frame* type (12) Object Relation on the Developmental Level of *Fragmentation* (definition *Frame* (12): The client derives her inner structure from her relationships). This classification implies an advice of a long-term supportive form of psychotherapy, long-term because it concerns strongly maladaptive object-relational functioning which is not likely to respond to short-term psychotherapy. Furthermore, in view of the absence of adaptive behaviors, it is questionable whether the patient is able to stand, and to profit from a more explorative psychodynamic approach. Therefore the therapist preferably needs to start with a supportive approach, including psycho-education and cognitive interventions.

2.6.2 Systematic assessment for psychodynamic classification

Using the DP as an assessment procedure, the DP semi-structured interview is fully conducted. The way complete information has been gathered by the interview, refers to the dragnet strategy (Sacket, Haynes and Tugwell, 1985). Next, the information obtained is interpreted within the instructions described in the scoring protocol.

Example 2: A 23 year old married woman was referred for a diagnostic assessment after 1.5 years of outpatient treatment (individual cognitive therapy; partner-relation therapy with her husband; high dose SSRI). Neither treatment turned out to be beneficent. Should she continue in outpatient psychotherapy even longer, or should she be offered more intensive treatment? After an intimate relationship of three years

she got married, and was living together with her husband and their two year old son. She finished secondary school and went to a teacher training college, but stopped in her second year because of increasing problems at home. There, she could become very angry and assaultive towards her husband when she felt not getting enough attention from him. Her clinical diagnosis of Borderline Personality Disorder was confirmed by SCID-II. There was no diagnosis of an organic brain syndrome, major psychotic or affective disorder or substance abuse.

As stressed in Table 1 (this chapter), her DP showed severe problems on the DP-level of Symbiosis (30), especially the Object Relation Parent (32) and her External Self-image (33), in which she fuels her brittle self-esteem by the care and emotional involvement of significant others. Unable to cope with the provoked separation anxiety and oral rage, she could become temporarily regressed using primitive defenses (Externalization 17), Acting out (18) and aggressive Impulsive Behavior (08), accompanied by “black outs” (Dissociation 19) and micro-psychotic features (Disorganization 09). Despite these temporary primitive maladaptive features, particular on Fragmentation, there were only minimal scores on the DP levels of Lack of Structure and Self-centeredness.

Her ability to study and work (Productivity 61), to Live together with her husband and child (71), having a intimate relationship (Intimacy 75), having some good friends (Mate 72), all experienced as suited to her (Identity 65), together with her capacity for mentalization or psychological mindedness (Self-reflection 66) and Empathy (76), together reflected her “islands of mental health”, her capacities for adaptive functioning.

Based on this evaluation of both her maladaptive behaviors and her adaptive capabilities, the patient was referred to a more intensive, group-oriented explorative treatment program in a psychotherapeutic day-clinic for personality disorders.

2.6.3 Treatment guidance

Finally, the DP can be used to guide the selection of **therapeutic goals** and for defining specific characteristics of the unfolding **therapeutic relationship** during treatment. This can be helpful during the process of treatment allocation, and for evaluating the progress during treatment. In this respect, the DP (Abraham, 1997, 2005; Ingenhoven and Abraham, 2005) describes for every maladaptive Developmental Level an appropriate and concrete focus of treatment, the way the therapist can tailor his approach to the patients’ needs and capabilities, the way the therapist can involve the patient in the therapeutic alliance, and the kind of transference or counter-transference themes that can be expected during the course of treatment (Table 2).

Table 1. Developmental Profile: woman 23 years old (Example 2.)

	SOCIAL ATTITUDES	OBJECT RELATIONSHIPS	SELF-IMAGES	NORMS	NEEDS	COGNITIONS	PROBLEM SOLVING (thoughts & feelings) (actions)	MISCELLANEOUS THEMES	
90. MATURITY	91. Retirement	92. Altruism	93. Authentic self-image – existential	94. Authentic norms – existential	95. Significance	96. Meta-cognitions	97. Synthesis	98. Restructuring	99. Dying
80. GENERATIVITY	81. Responsibility	82. Care	83. Authentic self-image – social	84. Authentic norms – social	85. Integrity	86. Context-related cognitions	87. Respect for controversial (sub)cultures	88. Reorganization	89. Mourning
70. SOLIDARITY	71. Living Together	72. Mate	73. Authentic self-image – relational	74. Authentic norms – relational	75. Intimacy	76. Empathy	77. Respect for the controversial other	78. Alliance	79. Collectivity
60. INDIVIDUATION	61. Productivity	62. Equal	63. Authentic self-image – individual	64. Authentic norms – individual	65. Identity	66. Self – reflection	67. Respect for the controversial self	68. Assertiveness	69. Primary-process experiences
50. RIVALRY	51. Status	52. Unattainable love	53. Ideal related self-image	54. Excessive ideals	55. Triumph	56. Histrionic cognitions	57. Reversal	58. Pretending	59. Feelings of sexual insufficiency
40. RESISTANCE	41. Defiance	42. Oppressor	43. Norm-related self-image	44. Excessive norms	45. Domination	46. Objectifying cognitions	47. Elimination	48. Defensiveness	49. Moral masochism
30. SYMBIOSIS	31. Dependence	32. Parent	33. External self-image	34. External norms	35. Passive need for love	36. Suggestive cognitions	37. Detachment	38. Giving Up	39. Lack of basic trust
20. SELF-CENTEREDNESS	21. Soloist	22. Servant	23. Overrated self-image	24. Selfish norms	25. Mirroring	26. Self-referring cognitions	27. Disclaiming	28. Self-overestimation	29. Coldness
10. FRAGMENTATION	11. Changeability	12. Frame	13. Vague self-image	14. Dichotomous norms	15. Sensation-seeking	16. Non personality-related cognitions	17. Primitive externalization	18. Acting Out	19. Dissociation
00. LACK OF STRUCTURE	01. Bizarre behaviour	02. Lack of Affectivity	03. Lack of a self-image	04. Lack of norms	05. Primary satisfaction of needs	06. Lack of psychological phenomena	07. Falsification	08. Impulsive behavior	09. Disorganization

Table 2. Developmental Profile: clinical implications for the process of psychotherapy

Central psychodynamic theme	Focus of treatment	Core therapeutic relationship theme	Getting in lane by containing patients	(Counter) transference issues
50 Rivalry	Being ordinary	Competition without looser	Need to excel	Degradation
40 Resistance	Deliberation	Power struggle without destruction	Need for autonomy	Sadism Masochism
30 Symbiosis	Separation	Breeding ground as vital condition	Passive helplessness Clinging dependency	Insatiability
20 Self-centeredness	Contact	Self-mirroring Optimal frustration	Grandiosity Egocentricity	Humiliation
10 Fragmentation	Integration	Sustaining an infrastructure	Action language Acting out	Expulsion
00 Lack of Structure	Stabilisation Social prosthesis	Pacification by critical distance	Body language Bizarre statements	Inaccessibility Loss of interest

Example 2 continued: What can be expected during the patients' therapy process? As illustrated in Table 2, two major psychodynamic themes are willing to actualize during her treatment in the psychotherapeutic day-clinic. 1) As indicated by the DP level of *Fragmentation*, limitation of potential aggressive acting out behavior at home as well as in the therapeutic milieu, should be obtained with a treatment contract with clear statements about her responsibility to avoid all physical violence against herself or others. By offering a temporary infrastructure, the day-clinic can contain her feelings of anger and despair by preventing her aggressive "body language" and her inevitable premature termination of treatment. **Integration** is the focus of the treatment related to *Fragmentation*, helping the patient to give up her dichotomous black and white experiences of her self and others and to build on a more integrated identity. 2) Related to *Symbiosis*, a major focus of treatment is **Separation**. By gaining more insight, the patient can be helped to accept and contain feelings of abandonment depression, passive helplessness and insatiability. Building on corrective emotional experiences, she can elaborate her confidence to rely on her own autonomy and enjoy intimate relationships without getting lost in clinging dependency.

2.7 Discussion.

One can summarize the current strengths and limitations of the DP as follows. First, the DP provides a coherent conceptual framework and assessment procedure for

psychodynamic personality characteristics described in the literature as clinically relevant. First, by using such a conceptual framework, diagnostics become clinically more meaningful, supporting treatment planning to a higher level. Irrespective of whether the treatment approach is more supportive or more explorative, whether individual or group-dynamic, the DP can facilitate the process of diagnosis and treatment planning using a psychodynamically informed procedure. Second, the DP offers a clinical language to describe major psychodynamic characteristics for clinical case formulations and treatment evaluations. Its taxonomy is accessible for psychiatrists, clinical psychologists as well as other disciplines working in mental health care. It also offers them a sophisticated comprehensive system of knowledge for psycho-education and other educational purposes. Third, the DP attempts to standardize psychodynamic personality diagnostics to make them accessible for empirical research. So basic psychometric issues of interrater reliability, internal consistency and construct validity can be addressed. Research findings show that the DP can be reliably assessed after adequate training. As far, the presumptions that tentatively underlie the DP matrix on theoretical knowledge and intuitive clinical experience are empirically confirmed. As a prerequisite, these findings encourage further empirical validation.

The current DP has also limitations. First, as stated, the assessment procedure using the semi-structured interview and scoring protocol is labour-intensive. Like other mentioned methods that make use of semi-structured interviews, the DP warrants clinical experience and special training and intervision to obtain and sustain sufficient agreement between raters. Second, it is not completely clear whether the DP, when infrequently used by clinicians working in every day clinical practice, will be assessed in a sufficient reliable way. Third, little is known about its predictive performance with respect to the process and outcome of psychosocial treatments. Fourth, the DP offers no information about the patients' symptoms or about the etiology of mental disorders, whether genetic or environmental. Therefore, to offer a case formulation, information offered by the DP should be integrated with other relevant information from life history, social circumstances, mental and somatic health status.

2.8 Direction of future research

DP attempts to standardize psychodynamic personality diagnostics making them more accessible for empirical validation. Till today, as a prerequisite for revision and clinical utility, empirical research with DP had its primary focus on issues of reliability and construct validity. As nowadays these basic requirements are fulfilled, other questions become prominent.

First, in the absence of a "gold standard" for personality diagnosis, DP and competing

diagnostic approaches may be evaluated on divergent and concurrent validity issues. For instance: does DP enable assessing the underlying structural derivatives of psychiatric symptoms and habitual behavioral patterns, e.g. as measured by the Structural Interview? Second, one of the most interesting issues in psychotherapy research is the question about what kind of patients are likely to profit optimally from which kind of treatment experiences. Therefore it is relevant to assess the DP's predictive power with respect to the process and outcome of psychosocial treatments. Is the DP able to predict patients' treatment interfering behaviors and premature termination? Is it possible to predict any outcome of psychotherapy by DP, whether defined as social adjustment, a decrease of symptoms, or beneficial psychological functioning? And if these answers are confirmative, do "mechanical" (statistical) predictions outperform "clinical" (expert) predictions based on the DP (Grove, Zald, Lebow et al., 2000)? Third, an intriguing question remains its incremental validity: does DP add to the prediction of criteria above and beyond other relevant variables like basic sociodemographic variables, symptom severity and descriptive DSM-IV diagnoses or dimensional models assessing personality traits (Hunsley and Meyer, 2003; Garb, 2003)? Fourth, to make assessment less time consuming, it should be tested whether the DP can be reliably assessed by using a questionnaire as a screening instrument, in combination with an interview to explore clinically relevant details? Can the DP be reliably assessed by permitting the patient to answer questions of the interview in paper and pencil procedure at home? Fifth, studies on the cost-effectiveness of the DP will ultimately confirm or refute the thesis that it is worth to invest in a broad psychodynamic personality assessment to answer multifaceted diagnostic issues in complex cases before starting an expensive treatment offer (Ingenhoven, 2008). Finally, can repetitive assessment of DP clarify the way personality can change and mature during the life span, with or without treatment?

2.9 Footnotes

Footnote 1:

To assess interrater reliability (Van, Ingenhoven, van Foeken et al., 2000), written verbatim descriptions of interviews of 108 subjects (pooled sample of psychiatric, somatic and dental patients) were used. Interrater reliability was estimated on final weighted scores of the successive Developmental Levels (DP_{version 1997}). Squared weighted Kappa's (Cohen, 1968) ranged from 0.53 to 0.84, which can be qualified as "moderate" to "almost perfect". The overall Kappa of the Developmental Levels (0.70) was "substantial" (Landis and Koch, 1977). In addition, van 't Spijker et al. (2001^a) found high interrater agreement (94%; range 75% to 99%) for the 90 items in the DP-matrix on the verbatim descriptions of 127 patients suspected for cancer

admitted in a hospital. Squared weighted kappa's were low (mean 0.26; range -0.04 to 0.57), which can be explained by the high expected agreement along with low prevalence for most of the observations (Cicchetti, 1988). Based on the overall scores interrater reliability was conducted for each of the nine Developmental Lines. Intra Class Correlation coefficients (ICC) ranged from 0.34 (Self-image) to 0.75 (Problem solving: thoughts and feelings) resulting in a mean ICC of 0.61 for the Developmental Lines, which can be qualified as "substantial" (Fleiss & Cohen, 1973). Interrater reliability of the ten Developmental Levels once again were tested using two trained clinical psychologists ratings of verbatim recordings of interviews of 74 psychiatric inpatients and outpatients (Van, Polak, Abraham et al., 2005). Squared weighted Kappa's for Developmental Levels ranged from 0.60 ("moderate") to 0.79 ("substantial"). In another study (Van, Palmer-Bouva, Eurelings-Bontekoe et al., 2005), special emphasis was placed on the interrater reliability of the two Developmental Lines of Problem Solving, exploring the DP's of 50 psychiatric inpatients and outpatients by ratings of verbatim recordings by three trained resident cognitive-behavioral therapists. Squared weighted Kappa's of the individual DP-items of these Developmental Lines ranged from 0.41 to 0.93 and were qualified as "moderate" (17%), "substantial" (28%), and predominantly "almost perfect" (56%) according to Landis and Koch (1977). Yet, an offer using an alternative scorings method, by rating the DP directly from 32 video taped interviews without complete verbatim, was unprofitable (Scholte, Verheul, Meerman et al., accepted for publication) Test-retest reliability of the DP still has to be addressed.

Footnote 2:

In order to determine the internal consistency of the DP levels, Abraham et al. (2001) made consensus scores for each of the 90 personality characteristics (cells) of the Developmental Profile matrix. Analysis of the internal consistency was based on the premise that each of the ten Developmental Levels can be considered as an individual scale consisting of nine items (nine cells representing each of the nine Developmental Lines). The corrected item-remainder correlation was estimated for each of these items in relation to the other items on the corresponding Developmental Level (N=580). Omitting Maturity for analysis due to lack of data, for 70 of the 81 remaining items (86%) the correlations were within the permitted range of 0.10 to 0.50, representing an adequate level of homogeneity (Nunnally, 1978; Nunnally & Bernstein, 1994). The correlation was lower for six items (7%) and higher for five items (6%). The internal consistency for the matrix as a whole, as well as for the individual Developmental Levels, was estimated using Cronbach's α coefficient (Cronbach, 1951, 1990; Nunnally & Bernstein, 1994). On average Cronbach's α , equaled 0.76. For the individual Developmental Levels alphas ranged from 0.65 (Generativity) to 0.83 (Self-centeredness), indicating acceptable internal consistency for the variables within the DP-matrix.

After revision of the DP (Abraham, 2005), Polak, Overeem-Seldenrijk & Abraham (2005) again conducted the item-remainder correlation (N=349). For 18 cells of the matrix item-remainder correlation were not assessable due to insufficient data, but for 61 of the 72 remaining items (85%) the correlations were within the range of 0.10 to 0.50, representing an adequate level of homogeneity (Nunnally, 1978; Nunnally & Bernstein, 1994). The correlation was lower for one item (1.4%) and higher for 10 items (13.8%). In a larger sample (N=763), Polak, Van, Overeem-Seldenrijk et al. (accepted for publication) calculated Cronbach's alpha and item-remainder correlations for each of the 10 Developmental Levels. Excluding Maturity for analysis, Cronbach's alpha ranged from 0.44 to 0.81 (median value 0.60), indicating divergent internal consistency, from weak to good for the DP levels in study. Using Confirmatory Factor Analysis, a 9-factor model was used to test the assumption of independent Developmental Levels (Maturity was excluded because of lack of sufficient data) covering the items they represent. Each item was allowed to load on its corresponding Developmental level only. For most DP levels the majority of items had loadings exceeding 0.30, i.e. loadings regarded to be substantial. In a separate study, the internal consistency of the revised items of the Developmental Line of Cognitions was tested (Abraham, Overeem-Seldenrijk & Ingenhoven, 2005) in 349 patients and normal controls. Patterns of Cognitions on the levels of Maturity and Generativity were not included in the analysis because of lack of sufficient data. Item-remainder correlations ranged from 0.08 to 0.46, most of them remaining within the range of 0.10 to 0.50 with exception of the Developmental level of Resistance (40). On the DP line of Cognitions, the items on the Primitive Levels (*Lack of Structure*; *Fragmentation*; *Self-centeredness*) were positively correlated with the sum of the items on the other lines on these three levels, while cognitions of the Adaptive Developmental Levels of *Individuation* and *Solidarity* were positively correlated with the corresponding items of these Developmental levels. It was concluded that the revised Developmental Line of Cognitions has adequate internal consistency.

Footnote 3:

The construct validity of this vertical hierarchical arrangement of the Developmental Levels was confirmed by reverse coherence: the lower the maladaptive level on which the patient has a maximum score, the fewer scores there will be on the adaptive DP levels, and visa versa. Using Kruskal-Wallis one-way analysis of variance (ANOVA) the hierarchical structure was confirmed for the six maladaptive Developmental Levels (Abraham, Van, van Foeken, Ingenhoven et al., 2001).

Further investigating this vertical arrangement underlying the Developmental Profile (Polak, Van, Overeem-Seldenrijk et al. accepted for publication), using a Correspondence Analysis (CA) in 736 psychiatric patients and normal controls. The CA was performed on the DP level scores of the 736 subjects, resulting in scores for

both DP levels and patients. In the analysis the DP level scores were standardized to have mean 0 and variance 1, and each patient's score was computed as the weighted average of his corresponding DP level scores. The CA solution for the DP level scores in two dimensions accounted for 55% of the total variance. The CA solution showed that the DP-level scores lie in an arch-shaped pattern, strongly indicating hierarchical maladaptivity-adaptivity dimension underlying the DP-matrix.

Footnote 4:

A preliminary study on discriminant validity (Van, Ingenhoven, van Foeken et al., 2000) was conducted in three groups of patients: 27 dental patients first visiting a dental university clinic; 28 somatic inpatients with a suspected malignancy, and 43 psychiatric inpatients with diverse non-psychotic Axis I and Axis II diagnoses treated in clinical psychotherapy. Statistical significant differences were found between the psychiatric patients and the two non-psychiatric groups with respect to both adaptive and maladaptive functioning. Psychiatric patients had higher scores on the maladaptive levels *Lack of Structure*, *Fragmentation*, *Symbiosis* and *Resistance*, as well as lower scores on the adaptive levels *Individuation*, *Solidarity* and *Generativity*.

In another study (Van, Palmer-Bouva, Eurelings-Bontekoe, et al., 2005) 46 dental patients first visiting a dental university clinic were compared to 23 dental patients who seriously neglected their teeth, avoided visits to their dentist, and were indicated for a drastic course of treatment. The later group had a significant lower score on *Individuation* and higher scores on *Symbiosis*, *Self-centeredness*, *Fragmentation* and *Lack of Structure*. Willemsen, van der Woude, Huijsman & Abraham (2005) compared three groups of patients: 93 patients with eating disorders, 36 psychiatric patients without eating disorder and 16 normal controls (matched for gender and age). Normal controls had significant higher scores on the adaptive DP-levels of *Individuation* and *Solidarity*, compared to both eating disorder and psychiatric patients. In comparison to eating disorder patients, psychiatric patients had significant higher scores on the primitive DP-levels of *Lack of Structure*, *Fragmentation* and *Self-centeredness*. No significant differences were found between patients with Anorexia Nervosa (n=46), Bulimia Nervosa (n=26) and Eating disorder NOS (n=21).

Polak, Van, Overeem-Seldenrijk et al (accepted for publication), using a Correspondence Analysis in 763 patients and normal controls, confirmed the hypothesis that patient groups can be distinguished and ordered by a bipolar scale underlying the DP, ranging from maladaptive to adaptive psychosocial functioning. On one end of the dimension they found the highly primitive maladaptive/low adaptive forensic inpatients (n=27) with the highest scores on *Lack of Structure*, *Fragmentation* and *Self-centeredness*, followed in succession by psychotherapeutic inpatients and patients in day treatment (n=468) with their highest mean scores on the Neurotic levels (*Symbiosis*, *Resistance* and *Rivalry*), psychiatric outpatients (n=166) combining

high Neurotic levels with more adaptive functioning, and non-psychiatric controls (n=102) with the highest mean scores on the Adaptive levels (*Individuation thru Generativity*). In addition, they found a small outlying group combining high scores on *Self-centeredness* and *Rivalry*, elsewhere defined as narcissistic, that need further clinical and empirical exploration.

Footnote 5:

Van, Hendriksen, Schoevers et al. (2008) explored the predictive value of “Object-Relational Functioning (ORF)”, as constructed by the Developmental Lines of Object-Relations, Self-Images and Needs, in 81 patients in Short-term Psychodynamic Supportive Psychotherapy for moderately severe depression. The overall maturity of ORF at baseline suggested a better treatment response. In multiple regression analysis, a higher score on the adaptive level of *Individuation* appeared to be predictive of a better outcome. Patients with a recurrent depression showed less mature scores on the ORF, lower scores on adaptive DP-levels and a higher score on *Symbiosis*. Van, Dekker, Peen et al. (2009) also explored the predictive performance of the “Overall Defensive Functioning (ODF)”, as constructed by the two Developmental Profile Lines of *Problem Solving* (thoughts & feelings; actions), with respect to treatment outcome. Patients compliant to therapy used more *Problem Solving* strategies corresponding the DP-level of *Rivalry* (e.g. repression, denial, projection), whereas non-compliant patients made more use of coping styles as defined on the DP-level of *Symbiosis* (giving up, apathic withdrawal) and were at higher risk for dropping out. *Problem Solving* on the DP levels of *Rivalry* and *Symbiosis* combined, explained 29% of the variance in treatment outcome. Patients with a recurrent depression could be characterized by less mature defense styles.

2.10. References

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Reliability of Psychodynamic Personality Assessment



Chapter 3

The Developmental Profile:

Preliminary Results on Interrater Reliability and Construct Validity

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3.1 Abstract

This study presents the preliminary results of research into the interrater reliability and construct validity of the Developmental Profile (DP). In the DP a number of developmental lines, such as Object-Relations, Self-Images, and Problem-Solving Capacities, are assessed and classified according to the level of functioning. A total of 108 profiles were assessed, drawn from three different categories of patients. The weighted kappa values for interrater reliability were sufficient. On the adaptive level, but also on the maladaptive levels Symbiosis and Resistance, significant differences were found between psychiatric patients, “normal controls” (dental patients) and somatic patients. No differences were recorded between the latter two groups. The conclusion is that the DP is a promising instrument, of which the reliability and validity has to be further investigated in order to contribute to scientific support for psychodynamic theory formation.

3.2 Introduction

The applications of psychodynamic insights in the field of psychiatry are the object of increasing attention. Not only do they make it possible to do justice to the complexity of human functioning, but they also set out beacons that point the way to treatment strategies. Psychodynamic concepts are both complex and abstract, which means that they are not easy to operationalize. This has hindered the development of empirical research. Nevertheless, research methods that make it possible to study a number of subconcepts have been developed. The best results with respect to reliability and validation have been achieved in the assessment of defence mechanisms (Vaillant & Vaillant, 1990; Perry & Cooper, 1989). The personality organization as a whole was examined using the structural interview devised by Kernberg (1984) or, for a more detailed assessment, the categories of the Karolinska Psychodynamic Profile (Weinryb & Rössel, 1991).

In the Developmental Profile (Abraham, 1993), personality is investigated from a developmental perspective. We present the initial results of research into the Developmental Profile (DP), which centres on the following questions:

- Is the assessment of the DP by various raters sufficiently reliable to warrant its use in clinical practice?
- Does the DP make it possible to distinguish between different groups?

The present research focused on inpatients with a psychiatric problem, patients with a severe somatic disorder, and patients who were in need of dental treatment. The expectation was that clear differences would be found between the psychiatric patients and the other two groups. No notable differences were expected between the somatic patients and the dental patients.

3.3 Methods

3.3.1 The Developmental Profile.

The semistructured interview on which the DP (Abraham, 1997) is based consists of anamnestic questions related to important areas of life, as well as questions on the manner in which the patient deals with emotions. Scoring is based on the written account of the interview. The DP defines 10 hierarchical levels of personality development, ranging from highly maladaptive to highly adaptive: Lack of Structure, Fragmentation, Self-centeredness, Symbiosis, Resistance, Rivalry, Individuation, Solidarity, Generativity, and Maturity. The 10 levels are elaborated by means of the following developmental lines: Social Attitudes, Object Relationships, Self-Images, Norms, Needs, Cognitions, and Problem-Solving Capacities (Coping and Defence Mechanisms). This results in a matrix of 9 x 10 items. The scoring protocol provides instructions for the operationalize each item. Each example of an item recorded in the text is noted on the scoring form. A final score per level is obtained by summing all items on that level and recording this on a 4-point scale (ranging from 0 = not found to 3 = very clearly present). Each interview was scored by two raters. There were five raters in all, distributed over four pairs. A consensus score was obtained for the two raters by recording the assessments on which there was agreement, or agreement had been reached following a brief verbal clarification. If no agreement was reached, the lowest score was recorded. This ensured that only those items that were clearly present were included.

3.3.2 Patient Population.

The patient population consisted of 108 individuals drawn from four subgroups:

- 43 patients with psychiatric problems being treated on a ward for clinical psychotherapy: 24 women and 19 men, average age 39 (range 22-64)
- 27 unselected dental patients enrolled for the first time at the dental clinic of a university; 12 women and 15 men, average age 41 (range 25-71).
- 10 male dental patients in need of extensive dental treatment; average age 40 (range 27-54).
- 28 somatic patients admitted to the Department of Pulmonary Disease of a university hospital in connection with a suspected malignancy; 26 men and 2 women, average age 58 (range 41-73).

In calculating the interrater reliability, the data on all 108 patients were used. In determining the construct validity, these 108 patients were divided into three roughly equal groups, for purposes of comparison: all unselected dental patients (N = 27), all somatic patients (N = 28), and 27 psychiatric patients, selected from the group of 43 patients. As far as possible, these patients were matched to the unselected dental patients with respect to age and gender.

3.3.3 Statistical Analysis.

Interrater reliability was expressed by means of a weighted kappa (Cohen 1968) and interpreted following the guidelines proposed by Landis and Koch (1977). Differences were linearly and quadratically weighted. A dichotomous kappa was calculated, whereby a 1-point difference was scored as agreement, and a difference of 2 or 3 points as "no agreement." In addition, a 95% reliability interval was calculated for all kappas. In determining the construct validity, the differences between groups were evaluated pairwise using a Mann-Whitney U test. The statistical analyses were performed with the aid of "SPSS" and "Agree" (Popping 1989).

3.4 Results

The calculation of interrater reliability, whereby a difference of 1 point was permitted, resulted in substantial kappa values for all the Individual levels (range 0.65 to 0.91) (Table 1). In the case of quadratic weighting, the average kappa was also substantial for all the levels taken together and for each separate level, with the exception of Rivalry and Resistance (range 0.53 to 0.84). Where a linear weighting was carried out, the kappas ranged from 0.44 for Rivalry to 0.72 for Symbiosis, with an average of 0.58.

Table 1. Interrater Reliability of the Developmental Profile

Level	Linear	Quadratic	Dichotomy
Maturity			
Generativity	.57	.71	.91
Solidarity	.60	.73	.74
Individuation	.67	.79	.89
Rivalry	.44	.53	.69
Resistance	.47	.58	.65
Symbiosis	.72	.84	.89
Self-centeredness	.52	.68	.71
Fragmentation	.60	.68	.86
Lack of structure	.64	.78	.79
Average	.58	.70	.79
95% Reliability Interval	(-13/+12)	(-13/+12)	(-181+15)

Statistically significant differences were found between the psychiatric patients and the other two groups (Table 2). The greatest differences were on the levels of Symbiosis

and Resistance, while those on the adaptive levels of Individuation, Solidarity and Generativity were clearly present and significant. The differences on the levels of Lack of Structure and Fragmentation were significant but small; however it should be noted that these levels occurred infrequently in the groups Involved in this study. It will be clear that, in general, these were not psychiatric patients who were being considered for clinical psychotherapy, and that one would expect them to display a severely maladaptive personality organization. On the level of Rivalry or Self-centeredness, no significant differences were found. No differences at all were found between the dental patients and the somatic patients.

Table 2. Construct Validity of the Developmental Profile

	Average score		
	Psychiatric	Dental	Somatic
Developmental Level			
Maturity	0.0	0.0	0.0
Generativity	0.2	1.3*	1.2*
Solidarity	1.0	2.0*	2.1*
Individuation	1.4	2.4*	2.4*
Rivalry	1.2	1.2	1.4
Resistance	2.6	1.4*	1.3*
Symbiosis	2.2	0.3*	0.4*
Self-centeredness	0.7	0.3	0.3
Fragmentation	0.4	0.0*	0.0*
Lack of structure	0.3	0.0**	0.0**

Note. The table indicates only the significant differences between the psychiatric patients, and the dental and somatic patients. * $p < .05$; ** $p < .01$.

3.5. Discussion

The reliability of observations and interpretations in the field of psychiatry has traditionally been a major obstacle in providing a scientific foundation for diagnostics. However, in studies on the assessment of DSM personality disorders it has been demonstrated that by using semistructured interviews a sufficient interrater reliability can be established (see Van den Brink, 1989). As psychodynamic concepts are more difficult to relate to observable phenomena, the study of reliability is complicated. This

is reflected in the different results reported in the literature: When a circumscribed concept such as single defence mechanisms is measured, interrater reliability is particularly difficult to achieve (see for example Van Hummelen, 1997; Perry & Cooper, 1989). Therefore, in the case of the DP, not only a special effort was made to operationalize the concepts in observational terms, but conclusions were drawn from the final scores per level, where various concepts were combined. This study shows that sufficient agreement between raters can be achieved by means of these methods. On the basis of research into the reliability of an interviewing method, four different designs were distinguished (Grove, Andreasen, McDonaldScott, Keller, & Shapiro, 1981). In order of increasing stringency, these designs are as follows: written interview texts, audio or video account of the interviews; interviewer-versus-observer (in person), and test-retest interviews (two different interviewers at two different points in time). The present study employed the first design. Strictly speaking, the significance of a level of reliability determined in this way is the fact that when the interview texts are scored, the variation between diagnosticians in interpreting the criteria from the registration protocol is sufficiently limited (Grove et al., 1981). However, scoring of the DP on the basis of written interview text reflects usual clinical practice. Further studies are needed to evaluate whether scoring is critically affected by using typescripts of the semi-structured interviews.

There are no clear-cut guidelines for the procedures of weighting the kappas.

Presenting various weightings provides insight into the effect of the weighting. A difference of one point on a particular level of the DP reflects little significance in clinical practice. For this reason, we felt justified in basing our conclusions on the quadratic or dichotomous kappas.

The psychiatric patients differ from the other groups in that they have more problems on the levels of Symbiosis and Resistance and clearly function to a lesser degree on the adaptive levels. The minor differences on the level of Self-centeredness and Rivalry are interesting in themselves, and will be the object of future research. It may be that despite the problems on these levels, social adaptation is more effective, so that the individual is capable of more successful compensation.

There were no clear differences between the seriously ill somatic patients and the patients with dental problems. This is in agreement with the proposition that the DP does not measure temporary reactions to severe stress, such as hospitalization, but rather identifies the underlying personality structure.

In conclusion, we can say that these preliminary data suggest that the DP provides a reliable and accessible operationalization of psychodynamic diagnostics. The construct validity reflects the expected differences between groups. This opens the way to further research into the psychometric aspects of the DP.

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Chapter 4

Interrater Reliability for Kernberg's Structural Interview for assessing Personality Organization

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4.1 Abstract

Interrater reliability is considered a precondition for the validity of theoretical models and their corresponding diagnostic instruments. Studies have documented good interrater reliability for structured interviews measuring personality characteristics on a descriptive-phenomenological level but there is little research on reliability of assessment procedures on a structural level. The current study investigated the interrater reliability of the Structural Interview (SI) designed to assess neurotic, borderline and psychotic personality organization according to Kernberg. Videotaped SIs of 69 psychiatric patients were randomly and independently rated by two out of three trained psychologists. Agreement between rater pairs was expressed as square weighted kappa (K_{sw} , 95%CI). Results indicate sufficient interrater reliability with respect to Kernberg's tripartite classification ($K_{sw} = 0.42$, 95%CI 0.07 to 0.77). Subdivision of the borderline category or introduction of intermediate subcategories to the tripartite system did not significantly affect reliability ($K_{sw} = 0.55$, 95%CI 0.30 to 0.80; $K_{sw} = 0.59$, 95%CI 0.34 to 0.84 respectively). The conclusion is that trained clinicians can reliably assess structural personality organization using the SI. Refining the nosological system adding subcategories did not reduce reliability.

4.2 Background

One of the main advancements in the diagnosis of personality disorders has been the emphasis on reliable assessment of Axis II disorders. However, there are limitations to this approach. The same (reliably measured) behavioral pattern exhibited by two patients may emanate from very different motivational structures, with decisive consequences for treatment and prognosis. Therefore Clarkin, Kernberg & Somavia (1998) distinguish three diagnostic realms that must be assessed: behavioral, trait and structural levels. At the behavioral level behavioral or interpersonal patterns are described without regard to motivation. At the trait level, the individual is described in terms of specific predispositions. At the level of personality structure, the diagnostician considers related motivational aspects. Description and diagnosis of all three levels are necessary to plan exploratory versus supportive treatment, to set and direct realistic treatment goals, to indicate expected transference themes and the degree of change to be expected realistically. Unfortunately, the field still lacks reliable and validated instruments to assess personality pathology in the "structural" domain. According to Kernberg (1977, 1984), diagnosis of the intrapsychic personality structure or organization relate to the level of integration of the ego and to internalized object relations. He postulates these levels of organization as discontinuous, rather than a continuum, and characterizes these by a continuity

over time (Kernberg, 1980). Kernberg's structural classification of personality organization is tripartite, based on reality testing, identity integration and predominant defense mechanisms. Disturbed reality testing is indicative of psychotic personality organization (PPO). Predominant use of primitive defenses and identity diffusion, without disturbed reality testing, is found in borderline personality organization (BPO). Mature defense mechanisms and an integrated self-concept represents a neurotic personality organization (NPO). Within BPO Kernberg (1996) distinguishes low and high level subcategories. The *low-level borderline* subgroup (BPOLL) is characterized by nonspecific manifestations of ego weakness such as anxiety intolerance, lack of impulse control and lack of capacity for consistency, persistence and creativity in work. Patients in the *high-level borderline* subgroup (BPOHL) are more successful in establishing some degree of intimacy.

The *Structural Interview* (Kernberg, 1977, 1981, 1984) embraces a specific technique of clinical interviewing that focuses on how symptoms or difficulties are presented and manifested in the immediate interaction between the patient and diagnostician, by elaborating the patient's reaction to clarification, confrontation and interpretation of identity conflicts, defense mechanisms and reality distortions revealed.

Research on interrater reliability of the SI is scarce. Although Carr et al. (1979) in their study of 32 borderline and psychotic inpatients didn't mention interrater reliability, the kappa coefficient as described by Cohen (1960, 1968) can be calculated from their data provided. According to our analysis, two well trained and experienced raters agreed in 91% of cases ($K=0.90$; 95%CI=0.77 to 1.00) for PPO and BPO, i.e. "almost perfect" according to Landis and Koch (1977). High correlation coefficients among raters were observed by Kullgren (1987) for identity integration (Finn's $r = 0.92$), defensive structures (Finn's $r = 0.89$), reality testing (Finn's $r = 0.78$) and structural diagnosis (Finn's $r = 0.75$). The same research group (Armeliuss et al., 1990) also published interrater reliability estimates for 23 psychiatric inpatients and found 84% interrater agreement and unweighted kappa of 0.68, i.e. "substantial" according to Landis and Koch (1977). Derksen, Hummelen and Bouwens (1994) evaluated SIs of 37 psychiatric in- and outpatients (consensus scores: 7 PPO; 13 BPO; 15 NPO; 2 undecided). Overall agreement between ratings was 69%, linear weighted kappa 0.60, i.e. "moderate" according to Landis and Koch (1977). In a reanalysis of these data, we calculated an "substantial" overall squared weighted kappa ($K_{sw}=0.78$; 95%CI = 0.47-0.91).

Given the paucity of findings on interrater reliability, the objective of our study was to determine interrater reliability for reality testing, identity integration and the level of defenses, and for Kernberg's three partite classification. In addition, we evaluated a four component classification by subdividing BPO into high-level and low-level subcategories, and a five component classification in which two transitional categories were added for not clear-cut cases, one between NPO and BPO and one between

BPO and PPO. We postulated that differentiation into these intermediate categories would create a better fit with perceived clinical reality without decrease in interrater reliability.

4.3 Method

The data are drawn from a sample psychiatric in- and outpatients referred to a program specializing in personality assessment in order to have a second opinion on diagnosis and treatment allocation. Only patients who were severely psychotic or otherwise unable to be interviewed were excluded. In an observer-observer design, two out of three trained psychologists randomly and independently rated videotaped SIs of 69 psychiatric patients. All patients signed informed consent for use of the videotaped interview for this study. Three postgraduate psychologists were trained for the study by experienced clinicians. In a pilot study the three raters each blindly assessed five videotaped SIs resulting in an overall observed agreement of 73% (overall $K_{sw}=0.75$; 95%CI=0.17 to 1.00), considered sufficient to start the main study. The 69 videotaped SIs were randomly and independently rated by two of the three psychologists, blind for patient diagnosis and other diagnostic information. In order to avoid drifting away from mutual consensus after every 10 videos we conducted a calibration session. Throughout the study period there were six calibration sessions.

Raters were asked to classify patients reality testing, identity integration and predominant use of primitive defenses, quantified by the operationalizations and five-point Likert scales of the Structured Interview of Personality Organization (STIPO: Clarkin et al., 2003). Next, raters were forced to allocate each patient to one of Kernberg's mutual exclusive personality organization categories: NPO, BPO or PPO after every single video assessment. If BPO was chosen, the rater was subsequently forced to make a choice between BPOHL or BPOLL. In order to allow for doubtful cases and make more differentiation possible, each rater was finally asked to reconsider a score within the five component classification in which two categories were added, one between NPO and BPO and one between BPO and PPO, thus forced to choose of one out of five mutual exclusive options.

Interrater reliability was estimated by squared weighted kappa coefficients K_{sw} (Cohen, 1960, 1968). K_{sw} was qualified within the omnibus determined by Landis and Koch (1977). The software program AGREE was used to calculate kappa values.

4.4 Results

Sample characteristics: There were 23 male and 46 female patients, age 18 to 54 years (mean 30.7 years; sd 8.1), most of them finished secondary school(82.6%) and were living alone(75.3%). A majority of the patients (65.2%) was referred from outpatient treatment services while onethirrh was hospitalized during the assessment. All patients had at least one clinical DSM-IV diagnosis on Axis I (88.4%) or Axis II (94.2%), most of them had comorbid disorders on both axes. The most common Axis I diagnoses were affective disorder (44.9%), anxiety disorder (17.4%), eating disorder (13.0%) and psychotic disorder (10.1%). Cluster B personality disorders were found in 27.5% (borderline personality disorder in 17 out of 19 cases), Cluster A personality disorders in 11.6%, Cluster C personality disorders in 13% and personality disorder NOS in 42.0% of the cases.

Structural derivatives: For the three STIPO dimensions overall interrater reliability ranged from “fair” for Primitive Defenses ($Po_{sw}=0.90$; $Pe_{sw}=0.84$; $K_{sw}=0.37$; 95%CI= 0.10 to 0.64), “moderate” for Identity Diffusion ($Po_{sw}=0.93$; $Pe_{sw}=0.85$; $K_{sw}=0.56$; 95%CI= 0.35 to 0.77), and “substantial” for Reality Testing ($Po_{sw}=0.96$; $Pe_{sw}=0.83$; $K_{sw}=0.73$; 95%CI= 0.52 to 0.94). Within Kernberg’s tripartite structure 73% of the ratings fell in the BPO category, 16% in NPO and 11% in PPO. Within the four component classification, BPO split into 40% low-level BPO and 33% high-level BPO. The addition of two in-between classes for the five component classification resulted in 75% of the ratings remaining with their original tripartite category, while 15% filled the intermediate category between NPO and BPO and 10% the intermediate category between BPO and PPO, leaving 10% NPO and 10% PPO. Interrater reliability using Kernberg’s tripartite classification was estimated for each pair of raters. As shown in Table 1.1., K_{sw} ranged from 0.25 to 0.67 for the three pairs, and the overall K_{sw} of 0.42 was “moderate” according to Landis and Koch (1977).

Table 1. Interrater reliability for personality organization and subcategories

1.1. Three component classification: NPO – BPO – PPO

Raters pairs	n	Po_{sw}	Pe_{sw}	K_{sw}	95%CI
Raters a & b	22	.95	.86	.67	.36 to .97
Raters a & c	24	.90	.86	.25	-.13 to .62
Raters b & c	23	.92	.88	.36	-.00 to .73
All pairs	69	.92	.87	.42	.07 to .77

1.2. Four component classification: NPO – BPOHL – BPOLL – PPO

Rater pairs	n	Po_{sw}	Pe_{sw}	K_{sw}	95%CI
Raters a & b	22	.94	.82	.69	.49 to .89
Raters a & c	24	.93	.82	.60	.42 to .78
Raters b & c	23	.89	.84	.35	.00 to .69
All pairs	69	.92	.83	.55	.30 to .80

1.3. Five component classification: NPO – ??? – BPO – ??? – PPO

Raters pairs	n	Po_{sw}	Pe_{sw}	K_{sw}	95%CI
Raters a & b	22	.97	.85	.79	.61 to .97
Raters a & c	24	.93	.88	.48	.20 to .75
Raters b & c	23	.95	.89	.51	.22 to .80
All pairs	69	.95	.87	.59	.34 to .84

NPO = neurotic personality organization; BPO =borderline personality organization; PPO = psychotic personality organization; BPOHL = high level borderline personality organization; BPOLL = low level borderline personality organization; ??? = intermediate subcategory personality organization

Po_{sw} = percentage observed agreement (squared weighted);

Pe_{sw} = percentage expected agreement (squared weighted);

K_{sw} = kappa squared weighted

It was possible to differentiate into high level and low level for the 40 patients who were originally assessed as BPO by both raters. As shown in Table 1.2., the four component classification resulted in K_{sw} ranging from 0.35 to 0.69 for the three pairs, and an overall K_{sw} of 0.55, qualified as “moderate” agreement. Table 1.3. shows that allowing the raters to classify patients in one of the in-between categories within the five component classification resulted in K_{sw} ranging from 0.48 to 0.79 for the three pairs, and an overall K_{sw} of 0.59, “moderate” agreement according to Landis and Koch (1977).

4.5. Discussion

The current study is the largest reliability study on the Structural Interview reported so far. In addition, the study is the first to report both kappa values and 95%CIs. Finally,

the structural interviews were rated by clinical psychologists working in standard clinical practice without highly specialized psychoanalytic training. Two important findings have emerged from this study. First, structural personality organization diagnoses according to Kernberg's tripartite classification (NPO, BPO, PPO) based on the assessment of reality testing, identity diffusion and defense mechanisms can be assessed reliably by trained psychologist using the Structural Interview. Second, allowing the clinical need for more differentiation within Kernberg's model by using borderline subcategories or intermediate categories does not negatively affect reliability. Interrater reliability of the SI was (re)calculated for several studies (Carr et. al., 1979; Armelius et. al., 1990; Derksen et. al., 1994) resulting in weighted kappas ranging from 0.68 to 0.90 which can be qualified as "substantial to "almost perfect" (Landis and Koch, 1977). In the current study, testing Kernberg's tripartite classification (NPO, BPO, PPO), we found satisfactory ("moderate") interrater reliability. In search for an explanation of our results we discuss four limitations. First, the limited number of patients interviewed resulted in rather broad 95% CIs. Nevertheless our study included the largest number of patients to date compared with similar studies. Second, most of our patients were "difficult cases" from a diagnostic as well as therapeutic perspective. They were referred for second opinion because of difficulties integrating divergent diagnostic information into a single case formulation and treatment plan. It is possible that clear-cut cases could be classified more unambiguously, resulting in higher reliability estimates. Third, one can question the influence of the observers' training and experience. All previous studies were conducted by psychoanalytically trained senior interviewers and observers. In our study three postgraduate psychologists with no specific secondary psychoanalytic training, with limited experience and working in a general outpatient psychiatric service were trained to rate videotaped SIs. In answer to the question "whether the technique of the Structural Interview is only safe in the hands of an expert" (Reich & Frances, 1984), we can answer that this is not necessarily the case. Last but not least, the findings of the current study show that adding (sub)categories within Kernberg's tripartite model did not reduce reliability. This finding questions the strict division of adult human beings into three mutually exclusive categories. It favors instead the development of more refined nosological personality assessment systems, whether categorical or dimensional.

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Chapter 5

“Here and Now” or “There and Then”?

**Convergent Validity of Psychodynamic Personality
Assessments using different Interview Methods.**

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5.1 Abstract

Psychodynamic personality diagnosis enables appropriate case formulation for treatment planning. Little is known about the convergence of different assessment procedures. The Structural Interview (SI), focusing on current interactions, and the Developmental Profile (DP), assessing the last ten years of life, were administered in 60 psychiatric patients. Structural derivatives and Personality Organization as assessed by the SI were significantly associated with psychodynamic functioning according to the DP, reflecting convergence in the hierarchical structures of both methods.

5.2 Introduction

There are three realms that must be assessed in planning psychotherapeutic treatment for patients with personality disorders: assessments at the descriptive-behavioral level, the biological-trait level, and the structural-psychodynamic level of psychopathology (Clarkin, Kernberg, & Somavia, 1998). On the descriptive-behavioral level, one of the main advancements in the diagnosis of personality disorders has been the emphasis on reliable assessment of the diagnostic categories in DSM-IV Axis II (APA, 1994). However, there are limitations to this approach. The same (reliably measured) behavioral pattern exhibited by two patients may emanate from very different psychodynamic underpinnings and motivational structures (Clarkin et al., 1998). Although DSM-IV is still the standard for classifying personality disorders, Axis II has been strongly criticized (Livesley, 2008; Widiger, Simonson, Sirovatka, & Regier, 2006), and there is little evidence for its clinical utility in individual case formulation or clinical decision making (Verheul, 2005). Alternative dimensional models, rooted in the empirical tradition in psychology, measure personality traits. The relevance of these dimensional models is supported by research which confirm their reliability, applicability and broad coverage. A point of concern regarding these trait models is their lack of clinical typologies for use in daily clinical practice (Verheul, 2005; Westen & Muderrisoglu, 2006). Another concern is the lack of predictive validity of these methods with respect to the process and outcome of treatment. It is as yet unclear to what extent dimensional trait models can provide an alternative and more sophisticated diagnostic system for DSM-IV personality disorder categories. In contrast, psychodynamic concepts, although less rigorously tested and more difficult to measure, represent accepted typologies and are thought by many clinicians to be relevant and clinically useful. They are closely related to the way clinicians think about their patients' abilities and needs, and to explanatory concepts frequently used in clinical practice to understand patients' behaviors and vulnerabilities. A central and distinctive feature of the psychodynamic approach is its developmental perspective

on personality. It implies that personality develops continuously over a lifetime, which leads to increasing stages of maturity. Hierarchical models are thus needed to describe the structure of personality and its psychodynamic features, and their role in diagnosis, treatment allocation, and the therapeutic process. Examples of instruments for psychodynamic personality assessment are the Structural Model described by Kernberg (Kernberg, 1977, 1981, 1984) and the Developmental Profile described by Abraham (Abraham, 1993; Abraham & Dam, 2004). A thorough understanding of the patient's psychodynamic functioning is especially useful when the clinician is confronted with complex personality problems, if previous treatment efforts have failed, or if an expensive specialized treatment in a psychotherapeutic (day) clinic is under consideration. These models and their related assessment instruments can then provide invaluable information on the patient's structural and psychodynamic level of personality functioning.

In this article we compare these two models for psychodynamic personality diagnosis and their associated assessment instruments. Both methods were applied to psychiatric patients in order to obtain differential clinical case formulations and diagnoses. The purpose of this study was to determine convergent validity of the two methods.

Structural derivatives and personality organization

According to Kernberg (Kernberg, 1977, 1984), diagnosis of the intrapsychic personality "structure" or "organization" is determined by the level of integration of the ego and internalized object relations. Kernberg postulates these levels of organization as discontinuous rather than as a continuum (Kernberg, 1980). His structural classification of personality organization is tripartite, based on reality testing, identity integration and predominant defense mechanisms. Disturbed Reality Testing is indicative of psychotic personality organization (PPO). Predominant use of Primitive Defenses and Identity Diffusion, without disturbed Reality Testing, is found in borderline personality organization (BPO). Mature defense mechanisms and an integrated self-concept represent a neurotic personality organization (NPO). The Structural Interview (SI) was developed to assess the tripartite personality structure (Kernberg, 1977, 1981, 1984). It embraces a specific technique of clinical interviewing that focuses on the current interaction between the patient and diagnostician, the patient's current interpersonal functioning, and the history of the patient's symptomatology. This technique focuses on (a) the symptoms, conflicts or difficulties presented; (b) the manner in which the patient reflects on these phenomena in the here-and-now interaction with the interviewer; and (c) the patient's reactions to clarification, confrontation, and interpretation of identity conflicts, defense mechanisms and reality distortions exposed. By focusing on the patient-interviewer interaction, it is possible to simultaneously highlight the symptoms of descriptive psychopathology and the underlying personality structure.

It is assumed that the interviewer's focus on the patient's main conflicts and the tactful confrontation and interpretation of defenses, identity conflicts, reality testing or distortion in internalized object relations will create sufficient (but not more than necessary) tension so that the patient's predominant "structural" organization will emerge. Although the beginning and end of the interview are clear, the ways in which it develops and the diagnostic elements which emerge are less predetermined. The use of a hypothetico-deductive approach (Sackett, Haynes, & Tugwell, 1985) permits the interviewer to cycle and recycle along anchoring symptoms and to return as often as necessary to cardinal issues in different contexts, to rejecting or confirming preliminary findings at later stages of the interview (Clarkin et al., 1998). Clinicians trained in the use of the SI can reliably assess structural personality organization (Ingenhoven et al., 2009). Research on the validity of Kernberg's model is scarce. However, it is clear that each of Kernberg's personality organizations cover a broad range of psychiatric disorders on DSM-IV Axes I and II, with BPO studied the most thoroughly. Patients with BPO were predominantly diagnosed as having a DSM borderline or other personality disorders, and a variety of comorbid Axis I disorders (Kroll et al., 1981; Reich & Frances, 1984; Sandell, 1989).

Developmental Profile

Based on psychodynamic developmental psychology, DP describes the degree to which psychosocial functioning is determined by mature adaptive and by "early" maladaptive behavioral patterns (Abraham, 1993; Abraham & Dam, 2004). DP standardizes psychodynamic personality diagnostics to make them more convenient for clinical diagnosis and treatment planning, and enables empirical validation. DP consists of a matrix of 10 *Developmental Levels* (rows) and 9 *Developmental Lines* (columns) (see Table 1. chapter 1). Each Developmental Level describes a central characteristic in the development of psychosocial capacities. These central characteristics are, in ascending order of development, *Lack of Structure, Fragmentation, Self-centeredness, Symbiosis, Resistance, Rivalry, Individuation, Solidarity, Generativity, and Maturity* (see Appendix 1. chapter 1). Each DP-level score is made on the basis of the nine psychosocial domains representing the Developmental Lines (see Appendix 2. chapter 1), referring to *Social Attitudes, Object Relations, Self-Images, Norms, Needs, Cognitions, Problem Solving (thoughts and feelings), Problem Solving (actions), and Miscellaneous Themes*. Developmental levels in the DP matrix are hierarchically organized according to the degree to which they affect psychosocial functioning, and range from a primarily primitive level (*Lack of Structure*) to ultimately mature level (*Maturity*). These Levels are not assumed to be mutually exclusive. The lowest six Developmental Levels (*Lack of Structure, Fragmentation, Self-centeredness, Symbiosis, Resistance, and Rivalry*) refer to maladaptive behaviors, while the highest four Developmental Levels (*Individuation, Solidarity, Generativity, and Maturity*) refer to adaptive functioning.

The Developmental Profile is assessed with a semi-structured interview. A detailed

description is obtained of the patients' daily functioning over the past ten years, by focusing on the way the patient functions in the context of family and friendships, education and work, sports and hobbies. Other questions explore distressing events and feelings of fear, anger, guilt, shame, and self-esteem. The interview lasts 2–3 hours and is usually spread over two sessions. To interpret the verbatim information derived from the interview the DP offers a scoring protocol (Abraham, 1997) that describes in observational terms all 90 items comprising the DP-matrix (10 DP-levels x 9 PD-lines). The rater indicates on a four-point scale the extent to which the behavior of the patient corresponds to the relevant operational definition: not applicable (code 0), marginally applicable (code 1), largely applicable (code 2) or fully applicable (code 3). Data on the psychometric properties of the DP indicate adequate interrater reliability, internal consistency, and discriminant validity (Abraham et al., 2001; Van, Ingenhoven, Foeken, & Spijker, 2000).

While Kernberg's and Abraham's models for structural and psychodynamic diagnosis cover the same theoretical underpinnings, their assessment procedures are quite different, even though they both rely on a semi-structured interview. Whereas the SI ultimately focuses on the "here and now" interaction between patient and interviewer, the DP interview avoids these dynamics by studying the patient's habitual functioning over the last ten years of life, the "there and then."

5.3 Material and methods

Subjects: Patients were assessed in an specialized diagnostic program for personality disorders of the Symfora Group in the Netherlands between 1999 and 2005. Patients were referred for second opinions on diagnostically difficult cases or cases with a stagnated treatment process. Diagnostic case formulations were based on clinical history, referral letters, collateral information and personality questionnaires. In addition, SI and DP interviews were conducted. Interviewers were blind to each other's assessment, and raters were blind to one other's scores. Only patients who were severely psychotic or otherwise unable to be interviewed were excluded. After complete description of the study to the subjects, written informed consent was obtained.

Assessments and scorings protocols:

Sociodemographic and psychiatric variables. All patients were systematically assessed with respect to sociodemographic characteristics (age, gender, marital status and educational level) and clinical DSM-IV diagnosis on Axis I and Axis II. These diagnostic procedures were conducted in accordance with the LEAD principle: Longitudinal Expert evaluation that uses All Data (Skodol, Rosnick, Kellman, Oldham, & Hyler, 1991; Spitzer, 1983). DSM diagnoses were made on the basis of clinical history,

collateral information, referral letters, and personality questionnaires.

Structural Interview. As described elsewhere (Ingenhoven et al., 2009), the one hour SIs were conducted by experienced senior clinicians, and videotaped for research. After establishing satisfactory interrater reliability, two out of three specially trained clinical psychologists who were blind for the DP and other diagnostic information scored every SI tape. Raters were asked to classify patients' reality testing, identity integration and predominant use of primitive defenses, quantified by the operationalizations and five-point Likert scales (Clarkin, Caligor, Stern, & Kernberg, 2003). Moreover, after every single interview, raters were forced to assign each patient to one of Kernberg's mutually exclusive personality organization categories: NPO, BPO or PPO (Kernberg, 1984). Finally, consensus scores between raters were obtained.

Developmental Profile Interview. The DP semi structured interviews were conducted by trained psychologists blind to the SI information gathered on the same patients. Experienced raters (psychiatrists, clinical psychologists) trained by Abraham and participating in a study of interrater reliability (Van, Ingenhoven et al., 2000), scored the verbatim text in accordance with the DP scoring protocol.

In addition to the 10 DP-levels scores, we computed aggregate variables. By summing the scores of the adaptive and maladaptive Developmental Levels, *Adaptive Functioning* (ADAP) and *Maladaptive Functioning* (MALADAP) scores were calculated respectively. We further divided the maladaptive DP levels into two aggregate variables covering the three most *Primitive Developmental Levels* (*Lack of Structure, Fragmentation, Self-centeredness* called PRIM), and the more advanced *Neurotic Developmental Levels* (*Symbiosis, Resistance, Rivalry* called NEURO). Patient overall psychodynamic functioning was covered by the *Developmental Profile Index* (DPI). In computing the DPI, raw scores at each level are weighted, from 1 for *Lack of Structure* to 10 for *Maturity*. These weighted scores were then summed, and divided by the sum of all raw scores of the ten Developmental Levels (DENS, see below). This resulted in a DPI score with a theoretical range of 1 to 10, reflecting an individual's overall level of developmental maturity. A raw score, called *Rating Density Score* (DENS), was calculated by summing the scores of the 90 matrix cells of the DP matrix, reflecting the overall degree of "contrast" or "resolution" which characterizes the patients' and raters' response style: the more expressive the higher the scores. DENS scores varied from 19 to 54 (mean 37.1; SD=8.5), and significantly predicted scores on all psychodynamic predictors. For analyses with DP variables, the possible confounding effect of this DENS score was taken into account.

Data analysis: SI and DP data were compared and evaluated. To measure central tendency, means were calculated in the event of continuous data and percentages in the case of dichotomous or dichotomized data. To measure dispersion, standard deviations (sd) were presented. Associations between categorical variables were

explored using ANOVA or Fisher's exact testing. To explore the predictive value of the variables, the method of multiple regression analysis was performed, with a prediction of SI variables by DP scores. For continuous variables, performance of the individual DP variables was represented by the standardized regression coefficients (β); for dichotomous or dichotomized variables, multiple logistic regression analysis was applied, and the results were expressed as odds ratios (OR). Measures of uncertainty (95% CI) and statistical significance (p-value) were included. All testing took place at the 0.05 level of significance (two-tailed).

5.4 Results

Patient characteristics

Sixty participants in the diagnostic program underwent both the SI and the DP interview. These patients were predominantly female (68%), young adult or middle aged (mean age 30 years old; range 18-54 years), single (78%), and had average educational achievement (55% at least high school or comparable level). All patients had a least one clinical diagnosis on DSM-IV Axis I (88%) or Axis II (95%). Mood disorders, cluster B personality disorder and personality disorder NOS were most often diagnosed (see Table 1).

Structural Interview scores

Dimensional scores were calculated for disturbed *Reality Testing* (mean 2.6; sd 1.1), primitive *Defences* (mean 3.3; sd 1.0) and *Identity diffusion* (mean 3.4; sd 0.9). Based on their structural diagnosis, the sample consisted of 5 patients with a PPO (8.3%), 48 patients with a BPO (80%), and 7 patients with a NPO (11.7%). As shown in Table 1, none of the specific DSM-IV diagnostic categories were significantly associated with PPO, BPO or NPO, each of which was spread over a variety of Axis I and Axis II disorders.

Table 1.

Diagnostic classifications DSM-IV and Kernberg's Structural Diagnosis

DSM-IV	All patients (N=60)		PPO (n=5)	BPO (n=48)	NPO (n=7)
	N	%	n	n	n
Axis I disorders					
Psychotic disorders	5	8.3	2	3	
Mood disorders	27	45.0	1	21	5
Anxiety disorders	10	16.7		10	
Eating disorders	8	13.3	1	7	
Substance related disorders	4	6.7		4	
Other Axis I disorders	13	21.7	3	10	
No Axis I disorder (or deferred)	7	11.7		5	2
Axis II disorders					
Cluster A	7	11.7		6	1
Cluster B	18	30.0	3	14	1
Cluster C	8	13.3		7	1
Pers. Disorder NOS	24	40.0	2	19	3
No Axis II disorder (or deferred)	3	5.0		2	1

The columns indicate the number of patients with the disorder. A patient can have more than one Axis I disorder. The percentages relate the number of persons having the disorder to the total number of patients. PPO=psychotic personality organization; BPO=borderline personality organization; NPO=neurotic personality organization, according to Kernberg.

Developmental Profile scores

In this sample of mixed psychiatric patients, there were three times as many maladaptive DP scores (76%) than adaptive DP scores (24%), and, within the maladaptive realm twice as many neurotic DP scores (67%) as primitive DP scores (33%). On the individual DP-levels, most frequent scores were observed for *Symbiosis* (21%), *Resistance* (21%), *Individuation* (15%) and *Fragmentation* (13%), whereas scores for the most immature level *Lack of Structure*, and for the most adaptive levels *Generativity* and *Maturity*, were very rare (Table 2).

Table 2.

Unweighted scores on the Developmental Profile (N=60)

	mean	sd	min	max
Aggregate variables				
DPI	4.77	0.73	3.23	6.26
ADAP	8.97	4.58	2	20
MALADAP	28.17	8.27	15	46
NEURO	18.88	6.13	5	32
PRIM	9.28	6.76	1	27
Developmental Levels				
Maturity	0.13	0.50	0	3
Generativity	0.48	0.95	0	4
Solidarity	2.92	2.47	0	9
Individuation	5.43	1.77	2	10
Rivalry	3.52	2.35	0	10
Resistance	7.63	3.35	1	15
Symbiosis	7.73	3.80	0	16
Self-centeredness	2.72	3.39	0	13
Fragmentation	4.82	3.52	0	16
Lack of Structure	1.75	2.36	0	13

Prediction of structural domains by the Developmental Profile

In order to estimate the empirical overlap between the DP variables and Kernberg's structural dimensions of *Disturbed Reality Testing*, *Primitive Defenses* and *Identity Diffusion*, a series of linear regression analyses was performed. Table 3 provides an overview of the standardized regression coefficients, their dispersion and statistical significance. *Disturbed Reality Testing*, *Primitive Defenses* and *Identity Diffusion* were all negatively predicted by DPI and by the adaptive DP levels (ADAP), especially by *Individuation* and *Solidarity*. In contrast, they were positively predicted by the maladaptive (MALADAP), especially by the primitive DP levels (PRIM), mostly expressed by *Fragmentation*. In addition, *Disturbed Reality Testing* and *Identity Diffusion* were also predicted by *Lack of Structure*. The *Primitive Defenses* scale as assessed by Kernberg's method, was also negatively predicted by the DP level *Resistance*.

Table 3.

Developmental Profile: prediction of structural criteria

	Disturbed reality testing			Primitive defenses			Identity diffusion		
	β	95%CI	p	β	95%CI	p	β	95%CI	p
Aggregate variables									
DPI	-.41	-.66 to -.17	.002	-.46	-.70 to -.22	.001	-.53	-.76 to -.30	.001
ADAP	-.31	-.58 to -.04	.03	-.42	-.67 to -.17	.002	-.53	-.77 to -.29	.001
MALADAP	.58	.09 to 1.00	.03	.79	.32 to 1.00	.002	1.00	.55 to 1.00	.001
NEURO	-.22	-.59 to .15	.25	-.12	-.49 to .25	.53	-.07	-.46 to -.32	.73
PRIM	.35	.07 to .63	.02	.38	.10 to .66	.01	.42	.15 to .69	.003
Developmental Levels									
Maturity	.02	-.20 to .24	.86	-.19	-.45 to .07	.16	-.21	-.47 to .05	.13
Generativity	-.18	-.45 to .09	.19	-.22	-.48 to .04	.11	-.33	-.58 to -.08	.02
Solidarity	-.35	-.61 to -.09	.02	-.35	-.61 to -.09	.02	-.49	-.73 to -.25	.001
Individuation	-.21	-.49 to .07	.15	-.41	-.66 to -.16	.002	-.41	-.66 to -.16	.002
Rivalry	-.29	-.58 to .00	.06	-.09	-.39 to .21	.57	-.03	-.31 to .25	.84
Resistance	-.08	-.37 to .21	.59	-.40	-.69 to -.11	.01	-.22	-.52 to .08	.16
Symbiosis	.02	-.24 to .28	.89	.26	-.02 to .54	.08	.13	-.16 to .42	.39
Self-centeredness	-.06	-.34 to .22	.68	.04	-.25 to .33	.79	.04	-.29 to .37	.81
Fragmentation	.51	.25 to .77	.001	.54	.29 to .79	.001	.56	.31 to .81	.001
Lack of Structure	.27	.01 to .53	.05	.17	-.09 to .43	.22	.26	.01 to .51	.05

Univariate multiple regression analyses (controlled for DENS). β = standardized regression coefficient.

Developmental Profile and Personality organizations

An overview of the mean scores of the DP variables for each of Kernberg's PPO, BPO and NPO categories is presented in Table 4. As expected, most of the scores on the aggregate DP variables, as well as on the subsequent DP Levels differed significantly between the three SI personality organizations. The overall variable DPI showed the highest score on NPO, representing both the highest score on the adaptive DP levels (ADAP), and the lowest score on the aggregate maladaptive levels (MALADAP). In addition, NPO was differentiated from BPO and PPO by a lower score on the DP levels of *Lack of Structure* (representing *Disturbed Reality Testing*) and a lower score on *Fragmentation* (representing *Primitive Defenses* and *Identity Diffusion*). In addition, scores in the adaptive realm on *Individuation*, *Solidarity* and *Generativity* increased in succession from PPO via BPO to NPO. However, neurotic DP levels did not differentiate significantly between the three Kernberg personality organizations.

Table 4.

Developmental Profile scores in Kernberg's personality organizations

	PPO (n=5)		BPO (n=48)		NPO (n=7)		Anova
	mean	sd	mean	sd	mean	sd	p
Aggregate variables							
DPI	3.9	0.6	4.8	0.6	5.5	0.6	0.001
ADAP	5.6	2.3	8.7	4.4	13.1	4.7	0.001
MALADAP	29.2	6.1	28.7	8.3	23.7	9.1	0.02
NEURO	14.4	2.1	19.4	6.3	18.9	6.2	0.32
PRIM	14.8	5.4	9.4	6.7	4.9	5.3	0.04
Developmental Levels							
Maturity	--	--	0.1	0.5	0.4	0.8	0.24
Generativity	0.2	0.4	0.4	0.8	1.3	1.5	0.05
Solidarity	1.0	0.7	2.9	2.4	4.6	2.8	0.05
Individuation	4.4	1.5	5.3	1.8	6.9	1.1	0.04
Rivalry	2.0	1.6	3.7	2.3	3.3	3.0	0.30
Resistance	5.6	2.2	7.6	3.4	9.1	3.0	0.20
Symbiosis	6.8	3.4	8.0	3.9	6.4	3.1	0.51
Self-centeredness	2.2	2.7	2.9	3.5	1.7	3.0	0.65
Fragmentation	8.4	2.3	4.8	3.6	2.3	1.0	0.01
Lack of Structure	4.2	3.6	1.6	2.2	0.9	1.9	0.04

PPO=psychotic personality organization; BPO=borderline personality organization;

NPO=neurotic personality organization according to Kernberg

Developmental Profile prediction of personality organization

Since the personality organizations were not equally distributed, in a series of logistic regression analyses, we used the BPO group as a reference group to predict PPO and NPO by DP variables (see Table 5). Largest estimates were found for DPI, higher scores significantly predicting NPO (OR=7.9) and lower scores predicting PPO (OR=0.1). More specifically, NPO was positively predicted by adaptive DP levels (ADAP OR=1.3), especially *Individuation* and *Generativity*, and by low PRIM (OR=0.84). In contrast, PPO was predicted by low NEURO (OR=0.83) and high PRIM (OR=1.22), mostly contributed by the DP levels *Fragmentation* and *Lack of Structure*.

Table 5.

Developmental Profile: prediction of personality organization
(BPO as reference group)

	PPO (n=5)			NPO (n=7)		
	OR	95%CI	p	OR	95%CI	p
Aggregate variables						
DPI	.09	.01 to .63	.02	7.90	1.54 to 40.50	.02
ADAP	.78	.54 to 1.11	.17	1.28	1.04 to 1.58	.03
MALADAP	1.29	.90 to 1.84	.17	.78	.64 to .96	.03
NEURO	*	*	*	*	*	*
PRIM	1.22	1.01 to 1.47	.04	.84	.68 to 1.03	.10
Developmental Levels						
Maturity	--	--	--	2.22	.73 to 6.78	.17
Generativity	.69	.13 to 3.58	.66	2.06	1.04 to 4.10	.04
Solidarity	.46	.17 to 1.23	.13	1.34	.97 to 1.86	.08
Individuation	.75	.42 to 1.33	.33	1.83	1.04 to 3.20	.04
Rivalry	.61	.33 to 1.14	.13	.92	.61 to 1.38	.68
Resistance	.83	.59 to 1.16	.28	1.22	.91 to 1.65	.19
Symbiosis	.94	.72 to 1.24	.68	.88	.69 to 1.12	.30
Self-centeredness	.96	.69 to 1.33	.81	.87	.64 to 1.19	.40
Fragmentation	1.61	1.07 to 2.43	.03	.65	.42 to 1.03	.07
Lack of Structure	1.34	1.00 to 1.80	.05	.73	.37 to 1.43	.35

Logistic regression analysis (controlled for DENS). OR = Odds Ratio.

PPO (n=5) and NPO (n=7) compared to BPO (n=48) as a reference group.

PPO=psychotic personality organization; BPO=borderline personality organization;

NPO=neurotic personality organization according to Kernberg.

* = estimate is not presented due to the phenomenon of multicollinearity (VIF > 3.9)

5.5 Discussion

Abraham's DP interview and Kernberg's Structural Interview are assessment procedures for psychodynamic taxonomic personality models. Both originated in clinical practice and are theoretically driven, yet need further empirical verification. Both methods differ from the assessment procedures for DSM-IV Axis II disorders (see Table 6). Each method has its characteristics, advantages and disadvantages.

When properly trained and applied, the SI can give us a brief view of the underlying personality structure, but its “here and now” assessment can be distorted by temporary factors such as symptomatic states or obscuring (counter)transference reactions. In contrast, when adequately addressed, the DP will give us a sophisticated overview of psychodynamic functioning over the last ten years of life, but exploration of the “there and then” can be hampered by a patient’s cautious attitude, superficial replies or withholding of crucial information.

Table 6. Assessment procedures for personality diagnoses

	Developmental Profile Abraham (2005)	Structural Interview Kernberg (1984)	DSM-IV Axis II SCID II Interview APA (1994)
Frame of reference	Developmental psychology	Object relation theory	Descriptive phenomenology
Diagnostic strategy	Dragnet	Hypothetico-deductive approach	Dragnet and multiple branching
Classification strategy	Profile polithetic	Categorical monothetic	Prototypical polithetic
Psychiatric assessment	no	yes	yes
Focus	There and then Last ten years	Here and now Interaction	There Now and then
Interaction with interviewer	Ignored	Study of interest	Ignored
Clarifications	++	++	+
Confrontations	+	+++	-
Interpretations	-	++	-
Domains in study	9 Developmental Lines	Defenses, identity, reality testing	Criteria DSM-IV personality disorders
Final classifications	10 Developmental Levels	NPO, BPO, PPO	10 personality disorders in three clusters A, B and C
Co-classification	Complementary	Mutually exclusive	Comorbidity

In order to stipulate their convergent validity both diagnostic methods were used with a group of difficult-to-diagnose psychiatric patients by interviewers blind to one another’s assessment, and raters blind to each other’s scoring. Some major results can be summarized. First, we confirmed earlier research findings that structural diagnoses display a wider coverage than current DSM-IV diagnoses, illustrating their assessment of broad underlying vulnerabilities more than specific DSM-IV classifications. Second, the developmental levels of DP are strongly and significantly associated with the functional domains of disturbed *Reality Testing*, immaturity of *Defenses* as well as the presence of *Identity Diffusion*. Third, the DP levels were also significantly

associated with Kernberg’s personality organizations as was expected on clinical and theoretical grounds. The performance of the overall aggregated DP variables, especially the primitive and adaptive developmental levels, confirm a hierarchical structure underlying both methods. Contrary to expectations, the neurotic DP levels didn’t differentiate significantly between Kernberg’s personality organizations. This can be explained by the high prevalence of these DP levels in this specific and difficult-to-diagnose patient population with high comorbidity of psychiatric disorders. An alternative explanation is the low specificity of the DP levels in the neurotic realm, since they will be found in a broad range of psychiatric disorders and personality disorders.

This empirical exploration has both strengths and limitations. One advantage is its contribution to a better understanding of psychodynamic features and how they are related to each other in everyday clinical practice in a naturalistic setting. By using the SI, personality organization can be assessed during the interaction with the interviewer in the “here and now”. The use of the DP permits a psychodynamic assessment of personality covering a broad range of phenomena such as social attitudes, object relations, self-image, cognitive functioning, defense mechanisms and coping styles, both in the maladaptive as well as in the adaptive realm. As the DP assesses the last ten years of the patients life, the recent “there and then”, this study confirms the capability of the DP to assess structural derivatives as described by Kernberg, without the necessity of provoking the patient’s primitive dynamics in the “here and now” interaction with the interviewer.

The study also has limitations. First, no standardized interviews were used to assess DSM-IV diagnoses. Therefore, it cannot be ruled out that DSM-IV diagnoses may have been more associated with personality organizations if semi-structured DSM-IV interviews had been used. However, it should be noted that the standardized assessment of DSM diagnoses did follow the LEAD procedure. Second, as the sample size of this study is limited and the number of statistical tests is relatively large, the results are tentative and it is recommended that this study be replicated within a larger population. It should be noted, however, that many of the observed associations still remain after Bonferroni correction for multiple testing ($p \leq 0.003$), e.g. aggregate DP levels of DPI, ADAP, MALADAP and PRIM still show significant associations with one or more of the structural domains of Kernberg, and the same was true for the DP developmental levels of *Solidarity*, *Individuation*, and *Fragmentation*. Third, since the specific population in this study was a selected difficult-to-diagnose group of patients, one cannot simply generalize the results of this study to other treatment settings. In conclusion, in addition to DSM-IV diagnosis and personality traits, vulnerabilities in personality structure and psychodynamic functioning can be addressed in a meaningful way, both by interviewing in the “here and now” and by interviewing about the “there and then”. Kernberg’s structural derivatives were significantly associated with relevant psychodynamic DP-variables. These results suggest that

in clinical practice it is useful to assess additional psychodynamic personality characteristics for case formulation and treatment selection. This empirical study corroborates the validity of the Developmental Profile with respect to the assessment of the structural derivatives of psychopathology.

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Chapter 6

Treatment Duration and Premature Termination of Psychotherapy in Personality Disorders: Predictive Validity of the Developmental Profile assessing Psychodynamic Personality Diagnosis.

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- 6.2 Introduction
- 6.3 Material and methods
- 6.4 Results
- 6.5 Discussion
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6.1 Abstract

Objective: Little is known about predictors of treatment duration and premature termination of psychotherapy.

Method: Sociodemographic and psychiatric characteristics were assessed in 148 personality disorder inpatients in psychotherapy, psychodynamic variables assessed with the Developmental Profile (DP). The incremental value over and beyond demographics and descriptive diagnosis was determined for psychodynamic variables.

Results: In contrast to DSM-IV diagnoses and symptom severity, treatment duration and premature termination were significantly predicted by psychodynamic variables. Longer treatment duration was predicted by adaptive functioning, shorter treatment duration by maladaptive functioning, especially by *Fragmentation* and *Self-centeredness*. Premature termination was also predicted by primitive functioning. In addition to demographics and descriptive diagnoses, DP variables independently explained 6% of the variance of both phenomena.

Conclusion: In contrast to DSM-IV diagnoses and general symptom severity at baseline, psychodynamic personality variables significantly predict treatment duration and premature discharge. Findings support the relevance of psychodynamic assessments in clinical practice.

6.2 Introduction

Long-term psychotherapy is widely recommended for personality disorders, whether on an outpatient, day care, or inpatient basis. Available evidence clearly indicates the effectiveness of its use, not only in reducing psychiatric symptoms but personality pathology as well (Sanislow, 1998; Perry, Banon & Ianni, 1999; Ogrodniczuk & Piper, 2001; Leichsenring & Leibing, 2001; Gabbard et al., 2000; Bateman & Fonagy, 2000). However, neither reduction of symptoms or maladaptive behavior, nor improved social functioning occurred within the first six months of treatment (Bateman & Fonagy, 1999). Treatment takes time, even if long intensive treatment is not always better. Some studies showed a clear advantage of step-down treatment programs over a fixed long-term inpatient stay (Chiesa, Drahorad & Longo, 2000; Beecham et al., 2006). Length of stay and appropriate termination have been found in mental health clinics to be strongly related to successful treatment outcome (Pekarik, 1986), while premature termination, especially early dropout, is associated with low (cost-)effectiveness. Poor treatment adherence and dropping out of psychotherapy are characteristics of patients with personality disorders, patients with borderline personality disorder being most thoroughly studied. Intensive specialized psychotherapy programs for personality disordered patients place particular emphasis on preventing treatment dropping out

because these services are expensive, as their staff-to-patient ratios are high, and patient drop-out disrupts group processes, the milieu, other patients and staff morale. High attrition rates in inpatient psychotherapy seem to be associated with difficult-to-treat patients, along with the anticipated long treatment duration. In prospective studies, 30-70% of the patients failed to complete the full year of treatment, most of them leaving within the first three months (Chiesa, Drahorad & Longo, 2000; Vermote, 2005; Blount, King & Menzies, 2002; Gunderson et al., 1989).

Premature termination seems to be determined by multiple factors. It is related to variables associated with the patient (gender, age, low education, low income, low social class, being single, high symptom severity, diagnosis of schizotypal, antisocial or borderline personality disorder; little prior treatment experience, negative attitude toward the treatment or the therapist), with the goal of psychotherapy (a preference for long treatment oriented toward personality change rather than a problem-oriented approach), with treatment style (explorative versus supportive approaches), with therapist experience, and with momentary group processes, as well as with social support provided by the family (Pekarik, 1986; Hellerstein et al., 1998; Winston et al., 1994; Winston et al., 1991; Piper et al., 1999; Piper et al., 1998; Pekarik, 1983^a; Pekarik, 1983^b; Johnston & McNeal, 1964; Gottschalk, Mayerson & Gottlieb, 1967; Giessen-Bloo et al., 2006; Cyr & Haley, 1983).

Clarkin & Glick (1982) stress the importance of characterological aspects in the prediction of treatment outcome, including length of stay. Yet, little is known about the role of psychodynamic personality characteristics in the prediction of the length of stay or premature termination of psychotherapy. In their long-term study, Kullgren & Armelius (1990) found some prognostic effect of a Structural Diagnosis, assessed by Kernberg's Structural Interview (Kernberg, 1984), with regard to the length of hospitalization and the number of re-admissions. Patients with a neurotic personality organization had few and short readmissions, patients with a borderline personality organization had the most frequent but also the shortest hospital readmissions, and patients with a psychotic personality organization spent most of their time in inpatient care. In the study by Vermote (2005), premature termination from inpatient psychotherapy was predicted by the most severe as well as the least severe personality organization, based on the Inventory of Personality Organization (IPO). In a study using the Rorschach, Horner (Horner & Diamond, 1996) showed that clients with a predominance of narcissistic themes were more likely to drop out of treatment, whereas clients who continued treatment showed a predominance of *rapprochement* themes.

Hilsenroth (Hilsenroth & Handler, 1995) found that Rorschach variables of *interpersonal relatedness* significantly predicted premature termination, with more dependent patients staying longer in psychotherapy. Finally, in the study by Perry (Perry, Bond & Roy, 2007), the number of sessions in long-term dynamic psychotherapy was predicted directly by the contribution of higher adaptive defensive style (Defense

Style Questionnaire, DSQ). The number of sessions could not be predicted by non-dynamic characteristics such as sociodemographic features, Axis I disorders, Big-Five personality traits or most of the DSM-IV personality disorders. The presence of a dependent personality disorder did predict a larger number of sessions. In contrast, several criteria of obsessive-compulsive personality disorder, such as perfectionism and excessive devotion to work and productivity, significantly predicted a shorter duration of treatment. Premature termination of therapy was only associated with a low DSQ score on the adaptive defense style, albeit not with any of the other DSQ variables.

Also little is known about the added value of psychodynamic assessment procedures over and above generally available predictors such as sociodemographics or descriptive diagnoses (Hunsley & Meyer, 2003; Garb, 2003). Browning (1986), using Loevinger's Sentence Completion Test to assess the hierarchical stages of ego development (Loevinger & Wessler, 1976), showed that ego development independently added 21% to the explained variance of IQ and age, with patients at lower stages of development staying longer in treatment. Altogether, our knowledge about the role of psychodynamic factors in treatment continuation and regular discharge is very limited.

The purpose of the present study was to explore the predictive power and incremental value of adaptive as well as maladaptive psychodynamic variables, as assessed with the Developmental Profile (DP), for the length of stay in the treatment program and for premature treatment termination in an inpatient psychotherapeutic treatment program for young adult personality disorder patients. Consistent with the treatment philosophy of the study program, we hypothesized that treatment duration would be shorter in cases with immature stages of psychodynamic development as determined by higher scores on the aggregate maladaptive levels of functioning, and the presence of primitive behavioral patterns. We also hypothesized that patients with higher capacities for adaptive functioning would have a longer duration of treatment. With respect to the incremental validity of psychodynamic variables, we hypothesized a significant, albeit limited, amount of additional explained variance in treatment duration.

6.3 Material and Methods

Subjects

Patients were young adults with personality disorders who were admitted to the intensive inpatient psychotherapeutic program De Zwaluw, Symfora Group, the Netherlands. At the start of the program, each patient intended to stay in therapy five days a week for 12 to 15 months, with weekends spent at home. Patients

lived together in the therapeutic community and were required to adhere to the treatment program, which consisted of large group meetings, sociotherapy, group psychotherapy, art therapy, psychodrama, psychomotor therapy and music therapy. Each patient participated in family therapy whenever possible and received pharmacotherapy whenever necessary. After a period of 9 to 12 months, patients continued their treatment within the same program on a day-care basis. The step-down program was completed on an outpatient basis. This eclectic psychotherapy program is based on the integration of psychodynamic, (cognitive) behavioral and system therapy approaches.

Assessments

Outcome variables

Two psychology students blindly and independently assessed when and how the clinical treatment period was terminated using the day-to-day staff notations in the patient files. *Treatment duration* was measured in months. *Premature termination* was defined as the absence of regular discharge, which was described as a minimum treatment duration of nine months, after which the patient and staff mutually agreed on a discharge date.

Descriptive predictors

All patients were systematically assessed with respect to sociodemographic characteristics (age, gender, marital status, and educational level) and clinical DSM-IV diagnosis on Axis I and Axis II. Diagnostic procedures were conducted according to the so-called LEAD principle: Longitudinal Expert evaluation that uses All Data (Skodol et al., 1991; Spitzer, 1983). DSM diagnoses were made at admission on the basis of clinical history, collateral information, referral letters, and personality questionnaires. If necessary, the diagnosis was revised during the treatment on the basis of clinical observations in the various therapies. Symptom severity was assessed by SCL-90 total score.

Psychodynamic predictors

Habitual psychodynamic functioning in ordinary daily life was assessed with the Developmental Profile (DP). Based on psychodynamic developmental psychology, DP describes the degree to which psychosocial functioning is determined by mature adaptive and by “early” maladaptive behavioral patterns (Abraham & van Dam, 2004; Abraham, 1993). DP standardizes psychodynamic personality diagnostics to make them more convenient for clinical diagnosis and treatment planning, and enables empirical validation. DP consists of a matrix (Table 1. chapter 1) of 10 *Developmental Levels* (rows) and 9 *Developmental Lines* (columns). Each Developmental Level describes a central characteristic in the development of psychosocial capacities. These central

characteristics are *Lack of Structure, Fragmentation, Self-centeredness, Symbiosis, Resistance, Rivalry, Individuation, Solidarity, Generativity, and Maturity* (Appendix 1. chapter 1). All DP-level scores are made on the basis of nine psychosocial domains representing the Developmental Lines (Appendix 2. chapter 1): *Social Attitudes, Object Relations, Self-Images, Norms, Needs, Cognitions, Problem Solving (thoughts and feelings), Problem Solving (actions), and Miscellaneous Themes*. Developmental levels in the DP matrix are hierarchically organized, according to the degree to which they affect psychosocial functioning, and range from a primarily primitive level (*Lack of Structure, 00*) to ultimately mature level (*Maturity, 90*). These Levels are not assumed to be mutually exclusive. The lowest six Developmental Levels (00 to 50: *Lack of Structure, Fragmentation, Self-centeredness, Symbiosis, Resistance and Rivalry*) refer to maladaptive behaviors, while the highest four Developmental Levels (60 to 90: *Individuation, Solidarity, Generativity and Maturity*) refer to adaptive functioning. DP is assessed by a semi-structured interview in order to obtain a detailed description of the patients' daily functioning over the past ten years, by focusing on the way the patient functions in the context of family and friendships, education and work, sports and hobbies. Other questions explore distressing events and feelings of fear, anger, guilt, shame and self-esteem. The interview usually lasts 2-3 hours and is usually spread over two or three sessions. The interpretation of the information derived from the interview is based on a scoring protocol. This protocol describes in observational terms all 90 items comprising the DP-matrix (10 DP-levels x 9 PD-lines). The rater indicates on a 4-point scale the extent to which the behavior of the patient corresponds with the relevant operational definition. The operational definition is denoted as not applicable (code 0), marginally applicable (code 1), largely applicable (code 2), or fully applicable (code 3). Data on the psychometric properties of the DP indicate good interrater reliability, good internal consistency, and good discriminant validity (Van, Ingenhoven et al., 2000; Abraham et al., 2001). In addition to the 10 single DP-levels scores, we computed aggregate variables as psychodynamic predictors. By summing the scores on the Developmental Levels in the adaptive (60 to 90) and maladaptive (00 to 50) realms respectively, *Adaptive Functioning (ADAP)* and *Maladaptive Functioning (MALADAP)* scores were calculated. Moreover, maladaptive functioning was divided into two variables, the sum score of the three most primitive Developmental Levels (00, 10 and 20, called PRIM), and of the more advanced neurotic Developmental Levels (30, 40 and 50, called NEURO). Patient overall psychodynamic functioning was covered by the *Developmental Profile Index (DPI)*, which is a weighted total score of all 10 Developmental Level scores with immature level scores have lower weights and mature level scores having higher weights (see Appendix 1. this chapter). Finally, a raw score was constructed by summing the scores of all of the 90 cells in the matrix. This score, called *Rating Density Score (DENS)*, reflects the overall degree of “contrast” or “resolution”, which characterizes a patients' DP response style. DENS scores varied from 25 to 70 scores (mean 41.6, SD 8.6), and significantly

predicted scores on all psychodynamic predictors. In order to prevent loss of relevant information with respect to contrasts within the compounded data pool, this DENS score must be controlled for in analyses of the subsequent DP-variables.

Data analysis

As a measure of central tendency, the means were calculated in the event of continuous data, and percentages in the case of dichotomous or dichotomized data. To explore the predictive value of the DP variables, regression analyses were performed. In the case of continuous outcome variables, performance of the individual DP variables was represented by the standardized regression coefficients (β). In the case of dichotomous or dichotomized variables, multiple logistic regression analysis was applied, and the result expressed as odds ratios (OR), including measures of uncertainty (95% CI). The incremental value of DP variables was derived by using stepwise hierarchical regression analysis. The model which included selected demographic characteristics, psychiatric DSM-IV classification, and symptom severity (SCL-90) was compared with the model including these same variables plus DP variables. The differences in explained variance was expressed as Nagelkerke's R^2 change (ΔR^2), indicating the incremental value of the DP variable. All testing took place at the 0.05 level of significance (two-tailed).

6.4 Results

Clinical characteristics: Between August 1996 and September 2004, 163 patients were admitted to the program. The DP (Abraham, 1997), was administered at admission or in the first month of treatment, to 148 patients (91%). For the remaining 15 patients, assessment of the DP was not possible due to early dropout, temporary lack of sufficient assessment staff, or occasionally refusal of informed consent by the patient. Patients who completed the DP interview ($n=148$) were diagnostically and sociodemographically similar to those who did not ($n=15$). Participating patients were predominantly female (74%), young (mean age 24 years old; range 18-35 years), single (91%) and of average educational attainment (39% completed at least high school or comparable level). All but one patient had a principal clinical diagnosis of DSM-IV Axis II personality disorder, predominantly cluster B personality disorder, or personality disorder NOS. Most of them also met diagnostic criteria for one or more comorbid Axis I disorders (Table 1).

Table 1. DSM-IV diagnostic classifications: prevalence of Axis I and Axis II diagnoses

	Males (n = 39)		Females (n = 109)		Total (N= 148)		Males vs females
	n	%	n	%	N	%	p ^a
Axis I disorder							
Mood disorders	19	48.7	55	50.5	74	50.0	1.00
Anxiety disorders	12	30.8	48	44.0	60	40.5	0.19
Eating disorders	0	0.0	45	41.3	45	30.4	0.001
Substance related disorders	12	30.8	22	20.2	34	23.0	0.19
Dissociative disorders	0	0.0	12	11.0	12	8.1	0.04
Other axis I disorders	11	28.2	16	14.7	27	18.2	0.09
No diagnosis	3	7.7	7	6.4	10	6.8	0.73
Axis II disorder (principal diagnosis)							
Cluster A	3	7.7	2	1.8	5	3.4	0.12
Cluster B	10	25.6	48	44.0	58	39.2	0.06
Cluster C	4	10.3	11	10.1	15	10.1	1.00
Personality disorder NOS	25	64.1	49	45.0	74	50.0	0.07
No diagnosis	0	0.0	1	0.7	1	0.7	1.00

^a Fisher's exact test (two-tailed)

The SCL-90 was administered to 129 of the 148 patients. The mean SCL-90 total score was 236.6 (SD 62.6). Compared to the normal Dutch population, this can be qualified as very high, and compared to psychiatric outpatients as above average (Arrindell & Ettema, 1986).

Developmental Profile scores: In this sample of personality disorder patients, more maladaptive (75%) than adaptive developmental patterns (25%) were found. Within the maladaptive realm, more neurotic (55%) than primitive scores (20%) were observed. On the individual DP levels, high scores were observed for Symbiosis (24%), Resistance (21%), Individuation (15%), and Fragmentation (12%). In contrast, very low frequencies were found for the most immature level Lack of Structure (3%) and for the highest adaptive levels Generativity (1%) and Maturity (<1%) (Table 2).

Table 2. Developmental Profile (N=148): Scores and dispersion of the study population at admission

	Mean	SD	minimum	maximum
Aggregate variables				
DPI	4.91	.52	3.51	6.36
ADAP	10.20	4.29	2	28
MALADAP	31.41	7.88	14	57
NEURO	23.05	5.82	9	40
PRIM	8.36	5.67	0	27
Developmental Levels				
Maturity	0.11	0.35	0	2
Generativity	0.57	0.95	0	4
Solidarity	3.56	2.15	0	12
Individuation	5.95	2.05	2	15
Rivalry	4.34	2.59	0	12
Resistance	8.71	3.05	2	16
Symbiosis	9.99	4.05	0	21
Self-centeredness	2.18	2.93	0	13
Fragmentation	5.10	3.31	0	16
Lack of Structure	1.08	1.41	0	8

DPI=Developmental Profile Index; ADAP=Adaptive functioning;

MALADAP=Maldaptive functioning; NEURO=Neurotic Developmental Levels;

PRIM=Primitive Developmental Levels.

Some DP variables were correlated with gender and age, but none of the DP variables was significantly correlated with educational level or marital status. Corrected for DENS, females achieved higher levels on ADAP ($\beta=0.16$, 95%CI=0.01 to 0.31, $p<0.04$), while males scored higher on MALADAP ($\beta=-0.09$, 95%CI=-0.17 to -0.01, $p<0.02$), notably on PRIM ($\beta=-0.33$, 95%CI= -0.49 to -0.17, $p<0.001$). On the individual DP-levels, male patients scored higher on *Self-centeredness* ($\beta=-0.49$, 95%CI= -0.63 to -0.35, $p<0.001$) as well as on *Rivalry* ($\beta=-0.16$, 95%CI= -0.31 to -0.01, $p<0.01$). In contrast, female patients scored higher on *Individuation* ($\beta=0.22$, 95%CI=0.06 to 0.38, $p<0.01$) and on *Symbiosis* ($\beta=0.37$, 95%CI=0.23 to 0.51, $p<0.001$). As age was positively correlated to DENS, all regression analyses were adjusted for this variable. ADAP was positively predicted by age ($\beta=0.19$, 95%CI=0.03 to 0.35, $p<0.02$), notably the DP level *Individuation* ($\beta=0.21$, 95%CI=0.04 to 0.38, $p<0.02$). Marital status and educational level did not predict the DP variables in the current study. Based on

these findings, it was decided that predictions of treatment duration and dropout by DP variables should be adjusted for gender and age.

DP variables were not significantly correlated with the presence of any Axis I disorder or with the SCL-90 score. However, the presence of cluster B personality disorders (adjusted for DENS and sociodemographic variables) was associated with a higher score on PRIM (OR=1.13; 95%CI=1.04 to 1.22, $p<0.01$), notably a higher score on *Fragmentation* (OR=1.31; 95%CI=1.15 to 1.49, $p<0.001$), and a lower score on NEURO (OR=0.91; 95%CI=0.83 to 0.99, $p<0.04$), particularly a lower score on *Resistance* (OR=0.84; 95%CI=0.74 to 0.97, $p<0.02$). In contrast, cluster C personality disorders were associated by a higher score on NEURO (OR=1.20; 95%CI=1.02 to 1.40, $p<0.03$), particularly by a higher score on *Symbiosis* (OR=1.25; 95%CI=1.06 to 1.48, $p<0.01$). Personality disorder NOS was associated with a higher score on *Resistance* (OR=1.19; 95%CI= 1.04 to 1.36, $p<0.01$) as well as the relative absence of *Fragmentation* (OR=0.84; 95%CI=0.74 to 0.95, $p<0.01$).

Prediction of treatment duration by DP levels

The duration of treatment within the psychotherapeutic program varied substantially from 0.1 months (3 days) to 22.7 months, mean 10.1 months (SD 5.4 months). Treatment duration was neither significantly associated with sociodemographic variables nor with DSM-IV diagnoses on Axes I or II, with the exception of cluster A personality disorder. This small group (n=5) showed a significantly shorter treatment duration ($\beta=-0.19$, 95%CI=-0.35 to -0.03, $p<0.03$). Furthermore, treatment duration could not be predicted by the overall symptom severity (SCL-90 total score) nor by DENS. Using the method of multiple linear regression analysis, and controlling for DENS, DPI ($\beta=0.28$) as well as ADAP ($\beta=0.21$) scores predicted a longer treatment duration (Table 3). In contrast, a shorter treatment duration was predicted by PRIM ($\beta=-0.28$), especially by *Fragmentation* ($\beta=-0.20$) and *Self-centeredness* ($\beta=-0.18$). Controlling for sociodemographic variables only slightly altered these results (Table 3).

Incremental value of the DP levels for the prediction of treatment duration

Only 4 out of the 17 demographic and clinical descriptive variables were found to be present in at least 7 subjects and were associated with treatment duration at $p\leq 0.20$ levels of significance: gender, anxiety disorder, eating disorder and "other" Axis I disorders. A multivariate prediction model with these variables as predictors accounted for a non-significant 4% of the variance in treatment duration ($R^2=0.04$; $p=0.17$). Addition of the various DP variables to this model in a series of separate regression analyses led to a significant increment for treatment duration in the case of the DPI ($R^2=0.09$, $p=0.02$; $\Delta R^2=0.05$, $p=0.02$), ADAP ($R^2=0.08$, $p=0.05$; $\Delta R^2=0.04$, $p=0.03$) and of the Developmental Level *Maturity* ($R^2=0.08$, $p=0.04$; $\Delta R^2=$

0.04, $p=0.02$). Adding PRIM, the model almost created a significance incremental effect ($R^2=0.07$, $p=0.08$; $\Delta R^2= 0.03$, $p=0.06$). The same was true for the addition of Fragmentation ($R^2=0.06$, $p=0.10$; $\Delta R^2= 0.02$, $p=0.10$) and the adaptive Developmental Levels of Individuation ($R^2=0.07$, $p=0.08$; $\Delta R^2= 0.03$, $p=0.06$) and Solidarity ($R^2=0.07$, $p=0.07$; $\Delta R^2= 0.03$, $p=0.06$). The other DP variables didn't account for a significant incremental value with respect to treatment duration.

Using multivariate analysis, the DP variables ADAP, NEURO, and PRIM together led to a significant increase of explained variance of treatment duration of about 6% ($R^2=0.10$, $p=0.05$; $\Delta R^2= 0.06$, $p=0.05$).

Table 3. Developmental Profile: prediction of treatment duration

Developmental Profile N=148	Treatment duration adjusted for DENS only			Treatment duration adjusted for DENS and sociodemographic variables ¹		
	β^*	95%CI	p	β^*	95%CI	p
Aggregate variables						
DPI	.28	.12 to .44	.001	.26	.10 to .42	.01
ADAP	.21	.03 to .39	.02	.19	.00 to .38	.05
MALADAP	**	**	**	**	**	**
NEURO	.16	-.07 to .39	.19	.13	-.11 to .37	.29
PRIM	-.28	-.46 to -.10	.01	-.25	-.45 to -.05	.02
Developmental Levels						
Maturity	.17	.00 to .34	.06	.17	.00 to .34	.06
Generativity	.08	-.09 to .25	.36	.04	-.15 to .23	.68
Solidarity	.16	-.01 to .33	.07	.16	-.02 to .34	.08
Individuation	.17	.00 to .34	.06	.14	-.04 to .32	.14
Rivalry	.09	-.10 to .28	.37	.12	-.08 to .32	.24
Resistance	.12	-.07 to .31	.22	.12	-.06 to .30	.20
Symbiosis	.00	.00 to .00	1.00	-.06	-.27 to .15	.57
Self-centeredness	-.18	-.36 to .00	.05	-.12	-.32 to .08	.24
Fragmentation	-.20	-.37 to -.03	.03	-.20	-.38 to .02	.03
Lack of Structure	-.13	-.29 to .03	.13	**	**	**

Single multiple regression analyses; 1 = gender, age, educational level, marital status;

* = standardized regression coefficient (β); ** = estimated β is not presented due to the phenomenon of multicollinearity ($VIF \geq 4.0$);

DPI=Developmental Profile Index; ADAP=Adaptive functioning; MALADAP=Maldaptive functioning;

NEURO=Neurotic Developmental Levels; PRIM=Primitive Developmental Levels.

Prediction of premature termination

Sixty-six of the 148 patients (44.6%) were discharged “regularly” after at least nine months and with staff agreement after mutual consultation, whereas the remaining 82 patients (55.4%) ended their therapy in different way than intended. In the premature termination group, the mean treatment duration was 6.5 months (SD 4.2), versus 14.6 months (sd 2.7) in the regular discharge group (Fischer’s Exact test $p=0.001$). Type of discharge was related to gender, but not to age, marital status or educational level. In men, treatment ended prematurely in 72%, whereas this was 50% in women (Fischer’s Exact test; $p=0.03$). Premature termination could not be predicted by DSM-IV diagnoses on Axes I or II, overall symptom severity (SCL-90 total score) or by DENS. However, premature termination was significantly predicted by a lower DPI score (OR=0.52) and a higher PRIM score (OR=1.08). Premature termination was also predicted by lower scores on the Developmental Levels Generativity (OR=0.64) and Maturity (OR=0.20). The other DP variables did not significantly predict premature termination. All significant predictions, with exception of Maturity, lost statistical significance when analyses were adjusted for sociodemographic variables (Table 4).

Table 4. Developmental Profile: prediction of premature termination

Developmental Profile N=148	Premature termination adjusted for DENS only			Premature termination adjusted for DENS and sociodemographic variables ¹		
	OR	95%CI	p	OR	95%CI	p
Aggregate variables						
DPI	.52	.28 to .99	.05	.56	.29 to 1.11	.10
ADAP	.92	.84 to 1.00	.07	.93	.84 to 1.02	.12
MALADAP	1.09	1.00 to 1.19	.07	1.08	.98 to 1.19	.12
NEURO	.97	.90 to 1.05	.51	1.02	.92 to 1.10	.94
PRIM	1.08	1.00 to 1.15	.05	1.05	.97 to 1.14	.22
Developmental Levels						
Maturity	.20	.05 to .72	.02	.18	.05 to .69	.02
Generativity	.64	.43 to .94	.03	.68	.44 to 1.05	.09
Solidarity	.92	.78 to 1.08	.29	.91	.76 to 1.08	.28
Individuation	.90	.76 to 1.06	.24	.93	.77 to 1.2	.45
Rivalry	.96	.83 to 1.10	.57	.95	.81 to 1.11	.54
Resistance	1.03	.91 to 1.15	.68	1.02	.90 to 1.16	.70
Symbiosis	.97	.89 to 1.05	.50	1.01	.91 to 1.11	.87
Self-centeredness	1.11	.98 to 1.27	.10	1.02	.88 to 1.19	.75
Fragmentation	1.08	.97 to 1.20	.18	1.08	.95 to 1.20	.24
Lack of Structure	1.15	.89 to 1.47	.29	1.16	.88 to 1.52	.28

Logistic regression analysis; OR=odds ratio; 1 = gender, age, educational level and marital status.

Using the baseline model described above, the incremental validity was estimated for the variables of the Developmental Profile with respect to premature termination. The model with the selected sociodemographic and descriptive clinical variables accounted for 10% of the variance in mode of discharge ($R^2=0.10$; $p=0.02$). Addition of the successive DP variables, using logistic regression analysis, showed a significant increment of prediction for the aggregate variable ADAP ($R^2=0.14$, $p=0.06$; $\Delta R^2=0.03$, $p=0.03$) and a significant increment for the Developmental Levels of *Generativity* ($R^2=0.15$, $p=0.03$; $\Delta R^2=0.04$, $p=0.01$) and *Maturity* ($R^2=0.23$, $p=0.001$; $\Delta R^2=0.11$, $p=0.01$). The other DP variables did not show significant incremental value.

6.5 Discussion

In order to determine psychodynamic characteristics that interfere with normal completion of the psychotherapy process, we assessed the Developmental Profile of young adult personality disorder patients with diverse Axis I disorders in a specialized inpatient psychotherapeutic treatment program. To our knowledge this is the first study that describes a personality disorder patient population in terms of the broad range of psychodynamic DP variables, as well as their relationship to sociodemographic features, psychiatric diagnosis, symptom severity, and therapy outcome.

Patients had higher scores on the maladaptive DP levels of psychodynamic functioning than on the adaptive levels. Within the adaptive realm, relatively high scores were present on the levels of *Individuation* and *Solidarity*, but as could be expected in such a young adult patient population, scores on *Generativity* and *Maturity* were relatively rare. Within the maladaptive realm, the “neurotic” levels of *Symbiosis* and *Resistance* were most frequently observed. On the “primitive” levels, differential scores were found on *Fragmentation* and *Self-centeredness*, reflecting the underlying borderline and narcissistic personality structure as described by Kernberg (1984) and Kohut (1971). Scores on *Lack of Structure*, reflecting more severe and enduring psychological deficits, were rare, as we had expected on the basis of patient selection at intake excluding psychotic personality structure. Female patients scored higher than their male counterparts on the adaptive levels of functioning, while there was no gender difference in overall maladaptive functioning. This is in line with the results of the study of Van (Van et al., 2008) who also found that women had a more mature level of overall defensive functioning with the DP. Within the maladaptive levels of function, we found a gender-specific pattern. Men had significantly higher scores on the “narcissistic” levels of *Self-centeredness* and *Rivalry*, while women presented more dependent behavior on the level of *Symbiosis*. It is not clear whether these (phallic) narcissistic themes in men and the excessive dependency in women represent fundamental differences between the

genders in general, or more specifically between male and female personality disorder patients.

DP variables were not associated with the presence of Axis I diagnoses or SCL-90 symptom severity. As expected, Cluster B personality disorders were associated with higher scores on the primitive level of *Fragmentation*, while Cluster C personality disorders were associated with “neurotic” psychodynamic functioning, especially by higher scores on *Symbiosis*. Personality disorder NOS was associated with high *Resistance* and low *Fragmentation*. These findings are consistent with the idea that on a descriptive phenomenological level, psychiatric symptoms and maladaptive behavioral patterns can reflect divergent underlying psychodynamic structures (Gabbard, 1994; Abraham, 2005).

With respect to duration and termination of treatment, several major conclusions can be drawn from this clinical-empirical exploration. Neither sociodemographic variables, current descriptive diagnoses (DSM-IV Axes I or II) nor symptom severity (SCL-90) predicted treatment duration or premature discharge. In contrast, psychodynamic variables did predict both treatment duration and premature termination. Longer treatment duration was predicted by higher levels of psychodynamic functioning as well as by aggregate levels of adaptive functioning. Conversely, a shorter stay in the psychotherapeutic program was predicted by primitive psychodynamic features, especially by *Fragmentation* and *Self-centeredness*. Furthermore, regular discharge was predicted by an overall higher level of psychodynamic functioning and by the adaptive Developmental Levels *Generativity* and *Maturity*. In contrast, premature termination was predicted by higher scores on primitive functioning. Finally, psychodynamic variables explained a significant 5% of the variance of treatment duration above and beyond demographics and descriptive psychiatric diagnoses. This relatively low percentage of explained variance might be considered disappointing. It should be noted, however, that treatment duration and premature termination are likely to be multi-factorially determined, i.e. patient, therapist, and setting variables all interact and contribute to these outcomes. In order to give clinical meaning to the predictive performance of the psychodynamic variables in the study, two practical examples will be provided. Based on the standardized regression coefficient (β) of the DP variables, one can calculate the expected treatment duration. Based on the dispersions (Table 2) and regression coefficients (Table 3) of *Fragmentation* ($\beta=-.20$) and *Self-centeredness* ($\beta=-.18$), one can calculate a three point increase in one of these Developmental Levels (approximately one standard deviation) results in a reduction of treatment duration of one month. Given the fact that most of the scores on these Developmental Levels show substantial ranges within our treatment population (*Fragmentation* from 0 to 16 points; *Self-centeredness* from 0 to 13 points), the influence of the scores on these primitive Developmental Levels on treatment duration can be quite substantial. Similarly, four

points more on the aggregated adaptive levels predicts a about a one month longer treatment retention. One can hypothesize about the compensatory effects of these adaptive and maladaptive patterns in the “balance of health and sickness” with respect to indication and treatment allocation for intensive exploratory psychotherapy. As we see in clinical practice, to manage the demands of the group therapeutic process within a therapeutic milieu, patients with serious problems in the primitive realm of *Fragmentation and Self-centeredness* will only benefit from an intensive psychotherapy program in the presence of some compensatory adaptive capabilities, whether frustration tolerance, reflective functioning, or sufficient interpersonal skills. This study has both strengths and limitations. One advantage of this clinical exploration is its contribution to the understanding of psychodynamic features that predict premature termination in every day clinical practice. By using the DP, psychodynamic assessment of personality included a broad range of phenomena such as social attitudes, object relations, self-image, cognitive functioning, defence mechanisms and coping styles in the maladaptive as well as in the adaptive realm. The study has also limitations. First, about 10% of the population dropped out very early and was not included in the analyses. These patients may have had excessive maladaptive psychodynamic characteristics. As a consequence we cannot generalize the duration of treatment and premature discharge estimates to the total population of personality disorder patients in inpatient psychotherapy. Second, no standardized interviews were used to assess DSM-IV diagnoses. Therefore, it cannot be ruled out that DSM-IV diagnoses may have been predictive of treatment duration and premature termination if semi-structured interviews had been used. However, it should be noted that the standardized assessment used followed the LEAD procedure. Third, as the sample size of this study is limited and the number of statistical tests is relatively large, the results are tentative and it is recommended that this study be replicated within a larger population.

In conclusion, in contrast to DSM-IV diagnosis and general symptom severity at admission, treatment duration and non-regular discharge can be predicted in a meaningful way by psychodynamic variables. These results suggest that it is useful to assess psychodynamic personality characteristics when working in intensive psychotherapeutic settings for the treatment of personality disorders. This clinical-empirical exploration emphasizes the predictive validity of the Developmental Profile.

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Appendix 1: The Developmental Profile Index (DPI)

Procedure for computing an overall score on the Developmental Profile.

In computing the DPI, raw scores at each level are weighted from 1 for Lack of Structure up to 10 for Maturity. These weighted scores are then summed, and divided by the sum of all ten raw scores of the Developmental Levels (= sum of scores of the ninety cells of the DP matrix). This results in a DPI score with a theoretical range of 1 to 10.

Higher scores reflect a relative preponderance of more mature levels over the maladaptive levels, while lower scores reflect the relative ascendancy of immature maladaptive levels over more advanced levels of the Developmental Profile.

Chapter 7

Treatment Disrupting Behaviors during Psychotherapy of Patients with Personality Disorders:

The Predictive Power of Psychodynamic Personality Diagnosis.

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7.1 Abstract

During psychotherapy, treatment disrupting behaviors are serious clinical problems, especially in personality disorder patients. The Developmental Profile (DP) was assessed to predict treatment disrupting behaviors such as violations of the treatment contract, impulsive acts, anger outbursts and parasuicidal gestures, during the first months of treatment in 89 personality disorder inpatients. The incremental value for each psychodynamic variable over and above demographics and descriptive psychiatric diagnosis was determined.

Four out of five patients engaged in treatment disrupting behaviors. In general, treatment disrupting behaviors were not predicted by baseline DSM-IV Axis I or Axis II disorders. In contrast, anger outbursts, contract violations, and impulsive behaviors could be predicted by primitive psychodynamic functioning. In addition to demographics and descriptive diagnoses, DP variables accounted for an incremental predictive value of 23%. Parasuicidal gestures were neither predicted by DSM-IV diagnoses nor by psychodynamic variables. These findings support the clinical relevance of psychodynamic assessments in clinical practice.

7.2 Introduction

Impulsive acts, anger outbursts, and parasuicidal behaviors, as well as treatment contract violations, occur frequently in the treatment of personality disorder patients, especially during the early phase of psychotherapy. These phenomena are especially frequent in patients with borderline personality disorder (Linehan, 1993). Because these behaviors are associated with a high risk of dropping out, a disrupting effect on group processes and the therapeutic milieu, as well as its impact on other patients and staff morale, emphasis is placed on controlling these acting-out behaviors in intensive group oriented psychotherapy programs (Gabbard, 1994). An unambiguous treatment contract to avoid such disruptions is considered a prerequisite for a favorable course of treatment. This applies equally to psychodynamic and (cognitive) behavioral treatment approaches (Kernberg et al., 1989; Bloom and Rosenbluth, 1989; Yeomans et al., 1992; Linehan, 1993; Miller, 1990).

Reviewers have suggested that as much as 40% of the variance in psychotherapy outcome is accounted for by patient characteristics and qualities (Lambert, 1992). Identification of predictive personality characteristics may help clinicians to make better treatment choices and tailor treatment methods to patient needs and capabilities (Clarkin and Levy, 2004). However, empirical research on the value of personality variables (trait or psychodynamic) in the prediction of “acting-out” (Kernberg et al., 1989), “parasuicidal” or “therapy interfering” behavior (Linehan, 1993) is scarce,

and results are inconsistent. Colson (Colson et al., 1985) rated impulsive-aggressive and parasuicidal acts during inpatient treatment in a broad spectrum of psychiatric patients. Character pathology at a borderline level was significantly correlated with such problems manifested during hospitalization. In a later study (Colson et al., 1994), they found, contrary to their expectations, that higher levels of psychodynamic functioning, as assessed by Rorschach scales for thought organization and object relations, were associated with more difficulties during treatment. In contrast, Browning (1986), using Loewinger's Sentence Completion Test to assess Loewinger's hierarchical model of ego development (Loewinger and Wessler, 1976), observed that during treatment, "critical incidents" (such as self-inflicted injuries, suicide attempts, assaults on staff, and damage to hospital property) could be better predicted by the presence of lower ego development than by age, gender, or IQ respectively. Ego development accounted for a unique increment of 6% of the variance, with patients at lower stages of development exhibiting more problematic ward behavior. Altogether, our knowledge about the role of psychodynamic factors with respect to these disruptive behaviors and contract violations during treatment is limited.

The objective of the present study was to explore the predictive performance and incremental value of adaptive as well as maladaptive psychodynamic variables, as assessed by the Developmental Profile (DP), with respect to impulsive acts, anger outbursts, parasuicidal gestures, and contract violations during the first months of treatment within an inpatient psychotherapeutic program for young adult personality disorder patients. In our experience, limit setting during these first months of treatment is crucial for a beneficial treatment course. In line with the treatment philosophy of the program under study, we hypothesized that during the initial phase of treatment, these therapy-interfering behaviors would be characteristic of patients with lower stages of psychodynamic developmental functioning, notably the presence of primitive levels of functioning as assessed by the DP. We also hypothesized that patients with higher capacities for adaptive functioning would have a less complicated course in treatment. With respect to incremental validity, we hypothesized that psychodynamic variables would explain the occurrence of treatment disrupting behaviors over and beyond the combined effect of sociodemographic and descriptive diagnostic variables.

7.3 Methods

Subjects: The subjects of the study were young adult personality disorder patients admitted to the intensive inpatient psychotherapeutic unit De Zwaluw, Treatment Center for Personality Disorders Symfona Group, the Netherlands. At the start of treatment, each patient committed to stay in therapy five days a week for about a year,

with weekends spent at home. Patients lived together in the therapeutic community and were required to adhere to the treatment program, which consisted of attending patient-staff meetings, sociotherapy, group psychotherapy, art therapy, psychodrama, psychomotor therapy, and music therapy. Each patient participated in family therapy whenever possible and received pharmacotherapy if necessary. This eclectic psychotherapy program is based on the integration of psychodynamic, (cognitive) behavioral, and system therapy approaches.

Assessments

Outcome variables

Treatment disrupting behaviors were defined as any patient acting-out and self-destructive behaviors that ran counter to agreements made pre-treatment, and that contract violations in consequence might lead to premature termination of psychotherapy. These behavioral patterns were assessed by the Treatment Disrupting Behavior Inventory (TDBI, see Appendix 1. this chapter). This inventory was based on three subscales of the Borderline Personality Disorder Severity Index (Arntz et al., 2003): *Impulsivity*, *Anger outbursts* and *Parasuicidal behavior*. A fourth subscale, *Contract violations*, was constructed for this study, to measure violations of the general and individual rules defined in the treatment contract. After constructing and testing the scales psychometrically, two psychology students (JL, HI) blindly and independently assessed the TDBI during the initial 40 to 60 days of treatment from day-to-day annotated records made by the staff in the patient files. For all of the subscales, the number of observed behaviors per month was calculated for every patient. Using the TDBI, the interrater-reliability of the two raters was tested on 20 randomly selected patient files, using Intra-Class Correlation coefficients (ICC) presuming fixed raters (Shrout and Fleiss, 1979). The median ICC over the four TDBI subscales was 0.84, "almost perfect" according to the rules of Landis and Koch (Landis and Koch, 1977). Reliability was very high for the subscales *Impulsive acts* (ICC=0.84), *Anger outbursts* (ICC=0.86) and *Contract violations* (ICC=0.83), and substantial for *Parasuicidal behaviors* (ICC=0.67).

An overall *Treatment Disrupting Behavior Score* was calculated by adding up the four subscale scores of the TDBI. Because of the skewed distribution of the TDBI subscale scores, intercorrelations of the TDBI subscales were calculated using Spearman's rho. All four TDBI subscales were significantly correlated with the overall *Treatment Disrupting Behavior Score* (Table 1). However, the subscales *Impulsive acts* and *Contract violations* were the only two subscales with a significant intercorrelation, indicating that different patterns of treatment disruptive behaviors were present in the patients in the current study.

Table 1. Treatment Disrupting Behaviors Inventory: Intercorrelation subscales (n=89)

(Sub)scales	Anger outbursts	Parasuic. behaviors	Contract violations	TDBI adjusted-score
Impulsive acts	0.02	0.16	0.36*	0.64**
Anger outbursts		0.13	0.07	0.53**
Parasuicidal behav.			0.07	0.56**
Contract violations				0.53**

Spearman's rho correlation coefficients (2-tailed); * $p < 0.05$; ** $p < 0.01$

In order to construct a composite score that equally represents all subscales, an *adjusted Treatment Disrupting Behavior Score* was constructed post hoc using centered z-scores. For this purpose the scores on the subscales were dichotomized, i.e. present versus absent, for *Impulsive acts*, *Anger outbursts* and, *Parasuicidal behaviors*; or above versus below median scores for *Contract violations*.

Descriptive predictors

All patients were systematically assessed with respect to sociodemographic characteristics (age, gender, marital status, and educational level) and clinical DSM-IV diagnosis on Axis I and Axis II. DSM-IV diagnostic procedures were conducted following the LEAD principle: Longitudinal Expert evaluation using All Data (Spitzer, 1983; Skodol et al., 1991). At admission, DSM diagnoses were made based on clinical history, collateral information, referral letters, and personality questionnaires.

Psychodynamic predictors

Habitual psychodynamic functioning in ordinary life was assessed with the Developmental Profile (DP) (Abraham, 1997). Based on psychodynamic developmental psychology, DP describes the degree to which psychosocial functioning is determined by mature adaptive and by “early” maladaptive behavioral patterns (Abraham, 1993; Abraham and van Dam, 2004). DP standardizes psychodynamic personality diagnostics to make them more convenient for clinical diagnosis and treatment planning, and enables empirical validation. DP consists of a matrix of 10 *Developmental Levels* (rows) and 9 *Developmental Lines* (columns) (see Table 1. chapter 1). Each *Developmental Level* describes a central characteristic in the development of psychosocial capacities. These central characteristics are, in ascending order of development, *Lack of Structure*, *Fragmentation*, *Self-centeredness*, *Symbiosis*, *Resistance*, *Rivalry*, *Individuation*, *Solidarity*, *Generativity*, and *Maturity* (see Appendix 1. chapter 1). Each DP-level score is made on the basis of the nine psychosocial domains representing

the *Developmental Lines* (see Appendix 2. chapter 1), referring to *Social Attitudes*, *Object Relations*, *Self-Images*, *Norms*, *Needs*, *Cognitions*, *Problem Solving* (thoughts and feelings), *Problem Solving* (actions), and *Miscellaneous Themes*. *Developmental levels* in the DP matrix are hierarchically organized, according to the degree to which they affect psychosocial functioning, and range from a primarily primitive level (*Lack of Structure*) to ultimately mature level (*Maturity*). These Levels are not assumed to be mutually exclusive. The lowest six *Developmental Levels* (*Lack of Structure*, *Fragmentation*, *Self-centeredness*, *Symbiosis*, *Resistance* and *Rivalry*) refer to maladaptive behaviors, while the highest four *Developmental Levels* (*Individuation*, *Solidarity*, *Generativity* and *Maturity*) refer to adaptive functioning.

DP is assessed with a semi-structured interview in order to obtain a detailed description of the patients' daily functioning over the past ten years, by focusing on the way the patient functions in the context of family and friendships, education and work, sports and hobbies. Other questions explore distressing events and feelings of fear, anger, guilt, shame, and self-esteem. The interview lasts 2–3 hours and is usually spread over two sessions. The interpretation of the information derived from the interview is based on a scoring protocol. This protocol describes in observational terms all 90 items comprising the DP-matrix (10 DP-levels x 9 PD-lines). The rater indicates on a 4-point scale the extent to which the behavior of the patient corresponds with the relevant operational definition: not applicable (code 0), marginally applicable (code 1), largely applicable (code 2) or fully applicable (code 3). Data on the psychometric properties of the DP indicate sufficient interrater reliability, internal consistency, and discriminant validity (Van et al., 2000; Abraham et al., 2001).

In addition to the 10 DP-levels scores, we computed aggregate variables. By summing the scores on the *Developmental Levels* in the adaptive and maladaptive realms respectively, *Adaptive Functioning* (ADAP) and *Maladaptive Functioning* (MALADAP) scores were calculated. We further divided the maladaptive DP levels into two variables covering the three most *Primitive Developmental Levels* (called PRIM), and the more advanced *Neurotic Developmental Levels* (called NEURO). Patient overall psychodynamic functioning was covered by the *Developmental Profile Index* (DPI). In computing the DPI, raw scores at each level are weighted, from 1 for *Lack of Structure* to 10 for *Maturity*. These weighted scores are then summed, and divided by the sum of all raw scores of the ten *Developmental Levels* (DENS, see below). This results in a DPI score with a theoretical range of 1 to 10, reflecting an overall level of developmental maturity. A raw score, called *Rating Density Score* (DENS), was calculated by summing the scores of the 90 matrix cells of the DP matrix, reflecting the overall degree of “resolution” which characterizes the patients' and raters' response style: the more expressive the higher the DENS score. DENS scores varied from 20 to 56 (mean 38.5; SD=8.1), and significantly predicted scores on all psychodynamic predictors. For analyses with DP variables, the possible confounding effect of this DENS score was taken into account.

Data analysis

To measure central tendency, the means and medians were calculated in the event of continuous data, and percentages in the case of dichotomous or dichotomized data. To measure dispersion, standard deviations (sd) are presented. To explore the predictive value of the DP variables, in case of dichotomous or dichotomized variables, a multiple logistic regression analysis was performed and the results expressed as odds ratios (OR), including a measure of uncertainty (95% CI) and level of statistical significance (p-value). The incremental value of DP variables was identified by means of hierarchical regression analysis. The regression model which included selected sociodemographic characteristics and psychiatric DSM-IV classification was compared with the model including these same variables plus subsequent DP variables. The differences in explained variance between the two models were expressed in terms of Nagelkerke's R^2 change (ΔR^2), indicating the incremental value of the pertinent DP variable, i.e. the amount of explained variance over and beyond sociodemographic and psychiatric variables in the model. All testing took place at the 0.05 level of significance (two-tailed).

7.4. Results

Clinical characteristics

Between January 2000 and May 2004, 125 patients were admitted to the inpatient treatment unit. At admission, the DP (Abraham, 1997) was administered to 113 patients (90%). For the remaining 12 patients, assessment of the DP was not possible due to early dropout, temporary lack of sufficient assessment staff, or occasional patient refusal to grant informed consent. A total of 89 patients could be included in the prediction study because they stayed two months or longer in treatment and their patient file was available for research purposes. These patients were predominantly female (73%), young (mean age 24 years old, sd 4.4), single (88%), and of moderate educational attainment (45% completed at least high school or comparable level). All but two patients had a principal clinical diagnosis of DSM-IV Axis II personality disorder, predominantly in cluster B (27%), or personality disorder NOS (54%). Most (93%) met the diagnostic criteria for one or more Axis I disorders (see Table 2), most frequently affective disorders, anxiety disorders, eating disorders and substance abuse.

Table 2. DSM-IV (Axis I and Axis II) classification of study population

	total (n = 89)		females (n = 65)		males (n = 24)		females vs. males
	n	%	n	%	n	%	p ^a
Axis I disorder							
Mood disorders	45	50.6	31	47.7	14	58.3	0.48
Anxiety disorders	37	41.6	32	49.2	5	20.8	0.02
Eating disorders	22	24.7	21	32.3	1	4.2	0.01
Substance related disorders	17	19.1	7	10.8	10	41.7	0.01
Dissociative disorders	6	6.7	5	7.7	1	4.2	1.00
Other Axis I disorders ^b	19	21.3	15	23.1	4	16.7	0.58
No diagnosis	6	6.7	4	6.2	2	8.3	0.66
Axis II disorder (principal diagnosis)							
Cluster A	4	4.5	1	1.5	3	12.5	0.06
Cluster B	24	27.0	22	33.8	2	8.3	0.02
Cluster C	13	14.6	10	15.4	3	12.5	1.00
Pers. Disorder NOS	48	53.9	33	50.8	15	62.5	0.35
No diagnosis	2	2.2	1	1.5	1	4.2	0.47

^a Fischer's exact testing (2-tailed);

^b Disorders usually first diagnosed in infancy, childhood, or adolescence (n=3), Impulse-control disorders (n = 3) Somatoform disorders (n = 2), remaining disorders (n=22), deferred diagnosis (n=3)

Developmental Profile scores

In this sample of personality disorder patients, more maladaptive (74%) than adaptive developmental patterns (26%) were found. Within the maladaptive realm, more neurotic (55%) than primitive scores (19%) were observed. On the individual DP levels, Symbiosis (25%), Resistance (20%), Individuation (16%) and Fragmentation (12%) were most frequently scored. In contrast, very low frequencies were found for the most immature level Lack of Structure (3%) and for the highest adaptive levels Generativity (1%) and Maturity (<1%) (Table 3).

Table 3. Developmental Profile scores (N=89)

	mean	sd	minimum	maximum
Aggregate variables				
DPI	4.93	0.51	3.67	6.36
ADAP	9.92	3.78	4	25
MALADAP	28.53	7.16	14	47
NEURO	21.09	5.10	9	36
PRIM	7.44	5.48	0	27
Developmental Levels				
Maturity	0.13	0.38	0	2
Generativity	0.48	0.78	0	4
Solidarity	3.44	2.01	0	12
Individuation	5.87	1.77	2	11
Rivalry	3.80	2.37	0	10
Resistance	7.63	3.23	1	16
Symbiosis	9.66	4.12	1	20
Self-centeredness	1.70	2.72	0	13
Fragmentation	4.66	3.09	0	16
Lack of Structure	1.08	1.36	0	6

DPI=Developmental Profile Index; ADAP=Adaptive functioning;

MALADAP=Maladaptive functioning; NEURO=Neurotic Developmental Levels;

PRIM=Primitive Developmental Levels.

As described in more detail elsewhere¹, some DP variables were correlated with gender and age, but none of the DP variables was significantly correlated with educational level or marital status. Corrected for DENS, females achieved higher levels of adaptive functioning, especially of *Individuation*. In the maladaptive realm, males scored higher on *Self-centeredness* and *Rivalry*, whereas females scored higher on *Symbiosis*. Adaptive functioning, especially *Individuation*, was positively related to age. Therefore, unbiased predictions of treatment disrupting behaviors by DP variables should be adjusted for gender and age.

DP variables were not significantly correlated with the presence of Axis I disorders. However, the presence of cluster B personality disorders, adjusted for DENS and sociodemographic variables, was clearly associated with a high score on PRIM, particularly a high score on *Fragmentation*. Cluster B personality disorders were also correlated with a low score on NEURO, particularly a low score on *Resistance*. In contrast, cluster C personality disorders were associated with a high score on NEURO, particularly on *Symbiosis*. Finally, personality disorder NOS was associated with a high score on *Resistance* as well as a relative absence of *Fragmentation*.

¹ Ingenhoven, Duivenvoorden, Passchier & van den Brink (submitted). Treatment Duration and Premature Termination of Psychotherapy in Personality Disorders: Predictive Validity of the Developmental Profile assessing Psychodynamic Personality Diagnosis.

Treatment disrupting behaviors

During the first months of treatment, disrupting behaviors and contract violations were observed in 63 out of 89 patients (82%). Impulsive acts (52%) were found most frequently, followed by Contract violations (49%), Parasuicidal behaviors (43%) and Anger outbursts (23%). Two subscales presented a gender specific pattern. More women than men engaged significantly in Parasuicidal behaviors (51% versus 21%; OR= 4.66; 95%CI=1.48 to 14.61; p<0.001), while more men violated basic commitments in their treatment contract (71% versus 42%; OR=3.45; 95%CI=1.23 to 9.09; p<0.02) (Table 4). Neither age, marital status, nor educational level was significantly related to these treatment interfering phenomena.

Table 4. Treatment Disrupting Behaviors: Prevalence (mean and standard deviations per month') and gender differences

Treatment disrupting behaviors	All patients (n=89)					Women (n=65)		Men (n=24)		Women versus men ²	
	mean	sd	Median	Min.	Max.	mean	sd	mean	sd	z	p
Impulsive acts	0.62	1.01	0.36	0	5.42	0.64	1.11	0.56	0.69	-0.48	0.64
Anger outbursts	0.12	0.26	0.00	0	1.08	0.12	0.25	0.12	0.27	0.19	0.89
Parasuic. behavior	0.42	0.68	0.00	0	4.33	0.54	0.75	0.11	0.23	2.94	0.01
Contract violations	1.66	2.09	0.90	0	12.28	1.23	1.44	2.86	2.99	-2.49	0.02
TDBI sum score	2.83	2.64	2.17	0	14.09	2.52	2.21	3.65	3.48	-1.14	0.26
TDBI adjusted score	0.00	0.66	-0.17	-0.71	2.81	-0.08	0.55	0.20	0.87	-0.01	1.00

1 = Number of treatment disrupting behaviors per day x 21.67;

2 = Mann-Whitney U test Exact testing (2-tailed)

Prediction of treatment disrupting behaviors by psychiatric diagnoses

The adjusted Treatment Disrupting Behavior Score was not significantly associated with Axis I disorders, with the exception of DSM-IV eating disorders (OR=4.94; 95%CI=1.56 to 15.66; p<0.01). Patients with eating disorders engaged more in *Impulsive acts* (OR=5.93; 95%CI=1.84 to 19.07; p<0.01). *Impulsive acts* were also positively associated with Cluster B personality disorders (OR=2.78; 95%CI=1.00 to 7.76; p<0.05), and negatively with the presence of a personality disorder NOS (OR=0.38; 95%CI =0.16 to 0.92; p<0.04). The other TDBI subscales could not be predicted by any of the DSM-IV diagnoses.

Prediction of treatment disrupting behaviors by psychodynamic variables

Using regression analysis, and controlling for both gender, age and DENS, the adjusted Treatment Disrupting Behavior Score was significantly predicted by immature psychodynamic functioning as expressed by low DPI (OR=0.97), by lower scores on the neurotic

Table 5. Developmental Profile Scores: Prediction¹ of treatment disrupting behaviors

	Impulsive acts ²			Anger outbursts ²			Parasuicidal behaviour ³			Contract violations ³			TDBI adjusted-score ⁴		
	OR	p	95%CI	OR	p	95%CI	OR	p	95%CI	OR	p	95%CI	OR	p	95%CI
Aggregate variables															
DPI ⁵	.97	.02	.94 to .99	.97	.03	.94 to 1.00	1.00	.86	.98 to 1.03	.96	.01	.93 to .98	.97	.05	.95 to .99
ADAP	.85	.03	.73 to .98	.89	.18	.74 to 1.06	1.07	.33	.93 to 1.24	.84	.03	.72 to .98	.90	.15	.79 to 1.04
MALADAP	1.18	.03	1.02 to 1.37	1.13	.18	.95 to 1.35	.93	.32	.81 to 1.07	1.20	.03	1.02 to 1.14	1.11	.15	.97 to 1.27
NEURO	.92	.15	.83 to 1.03	.87	.04	.77 to .99	.95	.35	.85 to 1.06	.88	.03	.78 to .99	.86	.02	.77 to .97
PRIM	1.97	.01	1.05 to 1.36	1.17	.01	1.04 to 1.31	1.01	.90	.91 to 1.11	1.25	.01	1.09 to 1.43	1.26	.01	1.08 to 1.39
Developmental Levels															
Maturity	.46	.22	.13 to 1.58	.73	.69	.15 to 3.46	1.59	.47	.46 to 5.54	.39	.16	.10 to 1.45	.47	.23	.13 to 1.63
Generativity	.72	.27	.40 to 1.29	.61	.24	.26 to 1.39	1.86	.07	.95 to 3.63	1.05	.86	.60 to 1.87	.90	.72	.52 to 1.57
Solidarity	.81	.11	.62 to 1.05	.89	.45	.65 to 1.21	1.16	.28	.89 to 1.50	.72	.03	.54 to .97	.87	.26	.68 to 1.11
Individuation	.76	.06	.57 to 1.00	.81	.23	.58 to 1.14	.97	.80	.73 to 1.28	.75	.06	.56 to 1.01	.84	.20	.64 to 1.09
Rivalry	.98	.81	.80 to 1.19	.95	.70	.75 to 1.21	.90	.32	.73 to 1.11	.97	.79	.79 to 1.19	1.02	.83	.84 to 1.25
Resistance	.91	.24	.78 to 1.06	.88	.20	.73 to 1.07	.94	.43	.80 to 1.10	.89	.14	.75 to 1.04	.87	.09	.74 to 1.02
Symbiosis	.96	.53	.85 to 1.09	.90	.16	.77 to 1.04	1.01	.87	.89 to 1.15	.92	.20	.81 to 1.05	.89	.07	.78 to 1.01
Self-centeredness	1.35	.03	1.04 to 1.75	1.34	.02	1.03 to 1.71	.92	.48	.74 to 1.15	1.32	.04	1.03 to 1.70	1.31	.03	1.04 to 1.65
Fragmentation	1.27	.02	1.05 to 1.53	1.24	.02	1.04 to 1.48	1.03	.69	.88 to 1.21	1.29	.01	1.07 to 1.55	1.23	.02	1.04 to 1.47
Lack of Struct.	1.14	.47	.80 to 1.61	1.13	.55	.77 to 1.65	.14	.47	.80 to 1.63	1.18	.01	1.19 to 2.71	1.77	.01	1.16 to 2.67

DPI=Developmental Profile Index; ADAP=Adaptive functioning; MALADAP=Maladaptive functioning;

NEURO=Neurotic Developmental Levels; PRIM=Primitive Developmental Levels.; OR = odds ratio;

1 = Logistic regression-analyses using dichotomized measures. All analyses are controlled for gender, age and DENS;

2 = Dichotomized: absent =score 0 and present = score≥ 1;

3 = Dichotomized at median: 0= below median, 1 = above median;

4 = TDBI adjusted-score, dichotomized at median: 0= below median, 1 = above median;

5 = DPI adjusted for DENS.

levels NEURO (OR=0.86), and by higher scores on the primitive levels PRIM (OR=1.26) (see table 5). With regard to the latter, especially higher scores on Self-centeredness (OR=1.33), Fragmentation (OR=1.27) and Lack of structure (OR=1.77) predicted the adjusted Treatment Disrupting Behavior Score. The subscales of Impulsive acts, Anger outbursts and Contract violations generally showed similar predictive patterns in terms of both significance level and magnitude of estimation, while Parasuicidal behaviors did not (see Table 5), i.e. none of the DP variables significantly predicted behaviors with self-inflicting or suicidal intentions.

Incremental value of the DP levels for the prediction of treatment disrupting behaviors

Only 5 out of the 16 sociodemographic and descriptive diagnostic variables were found to be present in at least 7 subjects and were associated with the adjusted Treatment Disrupting Behavior Score at $p \leq 0.20$ levels of significance: educational level, anxiety disorders, eating disorders, cluster B personality disorders and personality disorder NOS. A prediction model with these variables as predictors for this “basic model” accounted for a non-significant 19% of variance in disrupting behaviors and contract violations ($R^2=0.19$; $p=0.19$). Addition of the various DP variables in the “overall model” (Table 6), in a series of regression analyses, led to a significant increment in the explained variance of the adjusted Treatment Disrupting Behavior Score in case of the DPI ($\Delta R^2= 0.14$), ADAP ($\Delta R^2= 0.06$), NEURO ($\Delta R^2= 0.10$) and PRIM ($\Delta R^2= 0.16$), as well as in the case of the Developmental Levels of Solidarity ($\Delta R^2= 0.07$), Individuation ($\Delta R^2= 0.04$), Resistance ($\Delta R^2= 0.06$), Symbiosis ($\Delta R^2= 0.06$), Self-centeredness ($\Delta R^2= 0.08$), Fragmentation ($\Delta R^2= 0.08$) and Lack of structure ($\Delta R^2= 0.19$). The other DP variables did not account for a significant incremental change in the explained variance of the adjusted Treatment Disrupting Behavior Score.

Adding ADAP, NEURO, and PRIM simultaneously to the basic model resulted in a significant increase of 23% explained variance of the adjusted Treatment Disrupting Behavior Score (overall model $R^2=0.42$, $p=0.002$; incremental value $\Delta R^2= 0.23$, $p=0.0001$).

**Table 6. Treatment Disrupting Behavior adjusted score:
Incremental validity of DP variables**

	R ² Overall model	p	ΔR ² model of interest	P
Aggregate variables				
DPI	.33	.001	.14	.0001
ADAP	.25	.05	.06	.02
MALADAP	.22	.18	.03	.08
NEURO	.29	.01	.10	.001
PRIM	.35	.001	.16	.0001
Developmental Levels				
Maturity	.20	.56	.01	.32
Generativity	.19	1.00	.00	1.00
Solidarity	.26	.03	.07	.01
Individuation	.23	.16	.04	.05
Rivalry	.20	.58	.01	.32
Resistance	.25	.05	.06	.02
Symbiosis	.25	.05	.06	.02
Self-centeredness	.27	.02	.08	.01
Fragmentation	.27	.02	.08	.01
Lack of Structure	.38	.001	.19	.0001

DPI=Developmental Profile Index; ADAP=Adaptive functioning;
MALADAP=Maladaptive functioning; NEURO=Neurotic Developmental Levels;
PRIM=Primitive Developmental Levels. OR=Odds Ratio; Basic model R²=0.19 (p=0.19);
Treatment Disruptive Behavior adjusted-score trichotomized at 33.3 and 66.6 percentile;
All DP variables were controlled for DENS (with the exception of DPI).

7.5. Discussion

During both cognitive-behavioral and psychodynamic psychotherapy of personality disorder patients, a hierarchy of treatment targets is stressed, with parasuicidal and treatment interfering behaviors the highest priority to deal with (Yeomans et al., 1992; Linehan, 1993). Inability to control these behaviors often results in premature treatment termination and, consequently, poor effectiveness and waste of expensive treatment resources. In this study we explored the predictive power of the Developmental Profile for these treatment-interfering phenomena within a psychotherapeutic treatment program for personality disorder patients with a range of Axis I disorders. The vast majority (82%) of these young-adult inpatients did indeed

engage in defined disruptive behaviors and contract violations during the first months of treatment, varying between 0 and 14 (mean 2.8) incidents per month, indicating that some patients engaged in these therapy interfering behaviors more than three times a week. Parasuicidal behaviors were more prevalent in women, while contract violations were more prevalent in men, probably reflecting a gender related distinction between introverted hostile “depressive borderline” female patients and extraverted hostile “antisocial borderline” male patients (Hatzitaskos et al., 1997; Gunderson, 2001).

With the exception of eating disorders, DSM-IV axis I disorders did not predict the occurrence of treatment disrupting behaviors. Eating disorder patients relative frequent engaged in impulsive acts, which is not surprising, since bingeing and vomiting were included as both predictive and outcome variables in study. DSM Axis II disorders did not significantly predict the frequency of disruptive behaviors and contract violations, with the exception of the presence of a Cluster B personality disorder. This association can also be explained by overlapping symptomatic behaviors in the predictive and outcome variables. Contrary to our expectations, parasuicidal behaviors were not correlated with Cluster B personality disorder. Better impulse control (low on *Impulsive acts*) was found in patients with DSM-IV Personality disorder NOS, which may be attributed to low scores on changeability (DP level of *Fragmentation*), coupled with above average scores on control (DP level of *Resistance*). However, anger outbursts, parasuicidal behaviors, contract violations, and the overall amount of treatment disrupting behaviors were not predicted by any of the Axis I or Axis II disorders.

In contrast, psychodynamic variables did predict the frequency of treatment disrupting behaviors, as assessed by the subscales *Impulsive acts*, *Anger outbursts* and *Contract violations*. Indicators of limited developmental functioning, whether expressed by low adaptive patterns and/or more pronounced maladaptive function, gave rise to more acting out and other treatment interfering behaviors. As expected, the aggregate primitive developmental levels, as well as the individual levels of *Self-centeredness*, *Fragmentation* and *Lack of structure* did predict treatment disrupting behaviors in a statistically and clinically meaningful way: *Self-centeredness* reflecting narcissistic and antisocial tendencies as described by Kernberg (1984) and Kohut (1971), *Fragmentation* referring to the Borderline Personality Organization criteria as defined by primitive defenses and identity diffusion (Kernberg, 1984), and *Lack of structure* capturing the temporary loss of reality testing and other enduring psychological deficits within the lowest-level borderline domain (Grinker et al., 1968; Gunderson, 2001). Although, as might be expected on the basis of patient selection at intake, excluding psychotic psychopathology, scores on *Lack of Structure* were rare though very relevant in predicting disruptive behaviors and contract violations.

With respect to the incremental validity of the DP, psychodynamic variables explained

a substantial percentage of the variance in treatment disrupting behaviors. The Developmental Profile accounted for a significant 23% of variance over and beyond the variance explained by sociodemographic and descriptive psychiatric variables combined. In his review, Lambert (1992) suggested that as much as 40% of the variance in psychotherapy outcome is accounted for by personal characteristics and qualities of the patient, which is consistent with our results, in which sociodemographic variables, psychiatric DSM-IV diagnosis and psychodynamic DP variables together explained 42% of the variance in disruptive behaviors and contract violations during the first months of treatment.

One can question the clinical relevance of the predictive performance of the DP for disrupting behaviors and contract violations (Grove et al., 2000). The odds ratios of the DP variables in the current study permit one to calculate the probability of future treatment disrupting behaviors. If scores on the DP level of *Fragmentation* (OR=1.23) or *Self-centeredness* (OR=1.31) increase by three points (about one sd), it is 86% and 125% respectively more likely that a patient will engage in these undesirable behaviors. Since in our population the range of scores on these Developmental Levels is substantial (*Fragmentation* from 0 to 16 points, mean 4.7 points; *Self-centeredness* from 0 to 13 points, mean 1.7 points) and Abraham's DP scoring protocol quantifies three level scores as clinically significant, the impact of the scores on these primitive Developmental Levels on disruptive behaviors and contract violations can be discerned. Patients with more adaptive patterns of functioning, patients "islands of health," engaged less in these treatment interfering phenomena. Four points more (about one sd) on the adaptive levels reduced the likelihood to engage in impulsive acts or contract breaches by about 50%. One can hypothesize that these adaptive and maladaptive patterns have a compensatory effect in the "balance of health and sickness" in the indication and treatment allocation for intensive exploratory psychotherapy. We have observed in clinical practice that to withstand the demands of the group therapeutic process in a therapeutic milieu, patients with serious problems in the primitive realm of *Fragmentation* and *Self-centeredness* benefit from an intensive psychotherapeutic program only if they have compensatory adaptive capabilities, such as a good level of frustration tolerance, reflective functioning and/or sufficient interpersonal skills. In contrast to the other treatment disrupting behaviors, in the current study parasuicidal behavior could not be predicted by the psychodynamic DP variables. This could be ascribed to the fact that parasuicidal behavior can reflect a great diversity of motives and attitudes (Liebenluft et al., 1987). The multifaceted psychodynamic meanings of these behaviors can be found on almost every maladaptive Developmental Level of the DP matrix (Favazza, 1989, 1996; Herpertz, 1995; Shearer, 1994). Hallucinations during micropsychotic episodes (*Lack of structure*) can provoke self-injurious behavior. Cutting in order to interrupt derealization, depersonalization, dysphoria, or feelings of emptiness, relate to the level of *Fragmentation*. Self-mutilation

as an act of omnipotence over issues of life and dead can reflect *Self-centeredness*. Longing for warmth, care, and attention accompanying self-injurious behavior relate to *Symbiosis*. Attitudes and behavioral patterns relating to (self)hate, (self)punishment and revenge, as well as the need for control or autonomy, are classified under the *Resistance Developmental Level*. The *Developmental Level Rivalry* collects behavioral patterns that are often actualized during epidemics of self-mutilation in residential settings, where patients compete overtly to be the best cutter in charge, the leader of the group. So, contrary to other treatment disrupting behaviors, the diversity of psychodynamic meanings inherent in parasuicidal behaviors may explain its lack of predictive performance in this study.

This study has several strengths and limitations. Advantages of this clinical-empirical exploration are the relatively large sample of patients, the assessment of both descriptive and psychodynamic predictor variables, and the well defined kinds of disruptive behaviors and contract violations. By using the Developmental Profile, psychodynamic assessment of personality included a wide diversity of phenomena, including social attitudes, object relations, self-image, cognitive functioning, defense mechanisms, and coping styles, in the maladaptive as well as the adaptive realm. The study has also limitations. First, despite the relatively large sample size, some of the subcategories within the total sample were still rather small. Also, 10% of the study population dropped out early and were not included in the analyses. It is likely that these patients engaged more often in treatment disrupting behaviors than the patients who remained in treatment. As a consequence, we cannot generalize the prevalence of treatment disrupting behaviors to all patients in the treatment program. Second, no standardized interviews were used to assess the DSM-IV diagnoses. Therefore, it cannot be precluded that DSM-IV diagnoses might have been predictive of treatment disrupting behaviors if semi-structured interviews had been used. Furthermore, underestimation of the predictive power of the descriptive variables could have affected the incremental values of the psychodynamic variables. However, it should be noted that standardized DSM-IV assessment were used following the LEAD procedure. Third, as the number of statistical tests is relatively large, it is recommended that this study be replicated with a larger study population. Fourth, predictive explorations and incremental values were obtained "mechanically," by statistical calculations, while "clinical" predictions by psychologists or psychiatrists, blending the DP knowledge with other assessment information might have led to more or less pronounced incremental values (Grove et al., 2000; Garb, 2003).

In conclusion, in contrast to sociodemographics and DSM-IV diagnoses at admission, psychodynamic personality variables can predict (and explain) future treatment disrupting behaviors during psychotherapy. This clinical-empirical exploration emphasizes the predictive and incremental validity of the Developmental Profile.

7.6 References

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Appendix 1. Treatment Disrupting Behaviors Inventory (TDBI)

Based on subscales and items from the Borderline Personality Disorder Severity Index (Arntz, 2003). Items in Italics are added to be as comprehensive as possible.

1. Impulsive acts

- 1.1. Spending money
- 1.2. Unsafe sex
- 1.3. Promiscuity
- 1.4. Alcohol abuse
- 1.5. Cannabis abuse
- 1.6. Gambling
- 1.7. Hard drug abuse
- 1.8. *Binge eating and/or vomiting*
- 1.9. Reckless driving
- 1.10. Shoplifting
- 1.11. Other harmful impulsive behaviors (not self-mutilation or suicidal acts).

Note:.....

2. Anger outbursts

- 2.1. Anger outbursts or losing control over temper
- 2.2. Yelling, screaming, throwing things, smashing window, physical attacks

3. Parasuicidal behaviors

Self mutilation

- 3.1. Hitting oneself, hitting a wall or furniture in order to hurt oneself
- 3.2. Cutting oneself, scratching oneself
- 3.3. Burning oneself (e.g. cigarette, lighter, flatiron)
- 3.4. Picking oneself with needles
- 3.5. Swallowing sharp objects
- 3.6. Ingesting itching substances
- 3.7. *Hair pulling*
- 3.8. Other ways to harm oneself: note

Suicidal behavior

- 3.9. *Expressing suicidal thoughts*
- 3.10. Threatening suicide
- 3.11. Suicidal behavior or actions
- 3.12. Attempting suicide

4. Violations of treatment contract

- 4.1. Coming late for therapy or appointments
- 4.2. Illicit absence during therapy (no show, running away)
- 4.3. Exclusive intimate relationship with another patient
- 4.4. Improper use of medication (no suicidal intent)
- 4.5. Crisis admission to acute ward
- 4.6. Formal interview about treatment policy imposed by staff
- 4.7. Formal oral caution or warning by staff
- 4.8. Temporary suspension from therapy program
- 4.9. Final/ultimate written notice/ultimatum by staff
- 4.10. Temporary discharge from the program for reflection, obligatory time-out (no definite discharge from the program)

Chapter 8

Predictive Value of Psychodynamic Personality Assessment for Outcome of Inpatient Psychotherapy for Personality Disorders.

Theo JM Ingenhoven, Hugo J Duivenvoorden, Jan Passchier and Wim van den Brink.

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- 8.1 Abstract
- 8.2 Introduction
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8.1 Abstract

In order to identify psychodynamic personality characteristics that predict the course of symptom severity during psychotherapeutic treatment and at follow-up, the Developmental Profile (DP) was assessed in 110 young adults referred to an inpatient psychotherapy unit for personality disorders. Symptom severity, according to Symptom Checklist (SCL-90), decreased significantly during the first year of treatment. This effect was sustained during one year follow-up. Symptom severity at admission and the course of symptoms during treatment and follow-up were significantly predicted by psychodynamic levels of functioning according to the DP. At discharge, the DP variables added a significant 12% to the 16% variance in SCL-90 scores explained by sociodemographic variables, descriptive psychiatric diagnoses, baseline symptom severity and treatment duration combined. This study corroborates the validity and usefulness of psychodynamic assessments in the treatment of personality disorder patients.

8.2 Background

A considerable proportion of patients with personality disorders do not benefit sufficiently from short-term psychotherapy (Perry, Banon & Lanni, 1999). In contrast, long-term psychotherapy does seem to yield a large and stable effect for psychiatric symptoms, target problems, social functioning and overall outcome (Leichsenring & Rabung, 2008; Giesen-Bloo et al., 2006). Although long-term psychotherapy for personality disorders is associated with higher direct costs, some studies suggest that it may be cost-effective (Bateman & Fonagy, 2003; de Maat, Philipszoon, Schoevers, Dekker & de Jonghe, 2007; van Asselt et al., 2008). Intensive specialized psychotherapy programs for personality disordered patients place particular emphasis on these issues because these services are expensive, as their staff-to-patient ratios are high, and disappointing treatment effects disrupt group processes and the morale of the other patients and staff. Research indicate that improvement during long term psychotherapy is significantly correlated with the length of treatment duration (number of outpatient sessions, weeks in day hospital or inpatient treatment), but outcome seems neither to be systematically correlated with sociodemographic features, pre-treatment descriptive psychiatric diagnoses on DSM IV Axis I or Axis II, nor with symptom severity at admission (Ford, Fisher and Larson, 1997; Bateman & Fonagy, 1999; Vermote, 2005; Leichsenring & Rabung, 2008; Spinhoven, Giesen-Bloo, van Dyck & Arntz, 2008). Yet, it is of clinical interest to know which personality disorder patients can benefit from long term intensive psychotherapy programs, and which patients will not.

Research findings suggest that different types of patients may respond in different ways to different kinds of treatments (Blatt, 1992, 1994), and that the major determinants of therapeutic success appear to depend on the patients' personality characteristics (Frank, 1979). The psychological qualities a patient brings in to the treatment are probably most important in the determination of treatment outcome (Lambert & Asay, 1984). Two of these qualities mentioned are the severity of the patients' personality pathology, and the patients' capacity to become involved in a therapeutic relationship (Gomes-Schwartz, 1978). However, very little is known about which personality characteristics predict the outcome of psychotherapy in personality disorder patients. Psychotherapy research seems to confirm the following paradox: patients suffering the most from psychological disturbances and distress may benefit most from intensive treatment, but those who have less overt behavioral disruptions and have higher pre-treatment psychological skills, are likely to show the greatest improvement (Luborsky, Chrits-Christoph, Mintz & Auerbach, 1988; Cook, Blatt & Ford, 1995). So, the "sickest" patients with the "healthiest" capabilities are doing best? In studying psychodynamic variables, as assessed by the Rorschach, Cook, Blatt & Ford (1995) found that the probability for serious disturbed young adults to gain from long-term intensive inpatient treatment is associated with the initial capacity to communicate disordered thinking and disruptive experiences, as well as with the capacity for establishing appropriate and constructive interpersonal relationships. Piper studied the predictability of treatment success in their day-clinical treatment setting for patients with affective disorders and personality disorders (Piper, Rosie, Azim & Joyce, 1993; Piper, Joyce, Azim & Rosie, 1994). The strongest predictors for reduction of general symptoms were the patients' Quality of Object Relations (QOR) (Azim, Piper, Segal, Nixon & Duncan, 1991) and Psychological Mindedness (PM) (McCallum & Piper, 1997). The ability to establish mature give-and-take relationships (QOR) enabled patients to tolerate the daily interpersonal demands and stresses of the program. The ability to identify conflicting components and to relate them to a person's difficulties (PM) represents a valuable skill in the treatment program. In contrast, Ford, Fisher and Larson (1997) found that - using the Social Cognition and Object Relations Scale (SCORS) covering a variety of psychodynamic developmental characteristics (Westen, 1991) - a greater reduction of symptoms during treatment was predicted by a lower level of Object Relational Functioning. Finally, in the study by Vermote (2005), a lower level of personality organization (primitive defenses, identity diffusion and/or disturbed reality testing) according to the Inventory of Personality Organization (IPO) was associated with the presence of more symptoms at admission in a inpatient psychotherapy program, but during treatment and follow-up, outcome in terms of symptom severity was not predicted by the structural level of personality organization. Altogether, our knowledge about the role of psychodynamic factors as outcome predictors for the treatment for personality disorder patients is rather limited

(Fonagy et al., 1996; Gabbard, 1995).

The purpose of the present study was an empirical exploration of the predictive performance and incremental value of adaptive as well as maladaptive psychodynamic variables in young adult personality disorder patients in an inpatient psychotherapy program with respect to symptom severity at admission, and the course of symptoms during treatment and follow-up. A psychodynamic personality assessment was conducted at admission using the Developmental Profile.

8.3 Material and Methods

Subjects: Subjects were young adults who were admitted to the intensive inpatient psychotherapeutic unit De Zwaluw, Treatment Centre for Personality Disorders of the Symfora Group, the Netherlands. At the start of their treatment each patient committed to stay in therapy five days a week for about a year, weekends spent at home. Patients lived together in the therapeutic community and were required to adhere to the treatment program, which consisted of patient-staff meetings, sociotherapy, group psychotherapy, art therapy, psychodrama, psychomotor therapy and music therapy. Each patient participated in family therapy whenever feasible, and pharmacotherapy whenever necessary. After a period of 9-12 months, patients continued their treatment within the same program on a day-clinical basis. This step-down procedure was completed on an outpatient basis. The eclectic psychotherapy program is based on the integration of psychodynamic, (cognitive) behavioral and system therapy approaches. The effectiveness of the treatment program was monitored during the Standard Evaluation Project (STEP) in benchmark comparison with other Dutch inpatient psychotherapy programs for personality disorders. The effect size of the Symfora treatment program, as measured by the SCL-90 total score, was qualified as large between admission and discharge, and at follow-up one year later (Stichting Klinische Psychotherapie, 2008).

Assessments

Outcome variables

Symptom severity was assessed by SCL-90 (Dutch version) total score at admission, at termination of the intensive treatment phase, and at follow up about one year after discharge.

Sociodemographic and psychiatric predictor variables

All patients were systematically assessed with respect to sociodemographic characteristics (age, gender, marital status and educational level) and clinical DSM-IV diagnosis on Axis I and Axis II. Diagnostic procedures were conducted following the LEAD principle: Longitudinal Expert evaluation that uses All Data (Spitzer, 1983;

Skodol, Rosnick, Kellman, Oldham & Hyler, 1991). DSM diagnoses were made at admission on the basis of clinical history, collateral information, referral letters, and personality questionnaires.

Psychodynamic predictor variables

At admission, habitual psychodynamic functioning in ordinary life was assessed with the Developmental Profile (DP) (Abraham, 1997). Based on psychodynamic developmental psychology, DP describes the degree to which psychosocial functioning is determined by mature adaptive and by “early” maladaptive behavioral patterns (Abraham, 1993; Abraham & van Dam, 2004). DP standardizes psychodynamic personality diagnostics to make them more convenient for clinical diagnosis and treatment planning, and enables empirical validation. DP consists of a matrix of 10 *Developmental Levels* (rows) and 9 *Developmental Lines* (columns) (Table 1. chapter 1). Each Developmental Level describes a central characteristic in the development of psychosocial capacities. These central characteristics are, in ascending order of development, *Lack of Structure, Fragmentation, Self-centeredness, Symbiosis, Resistance, Rivalry, Individuation, Solidarity, Generativity, and Maturity* (Appendix 1. chapter 1). Each DP-level score is made on the basis of the nine psychosocial domains representing the Developmental Lines (Appendix 2. chapter 1), referring to *Social Attitudes, Object Relations, Self-Images, Norms, Needs, Cognitions, Problem Solving (thoughts and feelings), Problem Solving (actions), and Miscellaneous Themes*. Developmental levels in the DP matrix are hierarchically organized, according to the degree to which they affect psychosocial functioning, and range from a primarily primitive level (*Lack of Structure*) to ultimately mature level (*Maturity*). These Levels are not assumed to be mutually exclusive. The lowest six Developmental Levels (*Lack of Structure, Fragmentation, Self-centeredness, Symbiosis, Resistance and Rivalry*) refer to maladaptive behaviors, while the highest four Developmental Levels (*Individuation, Solidarity, Generativity and Maturity*) refer to adaptive functioning.

DP is assessed with a semi-structured interview. A detailed description is obtained of the patients’ daily functioning over the past ten years, by focusing on the way the patient functions in the context of family and friendships, education and work, sports and hobbies. Other issues include distressing events and feelings of fear, anger, guilt, shame, and self-esteem. The interview lasts 2–3 hours and was usually spread over two sessions. To interpret the verbatim information derived from the interviews a scoring protocol was used. This protocol describes in observational terms all 90 items comprising the DP-matrix (10 DP-levels x 9 PD-lines). The rater indicates on a four-point scale the extent to which the behavior of the patient corresponds with the relevant operational definitions: not applicable (code 0), marginally applicable (code 1), largely applicable (code 2) or fully applicable (code 3). Data on the psychometric properties of the DP indicate sufficient inter-rater reliability, internal consistency, and discriminant validity (Van et al., 2000; Abraham et al., 2001).

In addition to the 10 DP-levels scores, we computed aggregate variables. By summing

the scores of the adaptive and maladaptive Developmental Levels, *Adaptive Functioning* (ADAP) and *Maladaptive Functioning* (MALADAP) scores were calculated respectively. We further divided the maladaptive DP levels into two variables covering the three most Primitive Developmental Levels (*Lack of Structure, Fragmentation, Self-centeredness*; called PRIM), and the more advanced *Neurotic Developmental Levels* (*Symbiosis, Resistance, Rivalry*; called NEURO). Patient overall psychodynamic functioning was covered by the *Developmental Profile Index* (DPI). In computing the DPI, raw scores at each level are weighted, from 1 for Lack of Structure, up to 10 for Maturity. These weighted scores are then summed, and divided by the sum of all raw scores of the ten Developmental Levels (DENS, see below). This results in a DPI score with a theoretical range of 1 to 10, reflecting an overall level of developmental maturity. Finally, a raw score was calculated by summing the scores of the 90 matrix cells of the DP matrix. This score, called *Rating Density Score* (DENS), reflects the overall degree of “contrast” or “resolution” which characterizes the patient’s and rater’s response style. DENS scores varied from 19 to 70 (mean 38.2; sd=10.2), and significantly predicted scores on all psychodynamic predictors. For analyses with DP variables, the possible confounding effect of this DENS score was taken into account.

Data analysis

To measure central tendency, the means were calculated in the event of continuous data, and percentages in the case of dichotomous or dichotomized data. To measure dispersion, standard deviation (sd) and the 95% confidence intervals (95%CI) were presented. Associations between categorical variables were explored with Fisher’s exact test. To explore the predictive value of the variables, the method of multiple linear regression analysis was performed. The performance of the individual DP-variables was represented by the standardized regression coefficients (β), including measures of uncertainty (95% CI) and statistical significance (p-value).

The incremental value of DP variables was derived by using hierarchical regression analysis. The model which included selected demographic characteristics and descriptive psychiatric DSM-IV diagnoses was compared with the model including these same variables and DP-variables combined. The differences in explained variance was expressed as R^2 change (ΔR^2), indicating the incremental value of the DP variable over and beyond sociodemographic variables and descriptive psychiatric diagnoses combined. Effect sizes at discharge and follow-up were calculated using Cohen’s d as expressed in terms of the standard deviation of the baseline assessment. All testing took place at the 0.05 level of significance (two-tailed).

8.4 Results

Clinical characteristics

Between August 1996 and September 2004, 163 patients were admitted to the program. The DP was administered at admission or in the first month of treatment to 148 patients (91%). For the remaining 15 patients, assessment of the DP was not possible due to early dropout, temporary lack of sufficient assessment staff, or incidental refusing to sign the informed consent by the patient. The SCL-90 was administered at admission in 110 of the 148 patients, in 89 patients at discharge, and in 77 patients at follow-up. These patients were included for final analyses. Patients included at admission were predominantly female (79%), young (mean age 24 years old, $sd = 4,6$), single (92%) and 40% completed at least high school or comparable level. All but one patient had a principal clinical diagnosis of DSM-IV Axis II personality disorder, predominantly in cluster B (41%) or personality disorder NOS (43%). Most of the patients (96%) also met diagnostic criteria for one or more Axis I disorders, most frequently affective disorders (50%), anxiety disorders (45%), eating disorders (35%) and substance use disorders (22%). Eating disorder was the only Axis I diagnosis that was not equally distributed between female and male patients, and was only found in women (45% versus 0%).

Developmental Profile scores

As expected, in this sample of young personality disorder patients ($N=110$) considerably more scores on the maladaptive (74%) than adaptive DP levels (26%) were found. Within the maladaptive realm, more often the neurotic (56%) than the primitive scores (18%) were observed (Table 1). On the individual DP levels, *Symbiosis* (24%), *Resistance* (21%), *Individuation* (15%) and *Fragmentation* (12%) were most present. In contrast, very low frequencies were found for the most immature level *Lack of Structure* (2%) and for the highest adaptive levels *Generativity* (1%) and *Maturity* (<1%).

**Table 1. Developmental Profile (N=110):
Scores and dispersion of the study population at admission**

	Mean	SD	minimum	maximum	median
Aggregate variables					
DPI	4.95	.48	3.75	6.36	4.95
ADAP	9.74	4.38	4	28	9.0
MALADAP	28.43	8.46	14	55	27.0
NEURO	21.34	6.68	7	40	20.5
PRIM	7.09	4.71	0	23	6.0
Developmental Levels					
Maturity	.12	.38	0	2	0
Generativity	.55	.94	0	4	0
Solidarity	3.34	2.19	0	12	3.0
Individuation	5.73	2.03	2	15	5.5
Rivalry	4.08	2.50	0	12	4.0
Resistance	7.95	3.11	2	15	8.0
Symbiosis	9.31	4.14	1	21	8.0
Self-centeredness	1.57	2.38	0	10	0.5
Fragmentation	4.66	2.97	0	13	4.0
Lack of Structure	.86	1.12	0	5	1.0

DPI=Developmental Profile Index; ADAP=Adaptive functioning sum-score;

MALADAP=Maladaptive functioning sum score; NEURO=Neurotic Developmental Levels sum-score;

PRIM=Primitive Developmental Levels sum-score.

As described in more detail elsewhere (Ingenhoven, Duivenvoorden, Passchier & van den Brink, submitted), some DP-variables were correlated with gender and age, yet none of the DP-variables was significantly correlated with educational level or marital status. Corrected for DENS, females achieved higher levels on adaptive functioning, especially on *Individuation*. In the maladaptive realm, the aggregate neurotic DP levels (NEURO) were equally distributed to both gender. In contrast, the primitive DP levels (PRIM) were predominated by men ($OR=4.15$; $95\%CI=1.43$ to 12.04 ; $p<0.01$). Males scored higher on *Self-centeredness* and *Rivalry*, where female patients reached higher scores on *Symbiosis*. Adaptive functioning, especially *Individuation*, was positively related to age. Consequently, predictions of treatment outcome by DP-variables will be adjusted for sociodemographic variables such as gender and age. DP-variables were not significantly correlated with the presence of the Axis I disorders. However, the presence of cluster B personality disorders was clearly associated with a higher score on PRIM (particularly with *Fragmentation*), and with a lower score on

NEURO (particularly with *Resistance*), and cluster C personality disorder was associated with a higher score on NEURO (particularly with *Symbiosis*). Finally, personality disorder NOS was associated with a higher score on *Resistance* as well as with a relative absence of *Fragmentation*.

Symptom severity at admission

The SCL-90 total score at admission ranged from 98 to 384, mean score 235.9 (sd 55.9). Compared to the normal Dutch population, this mean score can be qualified as very high, and compared to psychiatric outpatients as above average (Arrindel & Ettema, 1986).

Higher SCL-90 total scores at admission were significantly associated with female gender ($\beta=0.23$; 95%CI 0.04 to 0.42; $p=0.02$), but not with age, marital status and educational level. Higher SCL-90 total scores were not significantly associated with Axis I disorders, with the exception of the presence of a DSM-IV anxiety disorder ($\beta=0.27$; 95%CI 0.08 to 0.45; $p<0.01$). Higher initial symptom severity was also found to be significantly associated with the presence of Cluster B personality disorders ($\beta=0.29$; 95%CI 0.11 to 0.47; $p<0.01$), but not with other Axis II diagnoses.

Association of symptom severity at admission with psychodynamic personality variables

After controlling for DENS and sociodemographic variables, higher initial SCL-90 total scores were significantly associated with less mature psychodynamic function as expressed by lower DPI scores ($\beta= -0.21$), lower ADAP scores ($\beta= -0.19$), and higher MALADAP scores ($\beta= 0.19$) (see Table 2). Individual Developmental Levels were not associated with symptom severity at admission.

In calculating the incremental value of the DP levels for the prediction of symptom severity at admission, using lenient significant levels ($p\leq 0.20$), five out of the 16 sociodemographic and DSM-IV variables were found to be associated with the SCL-90 total score at admission: gender, anxiety disorder, eating disorder, cluster B personality disorder and personality disorder NOS. A multivariate prediction model with these variables as predictors, the “basic model”, accounted for a significant 20% of the variance in symptom severity at admission ($p=0.001$). Addition of the various DP-variables, into an “overall model”, did not result in a significant improvement of the explained variance of the SCL-90 total score at admission.

Table 2. Developmental Profile: prediction of SCL-90 total score at admission¹, at discharge², and at follow-up³

Developmental Profile	Prediction ¹			Prediction ²			Prediction ³		
	SCL-90 at admission N=110			SCL-90 at discharge N=89			SCL-90 at follow-up N=77		
Aggregate variables	β	95%CI	p	β	95%CI	p	β	95%CI	p
DPI	-.21	-.39 to -.02	.03	.14	-.08 to .36	.22	-.19	-.40 to .02	.08
ADAP	-.19	-.38 to .00	.05	-.03	-.25 to .19	.79	-.13	-.35 to .09	.26
MALADAP	.19	.00 to .38	.05	.03	-.19 to .25	.79	.13	-.09 to .35	.26
NEURO	.02	-.17 to .21	.83	.31	.10 to .52	.005	-.20	-.43 to .03	.10
PRIM	.13	-.05 to .32	.17	-.25	-.46 to -.04	.03	.27	.06 to .48	.02
Developmental Levels									
Maturity	-.14	-.33 to .05	.14	-.11	-.33 to .11	.33	-.13	-.35 to .09	.27
Generativity	-.02	-.20 to .17	.85	-.15	-.37 to .07	.19	-.00	-.00 to .00	.98
Solidarity	-.13	-.32 to .06	.20	-.00	-.00 to .00	.99	-.06	-.29 to .17	.62
Individuation	-.18	-.37 to .00	.06	.04	-.18 to .26	.73	-.16	-.37 to .05	.15
Rivalry	-.14	-.33 to .05	.15	.15	-.08 to .38	.22	-.10	-.33 to .13	.39
Resistance	.05	-.14 to .23	.63	.25	.04 to .46	.03	.08	-.15 to .31	.51
Symbiosis	.07	-.12 to .27	.47	.08	-.16 to .32	.51	-.24	-.47 to -.01	.05
Self-centeredness	.05	-.15 to .25	.64	-.08	-.32 to .16	.52	.28	.08 to .48	.02
Fragmentation	.10	-.08 to .29	.28	-.27	-.49 to -.05	.02	.15	-.07 to .37	.19
Lack of Structure	.12	-.06 to .31	.20	-.09	-.31 to .13	.42	.14	-.07 to .35	.19

1 = Single multiple regression analyses, adjusted for sociodemographic variables and DENS. 2 = Single multiple regression analyses, adjusted for sociodemographic variables, DENS, SCL-90 total score at admission, and duration of treatment period. 3 = Single multiple regression analyses, adjusted for sociodemographic variables, DENS, SCL-90 total score at discharge, and duration of follow-up period. DENS= Rating Density Score = sum-score of all Developmental Levels; DPI=Developmental Profile Index; ADAP=Adaptive functioning sum-score; MALADAP=Maladaptive functioning sum-score; NEURO=Neurotic Developmental Levels sum-score; PRIM=Primitive Developmental Levels sum-score. β = standardized linear regression coefficient

Prediction of symptom severity at discharge

Between the initial assessment at admission and the evaluation at discharge from the intensive phase of treatment (mean 16.2 months; sd 4.4; median 15.5 months), the mean SCL-90 total score changed from 235.9 (sd 55.9) to 173.1 (sd 54.1), representing a Standardized Mean Effect Size (Cohen's *d*) of 1.12, indicating a very large change (Cohen, 1988).

In contrast to symptom severity at admission, the mean SCL-90 total score at discharge (controlled for symptom severity at admission) was not predicted by overall psychodynamic functioning as expressed by DPI, ADAP and MALADAP scores (see Table 2.). However, higher scores on the neurotic DP levels (NEURO $\beta=0.31$), in particular *Resistance* ($\beta=0.25$), predicted higher symptom severity at discharge, whereas higher scores on the primitive DP levels (PRIM $\beta=-0.25$), especially *Fragmentation* ($\beta=-0.27$), predicted lower SCL-90 scores after termination of the intensive treatment period.

In calculating the incremental value of the DP levels for the prediction of symptom severity at discharge, the “basic model” described above, including SCL-90 total score at admission and treatment duration, accounted for 16% of the variance in symptom severity ($p=0.07$). Addition of the various DP-variables to the “overall model” did result in significant incremental values of the explained variance of the SCL-90 total score at treatment termination (Table 3). Significant incremental values of 9% ($p<0.01$) were found for both aggregate variables NEURO and PRIM. Individual DP levels *Resistance* and *Fragmentation* explained a significant 7% ($p=0.03$) and 10% ($p<0.01$) of the variance over and above the “basic model”. Addition of the DP-variables ADAP, NEURO, and PRIM simultaneously to the “basic model” resulted in a significant increase of 12% of the explained variance ($p=0.02$).

Table 3. Course of symptoms during treatment on SCL-90: incremental value of DP variables over and beyond sociodemographics, descriptive diagnoses, SCL-90 total score at admission, and treatment duration

Co-variable	R ² _{overall model}	P	Δ R ² _{model of interest}	P	Beta
Aggregate variables					
DPI	.193	.04	.033	.09	.20
ADAP	.160	.11	.000	.87	.02
MALADA	.160	.11	.000	.87	-.02
NEURO	.252	.005	.093	.004	.34
PRIM	.247	.006	.088	.005	-.33
Developmental Levels					
Maturity	.164	.10	.005	.53	-.07
Generativity	.174	.07	.014	.27	-.12
Solidarity	.161	.11	.001	.73	.04
Individuation	.164	.10	.004	.54	.07
Rivalry	.169	.08	.010	.36	.11
Resistance	.218	.02	.058	.03	.27
Symbiosis	.170	.08	.011	.34	.12
Self-centeredness	.165	.09	.006	.48	-.08
Fragmentation	.259	.004	.100	.002	-.37
Lack of Structure	.171	.08	.012	.32	-.11
Simultaneous DP variables					
Co-variable	R ² _{overall model}	P	Δ R ² _{model of interest}	P	Beta
ADAP	.278	.007	.118	.02	-.08
NEURO					.26
PRIM					-.33

R²_{baseline model} = 0.159; $p=0.07$; DPI=Developmental Profile Index;

ADAP=Adaptive functioning sum-score; MALADAP=Maladaptive functioning sum score;

NEURO=Neurotic Developmental Levels sum-score; PRIM=Primitive Developmental Levels sum-score.

Prediction of symptom severity at follow-up

At follow-up (mean 29.9 months after the initial assessment (sd 5.5)) the SCL-90 total score was 177.7 (sd 63.0), very similar to the one at discharge, representing a large effect size since admission (Cohen's $d=1.04$). Controlling for SCL-90 total score at admission, symptom severity at follow-up was not predicted by any of the DP variables (also controlled for DENS, sociobiographics and duration between baseline assessment and follow-up).

In order to study specifically the course of symptoms **after** discharge, we predicted symptom severity at follow-up (controlling for SCL-90 total score at discharge, and for duration between discharge and follow-up) by the various DP variables at baseline. During the follow-up phase (see Table 2), increase of SCL-90 total scores were significantly predicted by primitive psychodynamic functioning (PRIM $\beta=0.27$), showing a reverse pattern in comparison with the prediction of symptom severity during the intensive treatment phase. This effect was mainly associated with higher scores on the individual DP level *Self-centeredness* ($\beta=0.28$). In contrast, the aggregate neurotic DP levels predicted an above average decline of symptoms during the follow-up period (NEURO $\beta=-0.20$), especially attributed to the DP level *Symbiosis* ($\beta=-0.20$). In calculating the incremental value of the DP levels for the prediction of symptom severity at follow-up, using lenient significant levels ($p \leq 0.20$) and correcting for SCL-90 at discharge, four out of the 16 sociodemographic and descriptive diagnostic variables were found to be associated with the SCL-90 total score at follow-up: gender, anxiety disorder, eating disorder and cluster B personality disorder. A multivariate prediction model with these variables, including the SCL 90 score at discharge and follow-up duration as predictors for this “basic model” accounted for a significant 43% of the variance in symptom severity at follow-up ($p=0.001$). Addition of the various DP-variables to the “overall model” (controlling for DENS) did not result in a significant incremental value of the explained variance of the SCL-90 total score at follow-up (all individual DP variables $\leq 1\%$). Addition of the DP-variables ADAP, NEURO, and PRIM simultaneously to the “basic model” resulted in a non-significant increase of 1% of the explained variance ($p=0.58$).

Further explorations

To illustrate the differential effect of the DP variables on outcome in clinical practice, we divided the patients above and below the median scores on the DPI, ADAP, MALADAP, NEURO and PRIM (see table 4). As expected, a clear gender difference is presented. Next, an above average level of psychodynamic functioning, as expressed by “high DPI” and by the “High ADAP and low MALADAP” subgroup (as illustrated in Figure 1), is related to a lower general symptomatic level of functioning at admission, during treatment and follow-up. In contrast, a below average level of global psychodynamic functioning is related to higher SCL-90 total scores during the

whole trajectory. Both trajectories follow a very similar course of symptom decline. Second, a “Low NEURO and High PRIM” group seems characterized by the most robust decline in symptoms during the treatment period, resulting in the largest effect size at discharge. However, this group also seems to present the largest relapse of symptoms during the follow-up period (see Figure 2). In contrast, the “High NEURO and Low PRIM” group showed the slowest decline in symptoms during the intensive treatment phase, but also showed an ongoing decline of symptoms after discharge, finally resulting in the largest effect size at follow-up, representing the most favorable outcome. However, in contrast to the significant prediction estimates described above, the presented differences in Cohen's d were not statistically significant.

Table 4.
Subgroup analyses of symptoms at admission, discharge and follow-up;
and standardized mean effect sizes with regard to baseline measurements

	SCL-90 at admission			SCL-90 at discharge			Δ SCL-90 change	SCL-90 at follow-up			Δ SCL-90 change
	n	Mean SCL-90	sd	n	Mean SCL-90	sd	Cohen's d	n	Mean SCL-90	sd	Cohen's d
Total group of patients	110	235.9	55.9	89	173.1	54.1	1.12**	77	177.7	63.0	1.04**
Men	22	210.8	42.7	19	174.3	46.5	.85*	13	139.0	36.1	1.68**
Women	88	242.1	57.2	70	172.8	56.2	1.21**	64	185.6	64.5	.99**
Subgrouping by DP variables											
High DPI	56	227.9	56.0	46	170.6	52.6	1.02**	39	171.7	63.1	1.00**
Low DPI	54	244.1	55.1	43	175.7	56.0	1.24**	38	183.9	63.1	1.09**
High ADAP & low MALADAP	44	229.4	62.0	44	165.7	51.5	1.03**	35	172.4	60.4	.92**
Low ADAP & high MALADAP	36	257.7	48.2	36	184.0	58.6	1.53**	34	193.6	64.5	1.33**
Low NEURO & high PRIM	32	244.3	50.4	32	159.8	39.3	1.68**	27	172.6	55.6	1.42**
High NEURO & low PRIM	34	238.8	61.9	34	183.0	62.6	.90**	27	173.2	62.9	1.06**

DP variables are adjusted for DENS and dichotomized above/below median; Δ SCL-90 change: Cohen's d = effect size with regard to baseline measurement: * = $p < 0.01$; ** = $p < 0.001$

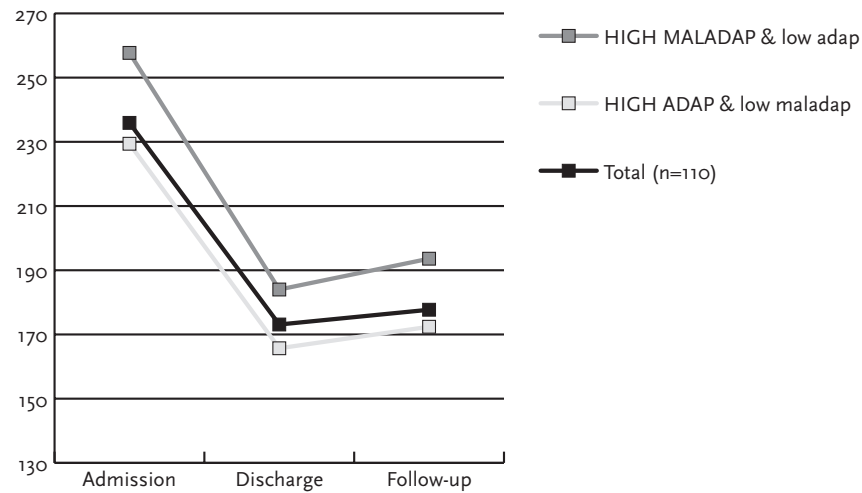


Figure 1. Symptom severity SCL-90: subgroup analysis

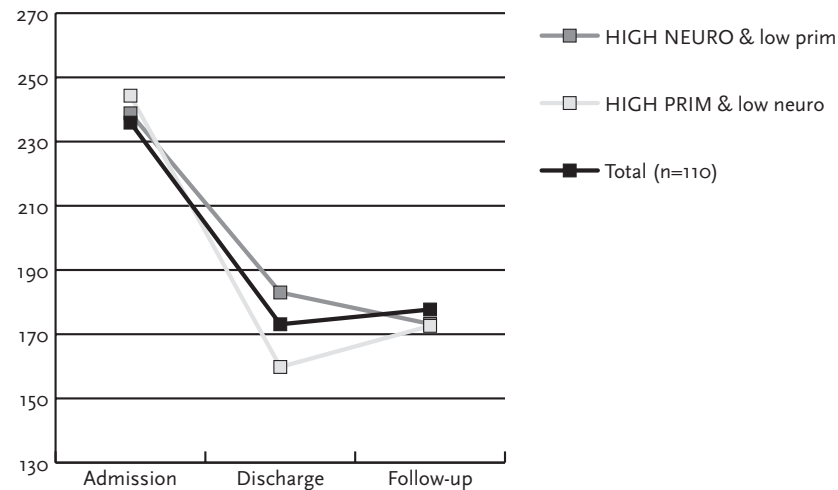


Figure 2: Symptom severity SCL-90: subgroup analysis

8.6 Discussion

One of the most intriguing issues in psychotherapy research remains the question which patients are likely to gain most from which treatments, and how we can assess in clinical practice relevant predictive factors. The practical value of such investigations lies in their ability to provide clinicians with information that will allow them to direct patients into the most appropriate treatment, and the most appropriate patients into intensive psychotherapeutic treatment (Ogrodniczuk & Piper, 2001). Treatment programs might benefit from these findings in that treatment goals, strategies and techniques will be tailored to the needs and capabilities of the patients.

The current study showed some major finding. First, a large reduction of symptoms was found during the course of treatment, and stabilization of symptoms after discharge. Second, at admission, there was a significant and substantial association between severity of symptoms and descriptive information like sociodemographics and psychiatric variables. Third, relevant descriptive variables account for 20% of the variance in symptoms at admission, 16% at discharge, and 43% at follow-up. Finally, there was an independent significant association of baseline psychodynamic variables with SCL-90 scores at treatment termination (12% incremental value).

At baseline, symptom severity was associated with psychodynamics, but only to a limited extent and in terms of global adaptive and/or maladaptive functioning. More mature functioning was associated with less complaints, and visa versa. However, psychodynamic diagnostic information did not significantly add to the explained variance above and beyond sociodemographic and descriptive diagnostic information. During treatment the magnitude of decline in symptom severity was significantly predicted by both neurotic and primitive levels of psychodynamic functioning. Where primitive DP levels were predictive for the largest reduction of symptoms during the intensive treatment phase, neurotic DP levels predicted the slowest decline, both representing a moderate incremental value (9%) over and beyond basic diagnostic information. In contrast, during follow-up we detected a reverse pattern in the course of symptoms. Where primitive DP levels seemed associated with the largest relapse of symptoms, neurotic DP levels seemed to predict the largest ongoing decline in symptom severity over an extended period of time after discharge. However, the incremental value was negligible, probably due to the fact that a large part of the variance can be attributed to former symptom severity at discharge (autocorrelation). How can we understand these findings from a clinical point of view? First, patients with neurotic features, especially a high score on *Resistance*, are often not willing to dedicate themselves to the therapeutic alliance and treatment process. Once they are able to commit to treatment, they can progress ongoing, in straightforward way, even after they finished treatment. Second, patients with distinctive primitive features, especially on *Fragmentation*, can show the largest symptom reduction during admission,

probably because they benefit most from the structure of the inpatient milieu and treatment program. In contrast, after discharge it becomes difficult for them to build up a new life on their own. As a result they fall back in increasing complaints and symptomatic behaviors. These findings show that a comprehensive overview of psychodynamic characteristics, as assessed by the DP, can guide the clinician in predicting the course of symptoms in personality disorder patients during treatment. In planning adequate after care, it enables the clinician to provide a treatment offer, adequately respecting and promoting the patients autonomy, but also taking into consideration the patients specific vulnerabilities and needs for structure.

This study has both strengths and limitations. Advantages of this empirical exploration are the relatively large sample of patients, the simultaneous assessment of both descriptive and psychodynamic predictors, and the repeated measurement of symptom severity by the SCL-90 over time. By using the Developmental Profile, psychodynamic assessment of personality included a variety of phenomena such as social attitudes, object relations, self-image, cognitive functioning, defense mechanisms and coping styles, all in both the maladaptive as well as adaptive realm. The study has also limitations. First, despite the relatively large sample size, some of the subcategories within the total sample were still rather small. In addition, about one third (32%) of the study cohort could not be included in the analyses. It is very unlikely that these “drop-outs” had the same amount of symptoms at admission, the same psychodynamic characteristics, and the same favorable course of symptom reduction over time. As a consequence we can not generalize our findings to all patients in the treatment program. Second, no standardized interviews were used to assess DSM-IV diagnoses. Therefore, it can not be ruled out that DSM-IV diagnoses might have been more predictive of outcome if semi-structured interview had been used. However, it should be noted that standardized assessment were guided by the LEAD procedure, which has the advantage of encompassing many patient characteristics. Third, as the number of statistical testing is relatively large when compared to the sample size of this study, it is recommended that this study be replicated with a larger sample size. Fourth, predictive explorations and incremental values were obtained “mechanically”, by statistical calculations, while “clinical” predictions by psychologists or psychiatrists, adding the DP to other assessment information could have led to more or less pronounced incremental values (Grove, Zald, Lebow, Snitz & Nelson, 2000; Garb, 2003). In this study we didn’t analyze the nine subsequent Developmental Lines the DP is composed of (vertical columns in Table 1; definitions in Appendix 2, chapter 1). It is possible that specific Developmental lines are able to predict the decline in symptom severity more adequately.

In conclusion, psychodynamic personality variables significantly predict symptom severity at admission, and differentiate the course of symptoms severity during

treatment and follow-up. More importantly, psychodynamic personality variables also explained a significant amount of outcome variance above and beyond sociodemographic variables and descriptive psychiatric diagnosis during the treatment phase, however not during follow-up. These findings corroborate the validity and usefulness of psychodynamic assessments in the planning of treatment and after care for patients with personality disorders.

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Chapter 9

General Discussion

“In the last resort all diagnostic methods stand or fall by the strength of the prognostic and therapeutic implications they embody” (Kendell, 1975: p.40).

Contents of this chapter

- 9.1. Summary of findings
- 9.2. General methodological considerations
- 9.3. The Developmental Profile: strengths and limitations
- 9.4. Direction of future research
- 9.5. Clinical relevance
- 9.6. References

Most clinicians select diagnostic models and their assessment procedures based on time and available resources. In contrast, *theorists* try to understand the historical and philosophical backgrounds of these models in order to integrate or synthesize them into a meta-theory. *Empiricists* try to bridge the canyons of knowledge by searching for differences and similarities between models using convergent and divergent validation strategies. Yet, a lot has to be learned about the integration of clinical, theoretical and empirical aspects of our diagnostic models and accompanying instruments.

In order to evaluate the empirical studies on the DP in this thesis, we first summarize the main findings of our studies (9.1.), and then present the main methodological considerations (9.2). We will emphasize the strengths and limitations of the Developmental Profile as an instrument for the psychodynamic diagnosis of personality (9.3). Finally, we suggest some directions for future research (9.4) and discuss its clinical relevance (9.5).

9.1 Summary of findings

In this thesis we tested the DP on discriminative validity, convergent validity, predictive validity and its incremental value over and beyond sociodemographics and descriptive diagnostic information. In addition, as a prerequisite for these studies on validity, we tested the interrater reliability of the Developmental Profile and the Structural Interview, two instruments for the psychodynamic diagnosis of personality. Four general aims for research were formulated, that were elaborated in 10 research questions (Q.1-10) as defined in the introduction of this thesis (chapter 1).

9.1.1 Psychodynamic personality assessment with the Developmental Profile

A review (Chapter 2) was presented to gain an overview of the Developmental Profile as a method for the psychodynamic diagnosis of personality. We summarized the theoretical frame of reference of the DP (Q.1), the hierarchical structured diagnostic matrix of the DP build up by the subsequent Developmental Lines and Developmental Levels (Q.2), the way the DP can be reliable assessed using a semi-structured interview and scoring protocol (Q.3), and finally the empirical psychometric status of the DP with regard to reliability and validity issues (Q.4).

It was concluded that, first, the DP provides a coherent conceptual framework and assessment procedure for psychodynamic personality characteristics described in the literature as clinically relevant. By using such a conceptual framework, diagnostic case formulation becomes clinically more meaningful, supporting treatment planning to a higher level whenever necessary. Second, the DP offers a clinical language to describe major psychodynamic characteristics for clinical case formulations and treatment evaluations. Its taxonomy is accessible for psychiatrists, clinical psychologists as well

as other disciplines working in mental health care. It also offers them a sophisticated comprehensive system of knowledge for psycho-education and other educational purposes. Third, the DP attempts to standardize psychodynamic personality diagnostics to make them accessible for empirical research. Basic psychometric issues like interrater reliability, internal consistency, construct validity and discriminant validity can be addressed. Research findings show that, after adequate training, the DP can be reliably assessed using verbatim texts. Furthermore, the underlying structure of the DP matrix was empirically confirmed in terms of the internal consistency of each Developmental Level with respect to their matching Developmental Lines, and the hierarchical arrangement of the Developmental Levels in study. It was concluded that these findings encourage further empirical validation.

9.1.2 Interrater reliability of semi-structured psychodynamic interview methods

The second aim of this thesis was to explore the interrater reliability of the Developmental Profile (Q.5) and the Structural Interview (Q.6), after adequate training, as used in clinical practice and for empirical research.

In chapter 3 we presented the interrater reliability estimates of a study using the DP. To assess interrater reliability, written verbatim descriptions of interviews of 108 subjects (pooled samples of psychiatric, somatic and dental patients) were used. Interrater reliability was estimated on final weighted scores of the successive Developmental Levels. The overall Kappa of the Developmental Levels (0.70) was “substantial”. Squared weighted Kappa’s (K_{sw}) for the Developmental Levels ranged from 0.53 to 0.84, which can be qualified as “moderate” to “almost perfect”.

In chapter 4 reliability estimates were presented on the Structural Interview, designed to assess Neurotic, Borderline and Psychotic Personality Organization according to Kernberg. Videotaped interviews of 69 psychiatric patients were randomly and independently rated by two out of three trained psychologists. Agreement between rater pairs, expressed as squared weighted kappa indicate moderate interrater reliability with respect to Kernberg’s tripartite classification ($K_{sw}=0.42$). Subdivision of the borderline category, or introduction of intermediate subcategories to the tripartite system did not significantly affect reliability ($K_{sw}=0.59$). It was concluded that trained clinicians can assess structural personality organization using the SI with “moderate” reliability. Refining the nosological system adding subcategories did not reduce reliability.

9.1.3 Convergent validity of competing psychodynamic assessment procedures

To explore the co relatedness of structural and psychodynamic diagnostic models, using different semi-structured interviews, we used the SI as well as the DP in 60 difficult-to-diagnose psychiatric patients with a mixture of Axis I and II disorders (Q.7. and Q.8). DP variables were used to predict disturbed Reality Testing, Primitive Defenses and Identity

Diffusion, as well as Psychotic, Borderline and Neurotic Personality Organization (PPO, BPO, NPO) as defined by Kernberg and assessed with the SI.

As described in chapter 5, most patients (80%) were classified as BPO by the SI. PPO and NPO were diagnosed in 8.3% and 11.7% respectively. All personality organizations covered a variety of axis I and axis II diagnoses. The most primitive maladaptive DP levels *Lack of Structure* and *Fragmentation* were significantly associated with disturbed Reality Testing, Primitive Defenses and Identity Diffusion, and were predictive for PPO as compared to BPO. In contrast, adaptive DP levels, like *Individuation* and *Solidarity*, were associated with Mature Defenses and Identity Integration, and were predictive for NPO compared to BPO. It was concluded that “structural derivatives and personality organizations” as defined by Kernberg and assessed with the SI, were significantly associated with the adaptive as well as the primitive levels of psychodynamic functioning according to the DP, reflecting convergence with respect to the hierarchical structures underlying both psychodynamic models.

9.1.4 Predictive validity and incremental value of the DP

The fourth and last aim of this thesis was to explore the predictive performance of the DP in a naturalistic treatment setting, with respect to process and outcome variables of psychotherapy. We hypothesized that DP variables would be associated with the duration of treatment (Q.9), and that scorings on specific Developmental Levels would predict dropping-out of treatment (Q.9), that DP variables would predict treatment disrupting behaviors and contract violations during inpatient psychotherapy (Q.10), and that DP variables would predict the outcome of psychotherapy in terms of decrease in symptom severity during treatment and follow-up (Q.11). Finally, we were interested in the incremental value of the DP over and beyond sociodemographic and descriptive diagnostic information like DSM-IV diagnoses and baseline symptom severity (Q.12).

As described in chapter 6, to determine relevant psychodynamic personality characteristics for the prediction of treatment duration and premature termination, the DP was assessed in 148 personality disorder inpatients in psychotherapeutic treatment. About half the patients left treatment prematurely. Duration of treatment and premature termination were not predicted by baseline DSM-IV Axis I or Axis II disorders or by baseline SCL-90 symptom severity. In contrast, several psychodynamic variables significantly predicted both phenomena. Longer treatment duration was predicted by higher *adaptive functioning* ($\beta=0.21$) at admission, shorter treatment duration by higher *maladaptive functioning* ($\beta=-0.28$), especially by the DP levels *Fragmentation* ($\beta=-0.20$) and *Self-centeredness* ($\beta=-0.18$). Premature termination was predicted by lower scores on adaptive functioning such as on the DP levels *Generativity* (OR=0.64) and *Maturity* (OR=0.20), and by a higher score on the DP aggregate levels of *primitive functioning* (OR=1.08). In addition to demographics and descriptive

diagnoses, DP variables independently explained 5% of the variance of treatment duration. It was concluded that, in contrast to DSM-IV diagnosis and general symptom severity at baseline, psychodynamic personality variables did significantly predict duration and premature termination of clinical treatment, but that the amount of explained variance was modest at best.

In chapter 7 we explored the predictive performance of the DP with respect to treatment disruptive behaviors during psychotherapy of patients with personality disorders. Violations of the treatment contract, impulsive acts, anger outbursts and parasuicidal gestures, were assessed during the first months of treatment in 89 inpatients (part of the cohort described above). Four out of five patients engaged in treatment disruptive behaviors, and these behaviors were generally not predicted by baseline DSM-IV Axis I or Axis II disorders. In contrast, anger outbursts, contract violations, and impulsive behaviors could be predicted by primitive psychodynamic functioning as assessed with the DP. In addition to demographics and descriptive diagnoses, the DP variables independently explained 23% of the variance of treatment disruptive behaviors. Parasuicidal gestures were neither predicted by DSM-IV diagnoses nor by psychodynamic variables.

Finally, as described in chapter 8, we identified the predictive power of the DP with respect to symptom severity during inpatient psychotherapeutic treatment and at one year follow-up. DP variables were significantly related to symptom severity at baseline with positive associations between symptom severity and levels of maladaptive psychodynamic functioning according to the DP, and negative associations with levels of adaptive psychodynamic functioning. No significant associations were found between baseline symptom severity and specific DP levels. Symptom severity decreased significantly during the first year of treatment resulting in a large effect size (Cohen's $d = 1.12$; $p < 0.001$). This symptom reduction was sustained during follow-up. A larger decline in symptom severity during treatment was positively predicted by the primitive levels of psychodynamic functioning, and negatively predicted by the neurotic DP levels. At discharge, the DP variables added a significant 12% to the 16% of variance in SCL-90 outcome already explained by sociodemographic variables, descriptive psychiatric diagnoses, baseline symptom severity and treatment duration combined. During the follow-up period a sustained decline of symptoms was predicted by higher scores on the neurotic DP levels, whereas a recurrence of symptoms was associated with higher scores on the primitive levels of psychodynamic functioning.

9.2 General methodological considerations

The results of our research efforts have to be evaluated within the context of the study design with its strengths and limitations

9.2.1 Study sample and interrater reliability

In our DP interrater reliability study (chapter 3) we used a sample of patients that was somewhat artificial balanced by studying psychiatric patients next to non-psychiatric patients (somatic and dental patients), and matching subsamples with respect to gender and age. In order to answer the question whether trained raters are **in principle** able to reliably assess the DP according to the registration protocol, using reliability estimates such as squared weighted Kappa or ICC, it is important to study such a balanced population, given the broad scope of the DP (ranging from highly primitive maladaptive to highly adaptive mature psychosocial functioning). In addition, a study sample of sufficient power is warranted because of the DP 4-point rating scales used for calculating the reliability estimates. Because these prerequisites were met, this study offers an indication of **the possibility** that raters can reliably assess DP verbatims after adequate training. However, since interrater reliability is not an inherent quality of the instrument itself, but reflect also the quality of the raters with respect to the specific population in study, we cannot generalize these reliability estimates to other studies as described in this thesis. Therefore, and because of the fact that interrater reliability was not established in all the studies of this thesis, this is a major limitation that should be mentioned.

Since the sample of 69 difficult-to-diagnose patients in studying the interrater reliability of the SI (chapter 4) was less balanced, we don't know exactly how much higher the estimates (K_{sw}) would have been when a more balanced sample had been used. Fortunately, reliability was sufficient ('moderate'), and offers us an indication of the use of the SI for practical diagnostic purposes in real patients, even when selected for difficulties in diagnosis and case formulation. In addition, one should take into account the design of the reliability study. The "real" reliability of an instrument probably lies somewhere between the interrater and the test-retest reliability (van den Brink, 1989), indicating that the interrater reliability estimates of the DP presented in chapter 3 are probably an overestimation of the "real" reliability of this instrument. Finally, it should be noted that the interrater reliability of the Structural Interview seemed to be somewhat lower than that of the DP. This may have had a negative influence on the strength of the correlations between DP and SI variables studied in chapter 5.

9.2.2 DSM-IV diagnoses

DSM-IV diagnoses were made according to the so-called LEAD procedure: Longitudinal Expert evaluation that uses All Data. These DSM diagnoses were made on the basis of clinical history, collateral information, referral letters, and personality questionnaires. No standardized interviews were used to assess DSM-IV diagnoses and therefore reliability and validity of these diagnoses are not known. As a consequence, it cannot be ruled out that DSM-IV diagnoses may have been predictive of treatment process and outcome variables if semi-structured DSM-IV interviews had been used.

If so, this could also have reduced the incremental predictive values of DP variables reported in the studies.

9.2.3 Outcome measurements

In studying the predictive validity of the DP (chapter 6, 7 and 8) outcome variables were used like premature termination of treatment and treatment disrupting behaviors during inpatient psychotherapy. One can question the independence of these outcome variables with respect to the predictor variables in the study. If both variables are highly intercorrelated, the regression coefficients would only reflect mathematical circularity and clinical self-fulfilling prophecies. However, it can be stated that if behavioral patterns in the past (as assessed by the DP) are able to predict behavioral patterns in the future (as measured by the outcome variables in study), there is still an argument for the predictive validity of the assessment method used before the treatment started.

9.2.4 Blinding

Another point of concern is the lack of complete and full blinding in the prediction studies (chapter 6, 7 and 8). During the period of assessment and data collection, the DP was also used for educational and clinical purposes. At that time, some of the members of the treatment staff were not completely blind for all the DP assessments of the patients entering the study. Therefore, it can not be ruled out that some information derived from the DP influenced the attitude of the team towards patients, e.g. based on particular DP scores or profiles, and that this knowledge somehow could have influenced the course or outcome of treatment. From a scientific point of view, this reflects a major methodological limitation. From a practical point of view, we consider these inferences as very limited since most of the information was not available during the evaluations during which treatment was tailored to the patient's needs and capabilities, and when adjustments were made in the course of treatment offered.

9.2.5 Multiple testing

In most of the regression analyses, multiple DP variables were used as predictors of the process and outcome of treatment. Next to the five aggregate DP variables, all ten single Developmental Levels were included for analysis. All testing took place at the 0.05 level of significance (two-tailed). Therefore, the question is warranted if a correction for multiple testing should be performed. Since most of the analyses were conducted within the study design of a clinical-empirical exploration, it is allowed to explore potential relationships in such a way without correcting for multiple testing. As the sample size of the studies is limited and the number of statistical tests is relatively large, the results are tentative and it is recommended that they should be

replicated within a larger population before final conclusions are drawn. It should be noted, however, that many of the observed associations still remained significant after Bonferroni correction for multiple testing ($p \leq 0.003$), e.g. in chapter 5 the aggregate DP levels of DPI, ADAP, MALADAP and PRIM still showed significant associations with one or more of the structural domains of Kernberg, and the same was true for the DP developmental levels of *Solidarity*, *Individuation*, and *Fragmentation*.

9.2.6 Generalizability

The cohort used for the predictions of the process and outcome of treatment was recruited during a limited period in a specific clinical psychotherapy unit for young adult inpatients with personality disorders and a variety of Axis-I disorders. Since the indication for this kind of treatment is rather specific and the selection of patients is rather strict, we do not know to what extent the results of our study can be generalized to other treatment settings and other kinds of personality disorder patients. The regression coefficients for the successive DP variables found in these studies are not an inherent quality of the DP, since they reflect the performance of the DP within these specific study samples. Nevertheless, its performance provides an indication of the potential predictive power of the DP in clinical psychiatric practice.

9.3 The Developmental Profile: strengths and limitations

In order to define and evaluate psychodynamics in the diagnosis and treatment of personality disorders, we applied the Developmental Profile in clinical practice. After reviewing the existing literature about the DP model and assessment procedure, and after completing our own research efforts with respect to reliability and validity issues, we can summarize the strengths and limitations of the DP. For this purpose, we follow the specific stages defined in the comprehensive framework for classification research based on the principles of construct validation, as described by Skinner (1981, 1986) and Davis & Millon (1995), summarized in the introduction (chapter 1) of this thesis.

9.3.1 Strengths

First, the Developmental Profile offers a comprehensive diagnostic framework including clinically relevant psychodynamic characteristics described in literature. As stated before, its horizontal arrangement of Developmental Lines considers a variety of relevant manifestations centered around central psychodynamic themes. At the same time, its vertical arrangement of Developmental Levels reflects a manifestation of psychosocial behaviors in a hierarchy related to adaptation. Most other efforts to construct such psychodynamic diagnostic models lack this integration of both

horizontal and vertical arrangements into one comprehensive nomological network (chapter 2). Second, since the DP is developed primarily as a diagnostic model and assessment procedure in clinical practice and for clinical purposes, it offers a system of knowledge, a frame of reference to which mental health care workers can orient whenever searching for meaning of their patients' symptoms and habitual behavioral patterns. Third, as the DP defines a hierarchy of both maladaptive as well as adaptive levels of functioning, it not only offers an overview of the patients' problems and complaints, but also the presence of adaptive performances and capabilities. This offers a strength-weakness analysis that can be helpful for a meaningful case formulation, but above all be useful for the process of treatment indication and treatment allocation. Especially in complex cases, it may prevent patients not getting appropriate treatment, or to be allocated to a treatment that overestimates their capabilities. Fourth, the DP offers a clinical language to describe major psychodynamic characteristics for clinical case formulations and treatment evaluations. Its taxonomy is accessible for psychiatrists, clinical psychologists as well as other disciplines working in mental health care. Fifth, by the use of a semi-structured interview and scoring protocol, the DP offers a systematic assessment procedure for psychodynamic classification for use in clinical practice and for empirical research. Sixth, in contrast to most diagnostic models, the DP can be used to guide the selection of therapeutic goals and for defining specific characteristics of the unfolding therapeutic relationship during treatment. The DP indicates for every Developmental Level an appropriate and concrete focus of treatment, the way the therapist can tailor his approach to the patients' needs and capabilities, the way the therapist can involve the patient in the therapeutic alliance, and the kind of transference or counter-transference themes that can be expected during the course of treatment. This inherent treatment guidance can be helpful for evaluating the treatment process. Seventh, the DP can potentially be used for other purposes such as psycho-education, educational training, human resource management, forensic reports or the prediction of offence recidivism. Finally, the DP attempts to standardize psychodynamic personality diagnostics to make them accessible for empirical research. Basic psychometric issues of interrater reliability, internal consistency and construct validity were addressed. Research findings show that the DP can be reliably assessed after adequate training. In addition, the assumptions that tentatively underlie the DP matrix on theoretical knowledge and intuitive clinical experience are empirically corroborated. As said before, these findings encourage further empirical validation in other populations and settings.

Status of empirical validation

In his framework for classification research, Skinner (1981, 1986) placed special emphasis upon starting with theory rather than description. As summarized in chapter 2, the **theory** component of the DP involved selection of clinical relevant

psychodynamic personality domains described in the literature, and a precise definition of a hierarchical matrix as a functional arrangement of the hypothetical interplay between Developmental Lines and Developmental Levels, as well as their hypothetical relationships to external variables (Abraham, 1993). During this process a *monotaxonic* as well as a *polytaxonic explanatory theoretical orientation* was used (Davis and Millon, 1995). Next, in the process of **internal validation**, an empirical taxonomy was developed (Abraham, 1993, 1997), followed by an evaluation of its reliability and homogeneity (Van et al., 2000; Abraham, 2001). Based on experiences in clinical practice and preliminary research findings, the DP was revised by redefining part of the operational definitions of the 90 personality characteristics (Abraham, 2005). Reliability and homogeneity were re-established for this revised version (see Chapter 2). Finally, a process of **external validation** was started by exploring the clinical and empirical relations of the DP with other current diagnostic systems and their assessment procedures, the discriminant qualities using different patient populations, as well as to external prognostic variables such as the process and outcome of treatment (Abraham, 2005; Van, 2008; Ingenhoven, this thesis). These validation studies have shown that the DP shows a promising frame of reference and assessment procedure for diagnosing structural and psychodynamic characteristics of personality and personality pathology.

9.3.2 Limitations

First, as stated, the assessment procedure using the semi-structured interview and scoring protocol is very labour-intensive. It takes two to three hours to conduct the semi-structured interview, and another one to two hours to score the derived verbatim text, summarize and rapport the results and formulate its conclusions. Like other mentioned methods that make use of semi-structured interviews, the DP warrants clinical experience, special training, supervision and ongoing intervision, to obtain and sustain sufficient correspondence to the protocol and agreement between raters. Second, it is not completely clear whether the DP, when infrequently used by clinicians working in every day clinical practice, will be assessed in a sufficiently reliable way. Third, still relatively little is known about its predictive performance with respect to the process and outcome of specialized psychosocial treatments for personality disorders and other mental disorders. In the fourth place, despite our research findings, relatively little is known about the incremental value of the DP over and beyond other diagnostic methods in every day clinical practice. Fifth, the DP offers no information about the patients' symptoms or about the etiology of mental disorders, whether genetic or environmental. Therefore, to offer a case formulation, information offered by the DP should be integrated with other relevant information from anamnesis, family history, life history, previous treatment responses, social circumstances, mental and somatic health status, and personality questionnaires that assess underlying personality traits.

9.4 Direction of future research

Until today, as a prerequisite for revision and clinical utility, empirical research with DP had its primary focus on issues of reliability and construct validity. As nowadays these basic requirements are fulfilled, and research indicates potential predictive power of the DP, other questions become prominent.

First, ongoing efforts should be made to assess the DP in normal volunteers and different patient populations in order to generate more sophisticated epidemiological data on the structural derivatives and psychodynamics underlying mental disorders and personality pathology in different populations. Our research findings suggest that special emphasis should be placed on gender differences and narcissistic psychodynamics features. Second, in the absence of a “gold standard” for personality (disorder) diagnosis, DP and competing diagnostic approaches may be further evaluated on divergent and convergent validity issues. For instance: are the DP variables correlated with underlying personality traits, e.g. as measured by the NEO-PI-R, TCI, SIPP or other self-report questionnaires? Third, one of the most interesting issues in psychotherapy research is the question about what kind of patients are likely to profit optimally from which kind of treatment. Therefore it is relevant to assess the DPs predictive power with respect to the process and outcome of different (randomly assigned) psychosocial treatments. Is the DP able to predict patients’ response to evidence based effective treatments for personality disorders, such as Dialectical Behavioral Therapy (DBT), Transference Focused Therapy (TFP), Schema-Focused Therapy (SFT) or Mentalization Based Treatment (MBT)? Is it possible to predict the outcome of these psychotherapies by DP, whether defined as social adjustment, a decrease of symptoms, or beneficial psychological functioning? And if these answers are affirmative, do “mechanical” (statistical) predictions outperform “clinical” (expert) predictions based on the DP? Fourth, an intriguing question remains its incremental validity: does DP add to the prediction of criteria above and beyond other relevant variables like basic sociodemographic variables, symptom severity and descriptive DSM-IV diagnoses or dimensional models assessing personality traits? Fifth, to make assessment less time consuming, it should be tested whether the DP can be reliably assessed by using a self-report questionnaire as a screening instrument, in combination with an interview to explore clinically relevant details. Can the DP be reliably assessed by permitting the patient to answer questions of the interview in paper and pencil procedure at home or via E-health services? Sixth, studies on the cost-effectiveness of the DP will ultimately have to confirm or refute the thesis that it is worth to invest in a broad psychodynamic personality assessment to answer multi-faceted diagnostic issues in complex cases before starting an expensive treatment offer. Finally, can repetitive assessment of DP clarify the way personality can change and mature during the life span, with or without treatment?

9.5 Clinical relevance

A validated psychodynamic assessment procedure, though time-consuming, can turn out to be effective and cost-effective, for second opinions in difficult to diagnose patients, when treatment assignments seems indicated for specific specialized psychotherapies (such as DBT, TFP, SFT, MBT), or when a costly and intensive treatment offer is considered within a clinical therapeutic milieu or day-hospital. In principle, it could also be helpful in forensic psychiatric setting in indicating specialized treatment, and in well-considered efforts to predict criminal recidivism. This thesis illustrates how operationalizations of an explanatory theoretical model may be of help to understand psychopathological phenomena and their psychotherapeutic treatment. Still, a lot of work has to be done in order to achieve a solid empirical basis for a psychodynamic perspective in understanding and treating personality disorders in clinical practice. We hope that the results of these studies may contribute to the development of theoretically meaningful and empirical validated psychodynamic assessment procedures for use in clinical mental health care.

9.6 References

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Summary

The objective of the clinical-empirical study presented in this thesis was to provide more empirical insight into the reliability, and the predictive and incremental validity of psychodynamic diagnostics of personality using the Developmental Profile, in a population of personality disordered patients in clinical psychotherapy.

In **chapter 1**, we briefly describe the current status of diagnostic strategies for personality pathology and a comprehensive model for the establishment of their reliability and validity by empirical research.

In **chapter 2**, we describe the theoretical background and clinical applications of the Developmental Profile (DP), as developed by professor Robert E Abraham, and we review current empirical research on reliability and validity issues. Basic psychometric issues of interrater reliability, internal consistency and construct validity were reviewed. A strength of the DP is found in its hierarchical matrix (see Table) comprising different developmental psychodynamic domains (nine Developmental Lines referring to *Social Attitudes, Object Relations, Self-Images, Norms, Needs, Cognitions, Problem Solving (thoughts and feelings), Problem Solving (actions), and Miscellaneous Themes*) and different levels of maturation (ten Developmental Levels: *Lack of Structure, Fragmentation, Self-centeredness, Symbiosis, Resistance, Rivalry, Individuation, Solidarity, Generativity and Maturity*) into one comprehensive classification system, providing explicit descriptions of both pathological and healthy aspects of personality functioning. This diagnostic method is in accordance with contemporary psychodynamic thinking with regard to personality functioning, which is supplementary to the descriptive DSM-IV approach and the etiological models assessing personality traits. The DP not only provides a hierarchical structured score, global adaptive and maladaptive indicators, but also level-specific scores individually, which allows to take into account mature as well as immature levels of psychodynamic development at the same time. This results in a comprehensive and detailed insight into the psychodynamic personality structure and in the way that human behavior may vary over time and in different contexts. The perspective of making a strength-weakness analysis of personality is of utmost interest in determining the most appropriate kind and intensity of treatment (e.g. pro or contra indication for psychotherapy), and in selecting specific goals for therapy, as well as interventions during the course of treatment.

For the application of the DP as an assessment procedure, a semi-structured interview is proper. Subsequently, the derived information is interpreted using the DP scoring protocol. So far, a couple of the major presumptions tentatively underlying the DP matrix have empirically been confirmed, like the internal consistency of

the subsequent DP levels, the hierarchical ordering of the DP levels within the Developmental Profile matrix, and the ability to distinguish clinical relevant groups on psychodynamic characteristics. However, a limitation of the DP seems its labour-intensive assessment and scoring procedure, and the intensive training and clinical experience needed to obtain reliable scores.

In exploring the interrater reliability of the DP (**chapter 3**), written verbatim descriptions of DP interviews of 108 subjects (a sample of psychiatric, somatic and dental patients) were used. Interrater reliability was estimated on scores of the Developmental Levels. The overall Kappa of the Developmental Levels was “substantial” with squared weighted Kappas for the successive DP levels ranging from “moderate” to “almost perfect”.

To explore the interrelatedness of structural and psychodynamic diagnostic models, using different semi-structured interview methods, we also conducted Kernberg’s Structural Interview (SI) in 60 psychiatric patients with a mixture of DSM-IV Axis I and II disorders. As a prerequisite for a fair comparison we first determined the interrater reliability of the SI, which was found to be “moderate” (**chapter 4**).

In **chapter 5**, DP variables were used to predict disturbed Reality Testing, Primitive Defenses and Identity Diffusion, as well as Psychotic, Borderline and Neurotic Personality Organization (PPO, BPO and NPO, respectively) as defined by Kernberg and assessed with the Structural Interview (SI). Most of the 60 patients (80%) were classified as BPO by the SI, and PPO and NPO were diagnosed only in 8.3% and 11.7%, respectively. All personality organizations covered a variety of axis I and axis II diagnoses. The most primitive maladaptive DP levels *Lack of Structure* and *Fragmentation* were positively associated with disturbed Reality Testing, Primitive Defenses and Identity Diffusion, and were predictive for PPO as compared to BPO. In contrast, adaptive DP levels, like *Individuation* and *Solidarity*, were positively associated with Mature Defenses and Identity Integration, and were predictive for NPO compared to BPO. It was concluded that structural derivatives and Personality Organization as assessed by SI were significantly associated with the adaptive as well as the primitive maladaptive levels of psychodynamic functioning according to DP, reflecting convergence with respect to the hierarchical structures underlying both psychodynamic models.

One of the major objectives of this thesis was to explore the predictive performance of the DP in a naturalistic treatment setting, with respect to the process and outcome of psychotherapy. Our hypothesis was that DP variables are associated with duration of treatment, and that scorings on specific Developmental Levels enables to predict dropping out of treatment, that DP variables can predict patients treatment disrupting behaviors and contract violations during inpatient psychotherapy, and that they can

predict the outcome of psychotherapy in terms of decrease in symptom severity during treatment and follow-up. We, therefore, calculated the incremental value of the DP variables over and beyond descriptive information like sociodemographic variables, descriptive psychiatric diagnoses (DSM-IV), baseline symptom severity and treatment duration.

As described in **chapter 6**, to determine relevant psychodynamic personality characteristics for the prediction of treatment duration and premature termination, DP was assessed in 148 personality disorder inpatients in psychotherapeutic inpatient treatment setting “De Zwaluw”, treatment department of the Symfora group in The Netherlands. Attrition to treatment varied substantially, about half the patients leaving prior to the intended treatment duration (minimal nine months). Whereas there was no gender difference with respect to the duration of treatment, male patients significantly more often terminated treatment without mutual agreement prematurely. Neither duration of treatment nor premature termination were found to be predicted by baseline DSM-IV Axis I or Axis II disorders or by baseline SCL-90 symptom severity. In contrast, several psychodynamic variables significantly could predict both. Longer treatment duration could be predicted by higher adaptive functioning at admission, shorter treatment duration by higher maladaptive functioning, especially by the DP levels of *Fragmentation* and *Self-centeredness*. Premature termination could be predicted by lower scores on adaptive functioning such as *Generativity* and *Maturity*, and by higher scores on the primitive DP-levels. In addition to demographics and descriptive diagnoses, DP variables independently explained 5% of the variance of treatment duration. It was concluded that, in contrast to DSM-IV diagnosis and general symptom severity at baseline, psychodynamic personality variables could predict duration and premature termination of clinical treatment, although the amount of explained variance was limited.

In **chapter 7** we explored the predictive performance of DP with respect to treatment disrupting behaviors during psychotherapy of patients with personality disorders. Violations of the treatment contract, impulsive acts, anger outbursts and parasuicidal gestures were assessed during the first months of treatment in 89 inpatients (part of the cohort described above). Four out of five patients engaged in these treatment disrupting behaviors, female patients engaged significantly more often in parasuicidal behaviors, whereas more male patients violated the basic commitments in their treatment contracts. In general, treatment disrupting behaviors could not be predicted by baseline DSM-IV Axis I or Axis II disorders. In contrast, anger outbursts, contract violations, and impulsive behaviors could be predicted by primitive psychodynamic functioning. In addition to demographics and descriptive diagnoses, the DP variables accounted for an incremental predictive value of 23%. Parasuicidal gestures could be neither predicted by DSM-IV diagnoses nor by DP variables.

Finally, as described in **chapter 8**, we identified the predictive power of the DP

with respect to symptom severity during inpatient psychotherapeutic treatment and follow-up using symptom reduction on SCL-90 in 110 patients (part of the cohort described above) between admission and discharge and during one year follow-up as the main outcome variable. In addition, the incremental value of the psychodynamic personality variables over and beyond sociodemographics, descriptive psychiatric diagnosis, baseline symptom severity and duration of treatment was determined. Symptom severity at admission was positively associated with levels of maladaptive psychodynamic functioning according to the DP, and negatively with adaptive psychodynamic functioning, although not with the specific DP levels. Symptom severity decreased significantly during the first year of treatment resulting in a large effect size (Cohen's $d = 1.12$; $p < 0.001$). This symptom reduction persisted during follow-up. A larger decline in symptom severity during treatment was positively predicted by the most primitive levels of psychodynamic functioning, and negatively by the neurotic, less immature, DP levels. At discharge, the DP variables added a significant 12% increment to the variance already explained by sociodemographic variables, descriptive psychiatric diagnoses and baseline symptom severity combined (i.e. 16%). During the one year follow-up period a continued decline of symptoms was positively predicted by higher scores on the neurotic DP levels, whereas a recurrence of symptoms occurred more frequently in patients with higher scores on primitive DP levels.

Chapter 9 contains a critical review of the main findings of our studies in this thesis. Methodological limitations are discussed. The current empirical psychometric status of the DP was evaluated, and the strengths and limitations of the DP as a model and assessment procedure for psychodynamic diagnosis of personality were discussed. From this strength-weakness analysis of the DP it can be concluded that the DP is a promising theory-driven instrument for use in clinical practice and accessible for empirical research. It can benefit from further internal and external validation and from further improvements in its feasibility.

Directions for future research are the need for more sophisticated epidemiological data on the structural derivatives and psychodynamics underlying mental disorders and personality pathology in different populations. DP and competing diagnostic approaches (like self-report questionnaires measuring personality traits) may be further evaluated on divergent and convergent validity issues. It is also important to determine the predictive power of the DP with respect to the process and outcome of evidence based effective treatments for personality disorders, such as Dialectical Behavioral Therapy (DBT), Transference Focused Therapy (TFP), Schema-Focused Therapy (SFT) or Mentalization Based Treatment (MBT), whether outcome defined as social adjustment, a decrease of symptoms, or increase of beneficial psychological functioning. An intriguing question remains its incremental validity: does DP

add substantially to the prediction of outcome after other relevant data like basic sociodemographic variables, symptom severity and descriptive DSM-IV diagnoses or dimensional models assessing personality traits have been taken into account? Furthermore, to make assessment less time consuming, it should be explored whether the DP can be reliably assessed by using a self-report questionnaire as a screening instrument, in combination with an interview to explore clinically relevant details. A further question is: can the DP be reliably assessed by permitting the patient to answer questions of the interview in paper and pencil procedure at home or via web-based services? Studies on the cost-effectiveness of the DP will ultimately have to answer the question whether it is worth to invest in a broad psychodynamic personality assessment to clarify multi-faceted diagnostic issues in complex cases before starting an expensive treatment offer. Finally, repetitive assessment of DP may clarify the way personality can change and mature during the life span, with or without treatment.

The clinical-empirical exploration in this thesis shows the reliability and validity of the Developmental Profile in a broad range of personality disordered patients, and it illustrates how psychodynamic concepts can be helpful in understanding psychopathological phenomena and the course and outcome of treatment. However, lots of work still need to be done in order to reach a solid scientific basis for a psychodynamic perspective on psychopathology and its treatment.

The Developmental Profile

R.E. Abraham 2007

DEVELOPMENTAL PROFILE	SOCIAL ATTITUDES	OBJECT RELATIONSHIPS	SELF-IMAGES	NORMS	NEEDS	COGNITIONS	PROBLEM SOLVING		MISCELLANEOUS THEMES
							(thoughts & feelings)	(actions)	
90. MATURITY	91. Retirement	92. Altruism	93. Authentic self-image – existential	94. Authentic norms – existential	95. Significance	96. Meta cognitions	97. Synthesis	98. Restructuring	99. Dying
80. GENERATIVITY	81. Responsibility	82. Care	83. Authentic self-image social	84. Authentic norms social	85. Integrity	86. Context-related cognitions	87. Respect for controversial (sub)cultures	88. Reorganization	89. Mourning
70. SOLIDARITY	71. Living Together	72. Mate	73. Authentic self-image relational	74. Authentic norms relational	75. Intimacy	76. Empathy	77. Respect for the controversial other	78. Alliance	79. Collectivity
60. INDIVIDUATION	61. Productivity	62. Equal	63. Authentic self image - individual	64. Authentic norms - individual	65. Identity	66. Self – reflection	67. Respect for the controversial self	68. Assertiveness	69. Primary-process experiences
50. RIVALRY	51. Status	52. Unattainable love	53. Ideal related self-image	54. Excessive ideals	55. Triumph	56. Histrionic cognitions	57. Reversal	58. Pretending	59. Feelings of sexual insufficiency
40. RESISTANCE	41. Defiance	42. Oppressor	43. Norm-related self-image	44. Excessive norms	45. Domination	46. Objectifying cognitions	47. Elimination	48. Defensiveness	49. Moral masochism
30. SYMBIOSIS	31. Dependency	32. Parent	33. External self-image	34. External norms	35. Passive need for love	36. Suggestive cognitions	37. Detachment	38. Giving Up	39. Lack of basic trust
20. SELF-CENTREDNESS	21. Soloist	22. Servant	23. Overrated self-image	24. Selfish norms	25. Mirroring	26. Self-referring cognitions	27. Disclaiming	28. Self-overestimation	29. Coldness
10. FRAGMENTATION	11. Changeability	12. Frame	13. Vague self-image	14. Dichotomous norms	15. Sensation-seeking	16. Non personality-related cognitions	17. Primitive externalization	18. Acting Out	19. Dissociation
00. LACK OF STRUCTURE	01. Bizarre behavior	02. Lack of Affectivity	03. Lack of a self-image	04. Lack of norms	05 Primary satisfaction of needs	06. Lack of psychological phenomena	07. Falsification	08. Impulsive behavior	09. Disorganization

Samenvatting

Het doel van deze studie is om meer inzicht te verkrijgen in de betrouwbaarheid en validiteit van psychodynamische persoonlijkheidsdiagnostiek. Daartoe is het Ontwikkelingsprofiel afgenomen in een populatie van patiënten met persoonlijkheidsstoornissen, in behandeling op een afdeling voor klinische psychotherapie.

In **hoofdstuk 1** beschrijven we verschillende strategieën voor de diagnostiek van persoonlijkheidspathologie en presenteren we een model voor het vaststellen van de betrouwbaarheid en validiteit ervan middels empirisch onderzoek.

In **hoofdstuk 2** beschrijven we de theoretische achtergronden en klinische toepassing van het Ontwikkelingsprofiel (OP), een vorm van psychodynamische persoonlijkheidsdiagnostiek die in Nederland ontwikkeld is door professor Robert Abraham. We geven een overzicht van het reeds voorhanden zijnde wetenschappelijk onderzoek naar aspecten van betrouwbaarheid en validiteit van het OP, zoals de tussenbeoordelaars betrouwbaarheid, interne consistentie en construct validiteit. De kracht van het OP lijkt met name gelegen in het samenbrengen van uiteenlopende psychodynamische domeinen binnen één omvattend model (zie Tabel). Het betreft de ontwikkelingslijnen: Sociaal gedrag, Relaties, Zelfbeeld, Normen, Behoeften, Cognities, Probleemoplossend gedrag en diverse thema's. De thema's binnen deze domeinen zijn hiërarchisch gerangschikt in tien ontwikkelingsniveaus op basis van de mate van psychologische (on)rijpheid: *Structuurloosheid, Fragmentatie, Egocentriciteit, Symbiose, Verzet, Rivaliteit, Individueelheid, Verbondenheid, Generativiteit* en *Rijpheid*. Dit psychodynamische classificatiesysteem biedt zodoende ruimte voor expliciete beschrijvingen van zowel de pathologische als gezonde aspecten van de persoonlijkheid. Het vormt een aanvulling op zowel de descriptieve psychiatrische classificatie van de DSM-IV als op de beschrijving van de persoonlijkheid op basis van persoonlijkheidstrekken (traits). Het OP geeft, naast een globale indicatie over het adaptieve en disadaptieve functioneren, ook een gedetailleerd beeld van specifieke thema's die gerelateerd zijn aan de ontwikkelingsniveaus. Hierdoor is het mogelijk zowel rijpere als onrijpere aspecten van de persoonlijkheid naast elkaar in kaart te brengen. Dit resulteert in een overzichtelijk en gedetailleerd overzicht van de psychodynamische persoonlijkheidsopbouw, en van de betekenis van de wijze waarop menselijk gedrag kan variëren in verschillende situaties en in de loop der tijd. Een dergelijke sterkte-zwakte analyse van de persoonlijkheid kan van groot belang zijn bij het vaststellen van de gewenste aard en intensiteit van behandeling (bijvoorbeeld of verandering middels psychotherapie wel of niet gewenst en haalbaar is), voor het vaststellen van een specifiek doel of focus voor behandeling, alsmede voor de keuze van specifieke

interventies tijdens het beloop ervan. Voor de toepassing van het Ontwikkelingsprofiel in de praktijk is een semi-gestructureerd interview beschikbaar. De verkregen anamnestiche informatie wordt beoordeeld en gescoord aan de hand van het OP-registratieprotocol.

Tot op heden zijn een aantal aannames die ten grondslag liggen aan het OP door middel van wetenschappelijk onderzoek empirisch onderbouwd, zoals de interne consistentie van de afzonderlijke ontwikkelingsniveaus, de hiërarchische ordening van de ontwikkelingsniveaus binnen de OP matrix, en het vermogen om klinische groepen patiënten op basis van psychodynamische kenmerken van elkaar te onderscheiden. De belangrijkste beperking van het OP voor de algemene praktijk wordt gevormd door de arbeidsintensieve afname- en scoringsprocedure, en de intensieve training en klinische ervaring die vereist zijn om tot betrouwbare scores te kunnen komen.

Om de tussenbeoordelaars betrouwbaarheid van het OP vast te stellen (**hoofdstuk 3**), zijn uitgeschreven verbatim verslagen van 108 proefpersonen (een samengestelde groep van psychiatrische, somatische en tandartspatiënten) door meerdere getrainde klinici gescoord. De betrouwbaarheid (overall Kappa) van de Ontwikkelingsniveaus blijkt "substantieel". De kwadratisch gewogen Kappas van de verschillende Ontwikkelingsniveaus variëren van "redelijk goed" tot "nagenoeg perfect". Om de relatie te kunnen bestuderen tussen structurele en psychodynamische diagnostische modellen, met gebruikmaking van verschillende semigestructureerde interviewmethoden, is zowel het OP als het Structurele Interview (SI), zoals ontwikkeld door Kernberg, afgenomen bij 60 psychiatrische patiënten met uiteenlopende DSM-IV as I en as II stoornissen, die aangemeld waren voor nader diagnostisch onderzoek. Als voorwaarde voor deze vergelijkende studie is eerst de tussenbeoordelaars betrouwbaarheid van het SI vastgesteld (**hoofdstuk 4**). De hierbij gevonden kwadratisch gewogen Kappas kunnen als "redelijk goed" worden gekwalificeerd.

In **hoofdstuk 5** wordt onderzocht in welke mate het OP voorspelt of er sprake is van een verstoorde realiteitstoetsing, het gebruik van primitieve afweer en de aanwezigheid van identiteitsdiffusie, alsmede van een Psychotische, Borderline of Neurotische Persoonlijkheidsorganisatie (respectievelijk PPO, BPO en NPO) zoals beschreven door Kernberg en vastgesteld door middel van het Structurele Interview (SI). De meeste van de 60 patiënten (80%) worden geclassificeerd als BPO op basis van het SI, terwijl PPO en NPO worden gediagnosticeerd in slechts 8,3% respectievelijk 11,7% van de gevallen. Alle persoonlijkheidsorganisaties omvatten uiteenlopende as I en as II diagnosen. De meest primitieve ontwikkelingsniveaus van het OP, *Structuurloosheid* en *Fragmentatie*, blijken positief gecorreleerd met gestoorde realiteitstoetsing, primitieve afweer en identiteitsdiffusie volgens het SI, en zijn

bovendien predictief voor de aanwezigheid van PPO (indien vergeleken met de aanwezigheid van BPO). Daarentegen blijken de adaptieve Ontwikkelingsniveaus, zoals *Individueelheid* en *Verbondenheid*, gerelateerd aan rijpere afweerstrategieën en identiteitsintegratie volgens het SI, en zijn zij predictief voor NPO (indien vergeleken met BPO). Geconcludeerd wordt dat “structurele” persoonlijkheidskenmerken en “persoonlijkheidsorganisaties”, zoals vastgesteld op basis van het SI, significant overeenkomen met de volwassen-adaptieve en primitief-disadaptieve psychodynamische kenmerken zoals gemeten met het OP. Dit wijst op een overeenkomst in onderliggende hiërarchische structuur die kenmerkend is voor beide psychodynamische modellen voor persoonlijkheidsdiagnostiek.

Een van de belangrijkste doelstellingen van dit promotieonderzoek was om het vermogen van het OP te exploreren met betrekking tot het voorspellen van het proces en de uitkomst van psychotherapie in een naturalistische behandelingssetting. Onze hypothese was dat de variabelen van het OP samenhangen met de duur van behandeling, dat zij drop-out voorspellen, evenals gedragspatronen die ontwrichtend zijn voor het proces van behandeling. Tevens was de verwachting dat het OP zou voorspellen wat de uitkomst is van behandeling in termen van afname van symptomen tijdens de behandeling en bij follow-up. Bovendien wilden wij de toegevoegde (incrementele) waarde van het OP berekenen boven descriptieve diagnostische informatie zoals die van sociodemografische variabelen, beschrijvende psychiatrische diagnoses (DSM-IV), de ernst van symptomen bij aanvang van behandeling, en de duur van de behandeling.

In **hoofdstuk 6** wordt beschreven hoe voorspellend de psychodynamische variabelen uit het OP zijn voor de behandelingsduur en voor een voortijdige beëindiging van de behandeling. Bij 148 patiënten met een persoonlijkheidsstoornis werd het OP afgenomen bij aanvang van de behandeling in “De Zwaluw”, de afdeling voor klinische psychotherapie van de Symfora groep in Amersfoort. Deelname aan het behandelprogramma varieerde aanzienlijk in duur. Bij ongeveer de helft van de patiënten werd de behandeling beëindigd voordat de geplande behandelperiode was verstreken (minimaal negen maanden). Ondanks het feit dat er geen geslachtsverschillen blijken te bestaan met betrekking tot de duur van de behandeling, betreft het significant vaker de mannelijke patiënten die voortijdig hun behandeling, zonder overeenstemming met de behandelstaf beëindigen (drop-out). Noch de duur van de behandeling, noch een voortijdige beëindiging ervan kan worden voorspeld op basis van de aard van de DSM-IV diagnose op as I of as II of door de ernst van de klachten (SCL-90) gemeten bij aanvang van de behandeling. Daarentegen blijken verscheidene psychodynamische OP variabelen beide fenomenen wel te voorspellen. Een langere behandelingsduur kan worden

voorspeld door een hoger adaptief niveau van functioneren op het OP bij aanvang van de behandeling. Een kortere behandelingsduur wordt voorspeld door hogere scores op het disadaptieve functioneren, m.n. op de Ontwikkelingsniveaus *Fragmentatie* en *Egocentriciteit*. Drop-out kan worden voorspeld door lagere scores op de adaptieve Ontwikkelingsniveaus *Generativiteit* en *Rijpheid*, alsmede door hogere scores op primitieve Ontwikkelingsniveaus. In aanvulling op sociodemografische variabelen en descriptieve DSM-IV diagnoses verklaren de gezamenlijke OP variabelen 5% van de variantie van de behandelingsduur. Geconcludeerd wordt dat, in tegenstelling tot DSM-IV diagnoses en ernst van de klachten en symptomen, psychodynamische OP variabelen in staat zijn de behandelingsduur en drop-out te voorspellen, ofschoon hun aandeel in de verklaarde variantie beperkt is.

In **hoofdstuk 7** wordt het voorspellend vermogen van het OP op therapieverstorend gedrag tijdens psychotherapie onderzocht bij patiënten met een persoonlijkheidsstoornis. Schendingen van de behandelingsovereenkomst, impulsieve gedragingen, woede-uitbarstingen en zelfdestructieve gedragingen werden gemeten bij 89 patiënten tijdens de eerste drie maanden van hun klinische behandeling. Vier van de vijf patiënten vertonen dergelijk therapieverstorend gedrag. Vrouwelijke patiënten vertonen significant vaker zelfdestructieve gedragingen, terwijl mannelijke patiënten vaker betrokken zijn bij schendingen van basisafspraken in hun behandelovereenkomst. Over het algemeen kan het therapieverstorend gedrag niet worden voorspeld door de DSM-IV diagnoses op as I of as II bij opname. Daarentegen kunnen woede-uitbarstingen, schendingen van de behandelingsovereenkomst en impulsieve gedragingen wel worden voorspeld door de primitieve ontwikkelingsniveaus van het OP. In aanvulling op sociodemografische gegevens en descriptieve DSM-IV diagnoses verklaren de OP variabelen gezamenlijk 23% van de variantie van het therapieverstorende gedrag. Zelfdestructieve gedragingen kunnen noch door DSM-IV as I en as II diagnoses, noch door de psychodynamische OP variabelen worden voorspeld.

Tenslotte, zoals beschreven in **hoofdstuk 8**, is de voorspellende kracht van het OP berekend ten aanzien van de ernst en het beloop van klachten en symptomen tijdens de klinische psychotherapie en bij follow-up. Hiertoe is de afname van symptomen (SCL-90) bij 110 patiënten berekend tussen opname en ontslag en bovendien één jaar na ontslag. Tevens is de toegevoegde waarde bepaald van de psychodynamische variabelen in aanvulling op de descriptieve diagnostische informatie zoals sociodemografische gegevens, beschrijvende psychiatrische diagnoses (DSM-IV), de ernst van symptomen bij aanvang van behandeling en de duur van behandeling. De ernst van de symptomen bij aanvang van de behandeling blijkt significant te kunnen worden voorspeld door hogere scores op de gezamenlijke disadaptieve

ontwikkelingsniveaus en door lagere scores op de adaptieve ontwikkelingsniveaus van het OP, echter niet door één van de afzonderlijke ontwikkelingsniveaus.

De ernst van de symptomatologie neemt significant af tijdens het eerste jaar van behandeling, resulterend in een groot behandelingseffect (effect size volgens Cohen's $d = 1.12$; $p < 0.001$), deze afname van symptomen houdt aan tijdens de follow-up periode. Een grotere afname van symptomen tijdens de behandeling kan worden voorspeld door hogere scores op de primitieve ontwikkelingsniveaus van het OP bij aanvang, en door lagere scores op de minder onrijpe, neurotische ontwikkelingsniveaus. In aanvulling op sociodemografische gegevens, descriptieve DSM-IV diagnoses en de ernst van symptomen bij aanvang van behandeling (samen 16%) verklaren de gezamenlijke OP variabelen 12% van de variantie van de symptoomafname tijdens de behandeling. Tijdens de follow-up periode wordt een verdere afname van symptomen voorspeld op basis van hogere scores op de neurotische ontwikkelingsniveaus. Daarentegen wordt een gedeeltelijke terugkeer van symptomen juist voorspeld door hogere scores op de primitieve ontwikkelingsniveaus.

Hoofdstuk 9 bevat een kritische beschouwing van de resultaten van de studies beschreven in dit proefschrift. Methodologische beperkingen worden besproken. De huidige empirische psychometrische status van het OP wordt geëvalueerd, en de sterke kanten en beperkingen van het OP als onderzoeksmethode voor een psychodynamische diagnose van de persoonlijkheid worden bediscussieerd. Uit deze sterkte-zwakte-analyse van het OP kan worden geconcludeerd dat het OP een veelbelovend theorie-gestuurd instrument is voor het gebruik in de klinische praktijk en dat het toegankelijk is voor wetenschappelijk onderzoek. Zodoende kan het OP profiteren van verdere interne en externe validering en van verbeteringen ten aanzien van haar toepasbaarheid. Toekomstig onderzoek kan meer specifieke epidemiologische gegevens genereren betreffende de structurele aspecten en psychodynamische persoonlijkheidskenmerken die ten grondslag liggen aan psychische stoornissen en persoonlijkheidspathologie in uiteenlopende patiëntenpopulaties. Het OP en andere diagnostische benaderingen (zoals de vragenlijsten die persoonlijkheidstrekken meten) kunnen nader worden onderzocht op aspecten van convergente en divergente validiteit. Het is tevens van belang om de predictieve kracht van het OP te onderzoeken met betrekking tot het proces en uitkomst van bewezen-effectieve behandelingen voor persoonlijkheidsstoornissen zoals Dialectical Behavioral Therapy (DBT), Transference Focused Therapy (TFP), Schema-Focused Therapy (SFT) of Mentalization Based Treatment (MBT), waarbij uitkomstmaten gedefinieerd kunnen worden in termen van sociale aanpassing, afname van symptomen of een verbetering van het psychologisch functioneren. Een intrigerend aandachtspunt hierbij blijft de toegevoegde voorspellende waarde: voegt het OP substantieel toe aan de voorspelling van de uitkomst van behandeling bovenop andere relevante

informatie zoals sociodemografische gegevens, de ernst van klachten en symptomen, categoriale DSM-IV-diagnosen of dimensioneel vastgestelde persoonlijkheidstrekken. Teneinde de afname van het OP minder arbeidsintensief te maken kan worden onderzocht of het OP betrouwbaar afgenomen kan worden door het gebruik van een vragenlijst die de patiënt zelf invult als screeningsinstrument, in combinatie met een interview om klinische relevante details verder te exploreren. Kan het OP ook betrouwbaar worden afgenomen door de patiënt te instrueren de vragen van het interview thuis te beantwoorden, schriftelijk op papier of via internet? Studies naar de kosteneffectiviteit van het OP zullen uiteindelijk de vraag dienen te beantwoorden of, en bij welke patiënten, het lonend is te investeren in een dergelijk arbeidsintensief psychodynamisch onderzoek om zicht te krijgen op de meervoudige diagnostische aspecten van complexe problematiek alvorens te starten met een intensief en relatief kostbaar behandelaanbod. Tenslotte kan het herhaaldelijk afnemen van het OP ons zicht geven op de wijze waarop de persoonlijkheid zich ontwikkelt in de loop der jaren, met of zonder behandeling.

Het klinisch-empirische exploratieve onderzoek in dit proefschrift vormt een duidelijke onderbouwing van de betrouwbaarheid en validiteit van het Ontwikkelingsprofiel in een populatie patiënten met uiteenlopende persoonlijkheidsstoornissen. Het illustreert hoe psychodynamische concepten behulpzaam kunnen zijn bij het begrijpen en verklaren van psychopathologie en het beloop en de uitkomst van behandeling. Echter, voortgezet onderzoek is nodig om te komen tot een solide wetenschappelijke basis van een psychodynamisch perspectief op psychopathologie en de behandeling daarvan.

The Developmental Profile

R.E. Abraham 2007

ONTWIKKELINGSPROFIEL	SOCIAAL GEDRAG	RELATIES	ZELFBEELD	NORMEN	BEHOEFTEN	COGNITIES	PROBLEEMOPLOSSEND GEDRAG		DIVERSE THEMA'S
							(denken en voelen)	handelen	
90. RIJPHEID	91. Terugtrekken	92. Altruïsme	93. Authentiek zelfbeeld existentieel	94. Authentieke normen existentieel	95. Zingeving	96. Metacognities.	97. Synthese	98. Herstructureren	99. Sterven
80. GENERATIVITEIT	81. Verantwoordelijkheid	82. Zorg	83. Authentiek zelfbeeld sociaal	84. Authentieke normen sociaal	85. Integriteit	86. Context gerelateerde cognities	87. Respecteren controversiële (sub)culturen	88. Reorganiseren	89. Rouwen
70. VERBONDENHEID	71. Samenleven	72. Maat	73. Authentiek zelfbeeld relationeel	74. Authentieke normen relationeel	75. Intimiteit	76. Empathie	77. Respecteren controversiële ander	78. Alliëren	79. Collectiviteit
60. INDIVIDUATIE	61. Productiviteit	62. Gelijke	63. Authentiek zelfbeeld individueel	64. Authentieke normen individueel	65. Identiteit	66. Zelf-beschouwing	67. Respecteren controversiële zelf	68. Assertiviteit	69. Primair proces belevingen
50. RIVALITEIT	51. Status	52. Onbereikbare liefde	53. Idealen gerelateerd zelfbeeld	54. Overmatige idealen	55. Triomferen	56. Theatrale cognities	57. Omkeren	58. Pretenderen	59. Seksuele insufficiëntie gevoelens
40. VERZET	41. Opstandigheid	42. Overheerser	43. Normen gerelateerd zelfbeeld	44. Overmatige normen	45. Domineren	46. Objectiverende cognities	47. Wegwerken	48. Defensiviteit	49. Moreel masochisme
30. SYMBOSE	31. Afhankelijkheid	32. Ouder	33. Extern zelfbeeld	34. Externe normen	35. Passieve liefdesbehoefte	36. Suggestieve cognities	37. Onthechten	38. Opgeven	39. Ontbreken van basisvertrouwen
20. EGOCENTRICITEIT	21. Solist	22. Leverancier	23. Overwaardig zelfbeeld	24. Zelfzuchtige normen	25. Spiegelen	26. Zelfbeperkte cognities	27. Verwerpen	28. Zelf-overschatting	29. Kilheid
10. FRAGMENTATIE	11. Wisselvalligheid	12. Kader	13. Vaag zelfbeeld	14. Dichotome normen	15. Prikkelhonger	16. Niet persoonlijkheidsgerelateerde cognities	17. Primitieve externalisatie	18. Acting out	19. Dissociatie
00. STRUCTUURLOOSHEID	01. Bizar gedrag	02. Ontbreken van affectiviteit	03. Ontbreken van een zelfbeeld	04. Ontbreken van normen	05. Primaire behoeftebevredestiging	06. Ontbreken van psychische fenomenen	07. Vervalsen	08. Impulsief gedrag	09. Ontbreken van ordening

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Dankwoord

Als iets dit promotietraject bijzonder heeft gemaakt is het wel het gegeven dat het tot stand is gekomen dankzij de inzet en steun van veel mensen. Dat zijn er in de loop van de jaren inmiddels zoveel geworden dat het mij niet zal gaan lukken eenieder persoonlijk te bedanken. Het is derhalve een gewaagde onderneming mensen speciaal te benoemen omdat dat er ongetwijfeld toe zal leiden dat ik daarmee anderen juist tekort doe.

Dit onderzoek was niet mogelijk geweest zonder het Ontwikkelingsprofiel zoals dat in Nederland is ontwikkeld door Robert Abraham. Doordat ik al vroegtijdig tijdens mijn opleiding in het Haags-Leids-opleidingsconsortium kennis mocht maken met deze vorm van psychodynamische persoonlijkheidsdiagnostiek, heb ik daar gedurende mijn loopbaan als psychiater veel profijt aan mogen beleven. Zowel binnen de dagelijkse patiëntenzorg, als in het geven van onderwijs, en niet in de laatste plaats als instrument voor wetenschappelijk onderzoek, heeft het Ontwikkelingsprofiel voor mij zijn waarde ruimschoots bewezen. Robert Abraham wil ik dan ook als eerste bedanken voor zijn inspirerende gedachtegoed en voor al zijn wijze lessen. Ook Philip Spinhoven dank ik voor de impuls die hij samen met hem aan dit promotietraject heeft gegeven, inmiddels al meer dan dertien jaar geleden.

Waarom heeft het allemaal zo lang moeten duren? Toen ik in 1995 als psychiater ging werken op de Zwaluw, de afdeling voor klinische psychotherapie van Zon & Schild (later de Symfora groep) in Amersfoort, bleek de introductie van het Ontwikkelingsprofiel in deze setting een waardevol referentiekader voor de diagnostiek en milieutherapeutische behandeling van adolescenten en jongvolwassenen met uiteenlopende klachten en problemen op basis van een persoonlijkheidsstoornis. Mede dankzij de opzet van introductie cursussen en supervisie groepjes over het Ontwikkelingsprofiel, leek het in 1996 praktisch haalbaar om bij alle cliënten van de Zwaluw rond aanvang van de behandeling een Ontwikkelingsprofiel af te nemen. Een onderzoeksbudget was daar niet voor beschikbaar. De interviews werden goeddeels afgenomen door jonge psychologen die na afronding van hun stage een werkervaringsplaats bij ons zochten. Zo ontstond en groeide een cohort "Zwaluw-clieënten met Ontwikkelingsprofiel" waarnaar ook wetenschappelijk onderzoek mogelijk bleek. Dank aan alle cliënten die toestemming gaven om gegevens over hun diagnose en behandeling beschikbaar te stellen voor wetenschappelijk onderzoek. De dataverzameling van dit onderzoek is goeddeels te danken aan de tientallen pas afgestudeerde psychologen die onbezoldigd en in hun vrije tijd het enthousiasme opbrachten om zeer nauwgezet hun urenlange interviews met de cliënten om te zetten in verbatimverslagen. Ik wil hen nadrukkelijk bedanken voor hun inzet.

In de tussentijd ontstond er binnen de groep van docenten/supervisors van de Stichting Ontwikkelingsprofiel een landelijk platform om kennis uit te wisselen, ideeën verder uit te werken, en door middel van intervisie het scoren van het Ontwikkelingsprofiel op peil te houden. Hen allen wil ik bedanken voor de leerzame en stimulerende bijeenkomsten. Met name Rien Van wil ik bedanken voor de prettige samenwerking rond ons eerste onderzoek naar de tussenbeoordelaars betrouwbaarheid en ook voor alle steun daarna, en Mirjam Wentink voor haar actieve participatie bij de implementatie van het onderzoek binnen de Zwaluw.

Rond de eeuwwisseling kantelde het wetenschappelijk klimaat op de Symfora groep. Waar voorheen empirische activiteiten toegedicht werden aan het domein van de universiteit, groeide het besef van de noodzaak en de mogelijkheden om juist vanuit een algemene GGZ-instelling wetenschappelijke kennis te genereren. In de slipstream van de Leergang Persoonlijkheidsstoornissen van Psychiatrie in Progressie (PiP) werd een afdeling wetenschappelijk onderzoek verder opgebouwd, en werden mijn wensen voor ondersteuning van mijn onderzoek geleidelijk aan steeds meer gehonoreerd. Vanuit dat perspectief wil ik graag onze voormalige voorzitter van de Raad van Bestuur Henk Jan Dalewijk bedanken voor zijn belangstelling, betrokkenheid en stimulatie, en voor zijn steun om het hele onderzoeksproject een doorstart te doen laten maken toen het halverwege dreigde te stagneren, maar ook Bert van Luyn voor zijn collegiale samenwerking bij de trainingen van het Structurele Interview. Vanuit de vernieuwde afdeling wetenschappelijk onderzoek werden alle benodigde gegevens verzameld, gearchiveerd en geschikt gemaakt voor analyses. Erik de Groot, die jarenlang het wetenschappelijk onderzoek van de Symfora groep coördineerde, wil ik bedanken voor zijn aanhoudende betrokkenheid en zijn nauwgezette en prettige wijze van samenwerken. Hij begeleidde ook de (klinisch) psychologen in opleiding van verschillende universiteiten, die dit promotieonderzoek konden gebruiken als springplank voor hun afstudeerscriptie. Ook aan hen dank voor het opbouwen van de databestanden. De huidige Raad van Bestuur, met name Thea Heeren, en de huidige voorzitter van de afdeling wetenschappelijk onderzoek Peter van Harten, wil ik bedanken voor hun steun tijdens de afrondende fase van dit promotietraject. Ook alle medewerkers van onze wetenschappelijke bibliotheek dank ik voor hun engelengeduld als ik weer eens met spoed een bepaald artikel nodig had. Interviews, vragenlijsten, monitoren.....? met de afdeling psychodiagnostiek heb ik altijd intensief samengewerkt en met hen hoop ik in de nabije toekomst innovatieve plannen vorm te geven binnen de “onderzoekslijn persoonlijkheidsstoornissen”. Han Berghuis wens ik succes met zijn lopende promotietraject!

Mijn directe leidinggevenden, voorheen Constance Smithuijsen, John de Jong, en later Jos van Manen, wil ik bedanken voor de onbaatzuchtige wijze waarop

zij mij in de loop der jaren vooral mijn eigen gang hebben laten gaan. Zonder de jarenlange prettige en inspirerende samenwerking met mijn collega's van het multidisciplinaire behandelteam van De Zwaluw (afdeling voor klinische psychotherapie), later ook De Enk (psychotherapeutisch dagcentrum), en recent het Centrum voor Persoonlijkheidsstoornissen, was dit project niet mogelijk geweest. Hoewel de tijden veranderen en de organisatie een grote fusie en reorganisatie doormaakt, is het betekenisvol om samen te bouwen aan de specialistische multidisciplinaire behandelmilieus die van waarde zijn voor patiënten met persoonlijkheidsproblematiek.

Na het plotselinge overlijden van mijn promotor Wim Trijsburg in 2007 heb ik mijn dissertatie mogen voortzetten aan de Erasmus Universiteit in Rotterdam. Mijn nieuwe promotor Jan Passchier ben ik zeer erkentelijk voor de aanhoudende gastvrijheid op zijn afdeling Medische Psychologie en Psychotherapie, en voor zijn vriendelijke, bemoedigende en opbouwende feedback in de fase van het schrijven en redigeren van de artikelen. Aan de medewerkers van het secretariaat van de afdeling, vooral aan Margreet Langendoen, ben ik veel dank verschuldigd voor de vanzelfsprekende wijze waarop ogenschijnlijke details werden ingevuld, georganiseerd en gladgestreken. Aan mijn copromotor Hugo Duivenvoorden wil ik mijn speciale waardering uitspreken voor zijn prettige en professionele methodologische begeleiding en de uitvoering van de statistische analyses. Samen hebben we heel wat vrijdagochtenden aan het Erasmus MC doorgedacht. Er ging een wereld voor mij open en, dankzij alle hoofdbreken, ben ik er vele inzichten rijker van geworden. Zonder de bijzonder doortastende bijdrage van mijn promotor Wim van den Brink was dit proefschrift niet geworden zoals het nu uiteindelijk voor u ligt. Nadat hij onbaatzuchtig ingesprongen was in de begeleiding van mijn dissertatie, heeft hij er ook een duidelijk stempel op gedrukt. Zijn vermogen om ingewikkelde concepten te beschouwen en tot hun essentie terug te brengen waren voor mij heel behulpzaam. De accenten die hij zette waren zeer overtuigend en altijd to the point.

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Curriculum Vitae

Theo Ingenhoven, geboren op 25 maart 1956 te Tilburg, volgde het Atheneum B op het Sint Paulus Lyceum te Tilburg. Hij studeerde Geneeskunde aan de Rijksuniversiteit Utrecht, waar hij in 1980 cum laude zijn doctoraal examen behaalde. Na zijn artsexamen in 1982 en een korte werkzame periode als arts op de eerste hulp van het Wilhelmina Gasthuis in Amsterdam, voltooide hij in 1985 de huisartsenopleiding in Ophemert en Utrecht. Daarna was hij werkzaam als arts binnen de crisisdienst van de Riagg Delft-Westland en de detox van het Centrum Maliebaan te Utrecht. Van 1987 tot 1992 werd hij opgeleid tot psychiater binnen het Haags-Leids opleidingsconsortium (opleider Prof.dr. W.A. Nolen) met een keuzestage psychotherapie in de Jelgersmakliniek in Oegstgeest (Prof.dr. R.E. Abraham). Hij volgde de cursus Dialectisch Gedragstherapie bij Marsha Linehan in Seattle, en voltooide de opleiding tot groepspsychotherapeut (NVGP).

Als psychiater startte hij zijn werkzaamheden binnen de klinische psychotherapie voor persoonlijkheidsstoornissen, aanvankelijk binnen de afdeling De Juttenhof van de H.C. Rümkegroep (later Altrecht) en in 1995 binnen de afdeling De Zwaluw van Zon & Schild. Sinds 2001 is hij hoofd van het Bovenregionale Centrum Specialistisch Psychotherapie voor Persoonlijkheidsstoornissen (afdelingen De Zwaluw en De Enk), en sinds 2008 van het Centrum voor Persoonlijkheidsstoornissen van de Symfora groep te Amersfoort.

Andere werkzaamheden als psychiater omvatten onder andere: redactie van het Intern Wetenschappelijk Magazine Zon & Schild (later Symforum), en van de psycho-educatie website www.moeilijkemensen.nl. Hij maakte deel uit van het bestuur van de Developmental Profile Foundation, de Stichting Klinische Psychotherapie en de Stichting Informatie Persoonlijkheidsstoornissen (STiP). Verder is hij (mede) voorzitter van de landelijke Psychiater Expertgroep Persoonlijkheidsstoornissen (PePs). Regelmatig is hij betrokken bij het onderwijs aan psychiaters in opleiding en GZ-psychologen in opleiding (Centrale RINO-groep), en geeft hij cursussen en lezingen op studiedagen en op binnen- en buitenlandse congressen. Tussen 2002 en 2008 was hij nauw betrokken bij de voorbereiding en de totstandkoming van de landelijke Multidisciplinaire Richtlijn Persoonlijkheidsstoornissen. In het verlengde daarvan voltooide hij recent een meta-analyse naar de effectiviteit van psychofarmaca bij mensen met een ernstige persoonlijkheidsstoornis.

Theo Ingenhoven is gehuwd en heeft twee dochters.