EXPLANATORY PSYCHODIAGNOSIS

THE INFLUENCE OF THE COMPLEXITY OF CLIENT PROBLEMS

by

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ABSTRACT

Generating explanatory hypotheses about the development of a client's problems is a vital part of the psychodiagnostic process. However, it is only rarely performed in praxis and its quality has proved to be rather low. This study examines the effect of case complexity on content and quality of explanatory diagnosis and on some aspects of treatment planning. Fifty psychotherapists generated explanatory hypotheses on two vignettes – one of them describing a complex case and the other one simple client problems. These hypotheses were then coded by means of a Manual for Content and Quality Coding of Psychotherapeutic Hypotheses. The results show an effect of case complexity on number and quality of the generated explanations. Explanations for simple client problems are of higher overall quality and contain more modifiable factors.

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1 INTRODUCTION

The process of psychodiagnosis is aimed at identification and comprehension of the client's problem and giving a treatment recommendation. From a theoretical point of view, it involves the following steps: After (1) intake and first problem statement, the process usually proceeds with (2) gathering information about the client and his or her problems (searching of files and first interview). From this information the therapist (3) deduces a comprehensive hypothesis involving possible reasons for the development and maintenance of the client's difficulties and corresponding specific predictions. After (4) choosing appropriate test-instruments, (5) these predictions are tested. Based on the results of these tests the therapist (6) forms an integral account of the client's case with a diagnosis and a treatment recommendation (de Ruiter & Hildebrand, 2006). The explanatory analysis of the client's difficulties, i.e. steps 3 - 5, is thus a vital aspect and forms the heart of each psychodiagnostic process (Eells, 2007).

Research conducted in this area of explanatory psychodiagnostics (Eells, Kendjelic & Lucas 1998; Garb, 1998; Groenier, Pieters, Hulshof, Wilhelm & Witteman, 2008; Haynes, Huland Spain & Oliveira, 1993; Kuyken, Fothergill, Musa & Chadwick, 2005; Witteman, Harries, Bekker & van Aarle, 2007) shows that therapists often do not perform those steps which comprise the explanatory analysis. They do not even find them important, with the consequence that treatment recommendations are often based on easily available diagnostic patterns instead of extensive cognitive processing (Hillerbrand & Claiborn, 1990).

Furthermore, the explanatory analysis of client's difficulties serves additional purposes in psychotherapy; it can for instance help reconsidering and modifying treatment decisions (De Bruyn, Ruijssenaars, Pameijer & van Aarle, 2003).

The present introductory section is concerned with this topical area of explanatory analysis, the reasons for the undervaluation mentioned and its effects on psychotherapeutic treatment. It starts with a definition of the relevant terms and subsequently gives a brief overview of the role of explanation in psychotherapy. This is succeeded by a review of research results concerning explanations and hypothesis generation in psychotherapeutic practice. Finally, the object of research of the present study is formulated more precisely.

1.1 Definition of relevant terms

The term "hypothesis" describes a supposition that aims at explaining the observed phenomenon, without the need for already established proof for this explanation (Großes Universal Lexikon, 1986). It is thus an explanation without a demand for proof. In psychotherapy a hypothesis is "a (yet to be tested) supposition about a particular factor or a combination of factors that may totally or partly explain a problem." (Vermande, 1995, p. 14).

As regards the term “explanation”, in the philosophy of science the assumption predominates that the explanans (that which explains) of an explanation names all or a subset of the causes of an explanandum (the thing to be explained) (Hempel & Oppenheim, 1948).

In the present study, “explaining” a problem has to be understood as a broad term for bringing up reasons, factors, causes, mechanisms, conditions, maintaining or triggering variables or other relevant factors for it (Vermande, 1995). It is assumed that the number of explanatory factors and the explanatory relations between those factors define the quality of an explanation’s form. Accordingly, in the coding manual used for this study (reproduced as Appendix B), the integration of several direct and indirect factors in a complex and coherent explanatory model is regarded to be the optimal form of an explanatory hypothesis.

1.2 The role of explanation in psychotherapy

Hypothesis generation plays an important role in psychodiagnostics (Eells, 2007). Several authors (e.g. De Bruyn et al., 2003; Eells 2007; Haynes et al., 1993) state a description of mechanisms or processes that cause and maintain the client’s problems is vital in every therapeutic process. The success of a psychotherapeutic intervention depends in large part on the accuracy of the assumed explanation for the client’s problems.

What are the reasons for the predominant role of explanations in psychotherapy? First, clinical interventions often modify presumed causes of the client’s difficulties (Haynes et al., 1993). Murdock and Fremont (1989) investigated the relation between therapists’ explanations for clients’ problems and subsequent treatment assignments. Ratings of duration of the presenting problem and attributions of stability of cause made by the participating therapists best predicted treatment decisions (Murdock & Fremont, 1989).

Explanatory hypotheses do not only influence initial treatment decisions, they can also help to reassess and modify treatment decisions during the psychotherapeutic process. Particularly when symptoms turn out to be persevering and former therapy-efforts have not succeeded, more causal factors have to be identified to carry out a more thorough analysis (De Bruyn et al., 2003).

Another situation where an explanation of the problem plays a crucial role is when there are several alternative treatment possibilities for one problem. An explanation can help to select the most promising treatment (De Bruyn et al., 2003, Haynes et al., 1993).

Furthermore, many clients want to know “the explanation” for their problems (De Bruyn et al., 2003). In this regard, finding an explanation has a positive influence on the therapeutic relationship between therapist and client by increasing the therapist’s confidence and empathy on the one hand and the client’s confidence in the therapist’s competence on the other hand (Eells, Lombart, Kendjelic, Turner & Lucas, 2005).

Conducting an explanatory analysis of the client's difficulties can thus generally help to increase awareness of the therapist and the client of what motivates treatment planning and thereby to make the diagnostic process transparent. Additionally it should provide the therapist with an indication of crucial factors for effective treatment (Haynes et al., 1993).

1.3 Explanations and hypothesis generation in psychotherapeutic practice

However, some research results (Eells et al., 1998; Groenier et al., 2008; Kuyken et al., 2005) reveal that hypotheses about probable causes for client's difficulties are unusual or poorly realized in psychotherapeutic practice. Therapists do not seem to judge hypothesis generation and finding explanations for the client's difficulties to be important.

Eells et al. developed a method called content coding manual (received in personal communication, for a description of this coding method, see Eells et al., 2005). They coded the case formulations of 56 intake evaluations and analysed them. Case formulation is a method employed by the psychotherapist to organize information about the client and serves as a blueprint guiding treatment (Sim, Gwee & Bateman, 2005). Besides descriptive information about symptoms or health history and diagnostic information, it involves inferred information (Eells, 2007). In their analysis, Eells et al. (1998) found out, that therapists tend to primarily summarise descriptive information rather than to integrate it into a hypothesis about causes or maintaining influences of a client's problems, the so-called underlying mechanism.

A study carried out in 2008 by Groenier et al. aims at rendering the diagnostic activities of clinical psychologists transparent. A crucial finding of this study is that the importance of de Bruyn et al.'s (2003) diagnostic categories is judged dissimilar by therapists. Groenier et al. (2008) distinguish six decision steps, based on de Bruyn's (2003) diagnostic cycle:

- *registration* (and deciding whether the diagnostic process is to be continued)
- *complaint analysis* (resulting in a structured survey of the client's problems)
- *problem analysis* (i.e. the analysis of the client's problems and assessment of their severity)
- *explanation analysis* (including the generation of hypotheses, the deduction of predictions, the testing of these predictions and the development of an integral account of the client's situation)
- *indication analysis* (i.e. the consideration of possible interventions)
- *diagnostic scenario* (which aims at proposing a treatment plan).

Activities of the *complaint analysis* type would be performed in practice by the majority of psychologists, while *problem analysis* and *explanation analysis* are judged to be least important and are least probable to be carried out in clinical practice.

The structure or complexity of a vignette is of particular importance in this context. Hillerbrand and Claiborn (1990) found a connection between problem structure and cognitive processing of psychologists in their study about the reasoning of expert and novice therapists engaged in a diagnostic task. Participants were asked to generate diagnoses and explanations on three cases, whose structure was manipulated by varying the extent to which diagnostic information conformed to a particular diagnostic pattern. Results show, that significantly more inferences were made in reasoning in the less complex cases. As thus diagnostic information becomes less consistent with existing and easily available diagnostic patterns, the cognitive processing of the study participants becomes less efficient.

Groenier et al. (2008) confirm these findings concerning therapists' neglect of explaining clients' problems and support Lombrozo's (2006) assumption of the role of pattern subsumption. They argue that therapists do not engage in causal reasoning about explanations but activate existing schemas of disorders with their corresponding diagnostic explanations. Furthermore they may use pattern recognition and compare the client's complaints with these implicit patterns. Thereby explicit reasoning and hypothesis-testing apparently becomes superfluous. Additionally, once an appropriate explanation has been retrieved, therapists are unlikely to consider alternative explanations, because they are prone to a phenomenon called confirmatory bias (Garb, 1998). It consists in a tendency to confirm, rather than refute, hypotheses.

Vermande (1995) also emphasises the role of problem structure, that is to say, complexity of the vignette at hand. In her study carried out with 86 therapists, she assesses the quality of psychotherapeutic hypotheses and finds differences between the hypotheses produced for simple cases and the hypotheses for complex cases: complex cases elicit significantly more hypotheses than simple cases and the explanations offered differ in structure and form, too. Furthermore, the variables "degree of specificity" and "possibility of operationalisation" of the explanatory hypothesis appear to be affected by the complexity of the case, viz. complex cases elicited less specific and less easily operationalised direct explanatory factors than simple cases in a study by Vermande, van den Bercken and De Bruyn (1996).

Case complexity or problem structure thus seems to be an important and promising influence on hypothesis generation in practice. On the basis of Eells et al.'s (2005) framework, Fothergill and Kuyken developed a rating scale (received in personal communication, for a description of this coding method, see Kuyken et al., 2005), involving the dimensions of *parsimony*, *coherence*, *meaningfulness*, *relevance* and *accuracy* to

establish the quality of cognitive-behavioural therapy case formulations. This rating scale is used in a study by Kuyken et al. (2005) to code case formulations produced by 115 mental health therapists on the basis of the same case description. While inter-rater agreement is relatively good for salient information such as relevant childhood data, core beliefs or compensatory strategies, it declines when more theory-driven inference is required, e.g. inferring dysfunctional assumptions. Only 44,2 % of all case formulations can be judged to be at least good enough. Above all, they score low on the dimensions parsimony, coherence and meaningfulness.

The criteria produced by Fothergill and Kuyken (2002) and Vermande et al. (1996) form important dimensions for the assessment of the quality of explanatory hypotheses and will – at least in part – be adopted for the current study. However, nothing is known until now about the influence of case complexity on the quality of psychotherapeutic hypotheses with respect to *clinical utility*. It is assumed that an explanation that contains variables whose modification would lead to a clinically significant change in a client's problem is of greater utility in the design of treatment programs (Haynes et al., 1993). This category is thus included in the manual used for the present study (see Appendix B) and consists of the subcategories *modifiability* and *positive treatment indicators*.

1.4 Research object of the present study

The present study was designed to further investigate the influence of case complexity on quality and content of hypothesis generation. Research on this topic may serve two goals: first, to provide feedback to psychotherapists that could aid in training, and second – perhaps even more importantly -– to protect consumers by ensuring that a thorough understanding of the client is attempted and thus an appropriate treatment plan developed (cf. Eells, Kendjelic & Lucas, 1998). In this regard the present study aimed at providing more information about hypothesis generation in psychotherapeutic practice and the effect of case complexity.

For this purpose, psychotherapists were asked to generate explanatory hypotheses on a complex and on a simpler case. These hypotheses were then coded by means of a Manual for Content and Quality Coding of Psychotherapeutic Hypotheses (see Appendix B), which was based on the above-mentioned frameworks by Eells et al. (1998), Kuyken and Fothergill (2002) and Vermande (1995).

The two cases will be distinguished as follows: The simple case (referred to as Casus 1 in the annexed questionnaire) will be called *Case Simple*, while the complex case (Casus 2 in the annexed questionnaire) will be called *Case Complex*. The client described in *Case Simple* will be called *Client Simple*, while the client described in *Case Complex* will be called *Client Complex*. The research was meant to test the following composite hypothesis: If the

case is relatively simple, then the therapist will be able to easily access related information in memory by activating existing schemas (Groenier et al., 2008; Hillerbrand & Claiborn, 1990). Elaborated theories can be simply retrieved for "familiar" types of problems. Accordingly it was expected for *Case Simple* that all in all fewer, but more elaborate hypotheses of higher quality are put forward. If, on the contrary, the case is relatively complex, then the therapist will presumably not be able to activate existing schemas, but has to engage in explicit reasoning (cf. Groenier et al., 2008). Accordingly it was assumed that *Case Complex* will elicit simpler, but in total more hypotheses than *Case Simple*.

In detail it was assumed that the hypotheses put forward for *Case Simple*

1. score higher in overall quality, i.e. the sum of all apart quality categories
2. are less in total number
3. are more often modifiable, i.e. they can – directly or indirectly - be influenced by the client
4. are more elaborate in form, i.e. have more direct and indirect factors which are more often integrated in a coherent explanatory model
5. have more specifications of explanatory relations
6. are more relevant, i.e. bear an adequate relation to the information given in the case description
7. are more consistent, i.e. in principle they could actually be an explanation of the client's problem
8. have more positive treatment indicators

than those of *Case Complex*.

Concerning the content of the hypotheses generated and the treatment proposals made, no initial hypotheses were assumed, but the following open research questions were being investigated:

1. Does the complexity of a client's problems influence the content of an explanatory hypothesis? If so, which differences can be observed between the simple and the complex case?
2. Does the complexity of a client's problems influence the following aspects of treatment planning:
   - treatment form
   - inpatient or outpatient treatment setting
   - individual or group therapy
   - treatment duration
   - willingness to treat the respective client.

2 METHOD

2.1 Participants and procedure

Data were collected from 50 psychologists. The participants' mean age was 44 (*SD* = 12.1), and 64% were female. Their mean work experience was 16 years (*SD* = 10.59) and they had on average 18 hours (*SD* = 7.72) of direct patient contact per week. They were all mental health care psychologists – three of them in training. The majority worked in the mental health care sector (48%) and was cognitive-behaviourally (38%) or eclectically (28%) oriented.

Table 1

Participants characteristics

Participants features		**freq**	**%**
Gender	female	32	64
	male	17	34
	not reported	1	2
Age	20-29	6	12
	30-39	12	24
	40-49	13	26
	50-59	12	24
	60 or older	5	10
	not reported	2	4
Therapeutic orientation	behavioristic	1	2
	cognitive	8	16
	cognitive-behavioristic	19	38
	system theoretic	1	2
	psychoanalytic	5	10
	eclectic	14	28
	humanistic	0	
	solution oriented	2	4
Work environment	primary care	15	30
	forensic	4	8
	mental health care	24	48
	general/acad. hospital	1	2
	psychiatric hospital	5	10
	eldercare	1	2

	rehabilitation	0	
Work experience	1-10 years	19	38
	11-20 years	18	36
	21-30 years	8	16
	more than 30 years	5	10
Patient contact hours	1-9	5	10
	10-19	21	42
	20-29	20	40
	30 and more	4	8

Most of the participants were recruited per e-mail by the mental health care division of the NIP (Dutch Institute of Psychologists), others answered a written request that was displayed in several organisations of mental health care in the Netherlands province of Overijssel. They were randomly assigned to one of the two questionnaire versions. Most of the participants filled in an online-questionnaire; some of them received it by mail and sent it back after completion.

2.2 Materials

2.2.1 Case Descriptions

In a pilot study, five authentic case descriptions, which were made available by three experts, were presented to nine German expert counsellors. They made diagnosis and treatment proposals and rated the coherence of the case descriptions and the complexity of the client problems described. The simplest and most complex vignette thus obtained were later used in the actual questionnaire and refined according to the expert's feedback.

The case descriptions were rewritten in standard psychological report format with the sections: intake situation, client complaint, psychiatric, somatic and family history, current social context and psychiatric assessment. Concrete classifications of disorders are not mentioned in the case descriptions.

Case Simple concerns a 44-year old woman with an ordinary social background and slight difficulties in her family history and in her current domestic situation. She suffers from light depressive symptoms and shows panic symptoms during car driving. The *Client Complex*, instead, is a 42-year old woman with a previous history of several traumatising experiences and relational problems with different partners. She also shows depressive symptoms, but mainly suffers from recurrent states of dissociation. The case descriptions are presented in their entirety in Appendix A (as part of the questionnaire).

Both descriptions were assimilated with regard to total number of words and total number of words per section. *Case Simple* comprises a total of 1178 words and *Case Complex* consists of 1334 words.

2.2.2 Questionnaire

The questionnaire (see Appendix A) was tested in a pilot study just like the case descriptions, with regard to length, clarity and language use. The cases were counter-balanced: 22 participants received Questionnaire 1, which starts with the simple case, and 28 filled in Questionnaire 2, which begins with the complex case.

The questionnaire starts with a description of the study purpose and instructions for the completion. Then the two case descriptions are presented, each followed by two open and nine multiple-choice-questions. After each case presentation, participants are asked to choose one out of nine DSM IV-classifications and to generate one or more hypotheses on how the client problems came about. Further questions concern a treatment proposal about length, setting (inpatient/outpatient, individual/group), type of treatment, first goal to start the treatment with and whether the participant would want to treat the client or not. All participants thus evaluated both cases. In the next step, participants were asked to rate the complexity of the client's problems and their own familiarity with the complex of problems described in each vignette.

In the final part of the questionnaire, participants are asked for personal background information and some information concerning their training, clinical orientation, work experience and practice. It ends with a statement thanking them for their cooperation and the possibility to leave an e-mail-address to receive information on the results.

2.2.3 Coding Manual

For the analysis of participants' responses, a Manual for Content and Quality Coding of Psychotherapeutic Hypotheses was developed (see Appendix B). It consists of two main sections,

- "Content Coding", which gives instructions for the segmentation of text into Content Units and guides the processing of these units for statistical analysis. This section is an extension of section C. "Formulation/ Inferred Information" of the Case Formulation Content Coding Method by Eells et al. (2005)
- "Quality coding", which introduces a procedure for segmenting text into Quality Units and contains criteria for assessing these units. For this section, the scale for "Rating the Quality of Cognitive-Behavioural Case Formulations" by Fothergill and Kuyken (2002) was refined and amended by some of Vermande's (1995) "Characteristics of good psychodiagnostic hypotheses".

The Content Coding section consists of the following 10 main categories:

- *Problems in Global Psychological, Social, or Occupational Functioning*
- *Predisposing experiences, events, traumas, stressors inferred as explanatory* (two subcategories)
- *Inferred mechanism: Psychological* (six subcategories)
- *Inferred mechanism: Biological*
- *Inferred mechanism: Social or Cultural* (three subcategories)
- *Other precipitating or current stressors and/or events*
- *Positive treatment indicators* (six subcategories)
- *Identification of potential therapy-interfering factors*
- *Symptom identification and classification inferred from vignette* (two subcategories)
- *Repetition of information given in the vignette*.

The Quality Coding section consists of three main categories:

- *Form* (five subcategories),
- *Logical properties: Consistency, specificity, relevance and testability* (five-point-scale)
- *Clinical Utility* (two subcategories).

2.3 Dependent Measures

Dependent measures were (a) the number of hypotheses generated for each case description, (b) the frequency of the different content categories and (c) the frequency of the quality categories.

To examine the influence of case complexity on DSM IV-classification and treatment proposals, the frequencies of DSM IV-classifications and several subaspects of the treatment proposals obtained for each case description were analysed.

2.4 Analysis

Data analysis was conducted in four main steps:

1. a. Segmentation of the text into Content Units
   b Content coding
2. a. Segmentation of the text into Quality Units
   b. Quality coding.

For each step, two raters worked independently. Agreement was defined as both raters assigning the same code to a content or quality unit.

Reliability was assessed by the method of Strijbos, Martens, Prins & Jochems (2006). Segmentation and coding are separated and reliability estimates are calculated for each step, to make sure that the segmentation is not influenced by the content of the coding categories (Strijbos et al., 2006).

2.4.1 Segmentation

Both raters received the Manual for Content and Quality Coding of Psychotherapeutic Hypotheses (see Appendix B) in written form, with detailed instructions for segmentation in Content and Quality Units. The segmentation in Content and Quality Units was carried out independently by both raters for the first 12 sequences of both cases. One sequence contained the hypotheses generated by one participant for one case description. The data thus consisted of 100 sequences, 50 per case. Afterwards the proportion agreement for the number of Content Units and Quality Units identified was determined from the perspective of each rater.

The percentage agreement proved to range from 77 – 94% for the Content Units of *Case Simple* and 72 – 93% for the Content Units of *Case Complex*. For the segmentation into Quality Units it ranged from 72 – 83% for *Case Simple* and 79 – 93% for *Case Complex*. Inter-rater agreement proved thus to be at least substantial for both cases and both segmentations.

The segmentation of the remaining 76 sequences was subsequently performed by one rater only.

2.4.2 Coding

Agreement about content and quality coding was not achieved as easily as for segmentation. Content and Quality coding was carried out in several phases, with reliability measurements after each phase (i.e. for the sequences 13 – 36 of the content coding and sequences 1 – 36 of the quality coding).

Table 2

Kappa results for content coding of sequences 13 – 36 of both cases

Content	**Sequences**	**Kappa**	
		Case Simple	**Case Complex**
phase 1	13 - 24	0.45	0.39
phase 2	25 – 30	0.58	0.65
phase 3	31 - 36	0.60	0.57

Sequences 1 –12 of both cases were content coded by both raters, too, but on the basis of divergent preliminary segmentations. A reliability coefficient for those sequences could therefore not be calculated. Disagreements concerning different codings of this section were resolved in a meeting. Similarly, the content codings of phases 1 and 2 for both cases were discussed and disagreements resolved.

Table 3

Kappa results for quality coding categories of the sequences 1 – 36 of both cases

Sequences		**Phase 1**	**Phase 2**	**Phase 3**	**Phase 4**
		1-12	**13-24**	**25-36**	**25-36 recoding *Form***
Kappa Case Simple	Form	0.56	0.66	0.52	0.74
	Relation	0.51	0.67	0.89	
	Relevance	0.48	0.91	1.00	
	Specificity	0.61	0.65	0.53	
	Consistency	0.52	0.25	0.82	
	Testability	0.42	0.50	0.46	
	Quality of logical properties	0.31	0.35	0.38	
	Modifiability	0.40	0.65	0.71	
	Positive treatment indicators	0.57	0.83	1.00	
Kappa Case Complex	Form	0.33	0.41	0.58	0.72
	Relation	0.52	0.68	0.62	
	Relevance	0.48	0.79	0.82	
	Specificity	0.49	0.57	0.56	
	Consistency	0.50	0.38	0.68	
	Testability	0.50	0.46	0.76	
	Quality of logical properties	0.36	0.27	0.48	
	Modifiability	0.56	0.25	0.70	
	Positive treatment indicators	0.61	0.70	0.76	

Differences in the quality codings of phases 1 and 2 were discussed and resolved in two consensus meetings. Assuming *Form* to be a vital category for assessing the quality of a hypothesis, sequences 25-39 were recoded for this category after the last meeting.

These kappa results appeared insufficient for the categories of *specificity*, *testability* and *quality of the logical properties*. These were therefore excluded from statistical analysis.

For all other categories – content as well as quality – agreement was judged to be sufficient for statistical analysis.

2.4.3 Statistical evaluation

In order to verify the effect of the manipulation of the independent variable *complexity*, a manipulation check was carried out and scores for the variable *familiarity* were compared for both cases, using Pearson correlation and the paired-samples t-test.

For the content analysis of the data, the frequencies and percentages of the different categories and subcategories were calculated and compared, using Chi-Square-Tests.

In order to check for the effect of the independent variable *complexity* on the quality of the hypotheses provided, a paired samples t-test was performed on the *overall quality* and Chi-Square-tests on those dependent variables that obtained a substantial reliability score:

- *form*
- *relation*
- *relevance*
- *consistency*
- *modifiability*
- *positive treatment indicators.*

The *total numbers of hypotheses* generated for each case were compared using a paired samples t-test.

Possible effects of the variable *complexity* on the suggested treatment setting, form and duration were shown by comparing the corresponding frequencies and percentages, using Chi-Square. Furthermore the frequencies obtained for the question whether the participants are willing to treat the clients themselves were compared using Chi-Square again.

3 RESULTS

The results of the statistical tests performed are reported on below, beginning with those for the manipulation check. Subsequently the frequencies of the content analysis are summarized and then the results of the quality coding analysis are shown. Finally the findings concerning the comparison of the total number of hypotheses, possible differences in classifications and treatment proposals for both cases are reported.

3.1 Manipulation check

The rating scales for the independent variables *complexity* and *familiarity* range from 1 to 10 (1 = totally simple/unfamiliar and 10 = totally complex/familiar).

Two participants evaluate the *complexity* only for *Case Simple* (with 3 and 5 points), and another two evaluate *Case Complex* only one point more complex than *Case Simple*. The remaining 46 participants rate the *complexity* of *Case Simple* between 3 and 7 points, while they rate *Case Complex* two to eight points higher. The mean *complexity* of *Case Simple* is 3.36 (*SD* = 1.56). The mean *complexity* of *Case Complex* is 8.06 (*SD* = 1.02).

The results for the manipulation check of the variable *familiarity* are not as clear-cut as those for *complexity*. Of the ratings for *familiarity* with the problems described, three are limited to *Case Simple* (10 and twice 8 points), lacking counterparts for *Case Complex*. One participant doesn't assess his *familiarity* with the problems at all. Six participants are equally familiar with the problems of both case descriptions and five participants are more familiar with the problems of the client of *Case Complex*. The remaining 40 participants indicate more *familiarity* with the description of *Case Simple*. The mean *familiarity* with *Case Simple* is 7.65 (*SD* = 2.03). The mean *familiarity* with the problems of *Case Complex* is 4.78 (*SD* = 2.39).

The differences between the ratings for *complexity* ($t(47) = -17.900$, $p < .001$) and those for *familiarity* ($t(45) = 5.665$, $p < .001$) are significant.

Furthermore there is a significant negative relationship between the *complexity* of and *familiarity* with the description of *Case Complex* ($r(43) = -0.379$, $p = 0.01$). The correlation between the variables *complexity* and *familiarity* for *Case Simple* is not statistically significant.

3.2 Content Analysis

Results are only reported for those categories and subcategories employed at least once in coding.

Table 4

Frequencies and percentages for major content coding categories

Content Coding Major categories	**Case Simple**		**Case Complex**		**total**
	freq	**%**	**freq**	**%**	
1. Problems in global functioning	1	0.26	4	0.75	5
2. Predisposing experiences, events, traumas, stressors without time reference	18	4.63	122	22.93	140
3 Inferred mechanism: psychological (in general)	112	28.79	145	27.26	257
4 Inferred mechanism: biological/physical	6	1.54	7	1.32	13
5 Inferred mechanism: social or cultural	2	0.51	4	0.75	6
6 Other precipitating or current stressors and/or events	82	21.08	76	14.29	158
7 Positive treatment indicators	7	1.80	11	2.07	18
9 Symptom identification and classification inferred from vignette	98	25.19	124	23.31	222
10 Repetition of information given in the vignette	63	16.20	39	7.33	102
total	**389**	**100**	**564**	**100**	967

There is a significant association between case complexity and frequency of content coding categories ($\chi^2(8) = 73.41$, $p = 0.001$). *Case Complex* elicits more Content Units that are assigned to category *2 Predisposing experiences, events, traumas, stressors without time reference* and less codes of the categories *6 Other precipitating or current stressors and/or events* and *10 Repetition of information given in the vignette.*

For both cases, the majority of the codes is assigned to category *3 Inferred mechanism: psychological* with its subcategories. The second most common major category for both cases is category *9 Symptom identification and classification inferred from vignette.*

3.3 Quality Analysis

Case Simple elicited a total number of 86 Quality Units, whereof 10 are not coded because they have no explanatory content. A total of 135 Quality Units was segmented for *Case Complex*. Of these, 27 are not codable for the same reason, leaving a total number of 108 hypotheses that are coded for *Case Complex*.

Table 5

Frequencies and percentages for quality coding subcategories

Quality coding subcategories		Case simple		Case complex	
		freq	**%**	**freq**	**%**
Form	Simple hypothesis (1 point)	19	25.00	30	27.78
	Composite hypothesis (2 points)	6	7.89	12	11,11
	Explanation chain (3 points)	13	17.10	20	18.52
	Coherent model (4 points)	38	50.00	46	42.59
	Total	76	100	108	100
Relation	no relation (0 points)	46	53.49	91	84.26
	at least one relation (1 point)	30	39.50	17	15.74
	Total	76	100	108	100
Relevance	not relevant (0 points)	16	21.05	39	36.11
	relevant (1 point)	60	78.95	69	63.89
	Total	76	100	108	100
Consistency	not consistent (0 points)	12	15.79	15	13.89
	consistent (1 point)	64	84.21	93	86.11
	Total	76	100	108	100
Modifiability	not modifiable (0 points)	11	14.47	29	26.85
	indirectly modifiable (1 point)	15	19.74	44	40.74
	directly modifiable (2points)	50	65.79	35	32.40
	Total	76	100	108	100
Treatment Indicators	no positive treatment indicators (0 points)	71	93.42	102	94.44
	one or two positive treatment indicators (1 point)	4	5.26	6	5.56
	three or more positive treatment indicators (2 points)	1	1.32	0	
	Total	76	100	108	100

Subcategories *relation*, *relevance* and *consistency* can be coded either 1 or 0 (corresponding property detected or not). *Modifiability* is coded 0 (no modifiable factor in the hypothesis in question), 1 (indirectly modifiable) or 2 (directly modifiable). For the subcategory *form*, there are four different codes: 1 = simple hypothesis, 2 = composite hypothesis, 3 = explanation chain, 4 = coherent model.

Most hypotheses are expressed as coherent models (4 points), for *Case Simple* (50%) more often than for *Case Complex* (42,6%). The difference between the scores for both cases for variable *form* is not significant.

For the majority of the hypotheses of both cases no relations are specified. While 39.5% of the hypotheses of *Case Simple* contain at least one specified explanatory mechanism, only 15.74% of the hypotheses of *Case Complex* do. A Chi Square analysis reveals that this is a significant difference ($X^2(1) = 13.211$, $p < 0.001$).

Most hypotheses elicited for both cases turn out to be relevant (1 point), which is 78.95% for *Case Simple* and 63.89% for *Case Complex*. In order to analyse the difference between these scores, a Chi Square-test is performed and the result turns out to be significant ($X^2(1) = 4.827$, $p = 0.028$). Thus, *Case Simple* triggers significantly more relevant hypotheses than *Case Complex*.

The majority of the hypotheses obtained are consistent (84.21% for *Case Simple* and 86.11% for *Case Complex*). The difference between both cases for the variable *consistency* is not significant.

With regard to *modifiability*, the two cases differ in all three scores (0-2 points). Those differences are statistically significant ($X^2(2)= 20.042$, $p < 0.001$). Thus, hypotheses generated for *Case Simple* contain significantly more factors that are directly or indirectly modifiable, while *Case Complex* elicited more hypotheses that contain no modifiable factors at all.

The majority of the hypotheses obtained for both cases contains no *positive treatment indicators* at all. The difference between the cases is not statistically significant. There is no correlation between case complexity and number of positive treatment indicators.

The overall quality of a hypothesis is the sum of all subcategory ratings. The overall quality rating ranges thus from 1 – 11 points per hypothesis. The mean overall quality of the hypotheses of *Case Simple* is 6.54 ($SD = 2.11$), the mean overall quality for *Case Complex* is 5.55 ($SD = 2.19$). The difference between both means is tested using a paired samples t-test and is shown to be significant ($t(75) = 2.306$, $p = 0.024$). Case complexity has a significant influence on the overall quality of a hypothesis.

3.4 Total number of hypotheses

As mentioned in 3.3, some Quality Units were excluded from statistical analysis. Thus, for *Case Simple* a total of 76 hypotheses was counted and for *Case Complex* a total of 108 hypotheses. The participants generated more hypotheses for *Case Complex* (*mean* = 2.16, $SD = 1.346$) than for *Case Simple* (*mean* = 1.52, $SD = 1.035$). This difference is tested using a paired samples t-test and shown to be significant ($t(49) = 3.311$, $p = 0.002$). Thus, case complexity positively influences the number of elicited hypotheses.

3.5 Effects on classification and treatment proposals

The most frequently chosen classifications for *Client Simple* are *panic disorder* (40%) and *specific phobia* (26%). For *Client Complex* the majority of participants choose *dissociative disorder in combination with a depressive episode* (28%).

As to the treatment proposals, results are: Proposals for *form of treatment* turn out to be different for both clients: The majority of participants vote for cognitive behavioural therapy (40.7%) for *Client Simple* and for trauma therapy (34.1%) for *Client Complex*. For *Client Complex*, 16 different forms of therapy (of a total of 18) are suggested, for *Client Simple* only 13 of the 18 possible answers are chosen.

As regards *treatment setting*, the majority propose an outpatient setting for both clients, among them many more for *Client Simple* (98%) than for *Client Complex* (78%). This difference is statistically significant ($X^2(1) = 5.479$, $p = 0.019$).

Furthermore, the majority suggest an individual therapy for both clients (98% for *Client Simple* and 88% for *Client Complex*) instead of a group therapy. The difference between both cases is not significant.

Proposals concerning *treatment duration* (alternatives are *long*, *middle* and *short*) for both clients differ: the majority selects *short* (56%) for *Client Simple* and *long* (58%) for *Client Complex*. The differences for treatment duration between the two cases are significant ($X^2(2) = 54.739$, $p < 0.001$).

Only 28% of the subjects would treat *Client Complex* themselves, in contrast to 78% that are willing to treat *Client Simple*. Again, this difference is statistically significant ($X^2(1) = 24.064$, $p < 0.001$).

4 DISCUSSION

The aim of the present study was to investigate the effect of case complexity on content and quality of explanatory hypotheses. The results of the quality analysis show that case complexity has significant influence on a number of the quality features of explanatory hypotheses:

The *overall quality* of a psychotherapeutic hypothesis depends on the complexity of the client problems. Therapists' explanations for the problems described in *Case Simple* are of higher quality than those generated for *Case Complex* (hypothesis 1 confirmed).

For the simple case fewer explanations are given than for the complex case (hypothesis 2 confirmed).

Factors adduced for the problems of *Client Simple* are more often *modifiable* than those given for the difficulties of *Client Complex (*hypothesis 3 confirmed).

The *form* of a hypothesis is not influenced by case complexity, i.e. the hypotheses generated for Case Simple are not more elaborate than those of Case Complex (hypothesis 4 rejected).

Hypotheses generated on the simple case bear more specifications of explanatory *relations* (hypothesis 5 confirmed).

The simple case triggers hypotheses of higher *relevance* than the complex case (hypothesis 6 confirmed).

The *consistency* of a hypothesis does not depend on case complexity (hypothesis 7 rejected).

The number of *positive treatment indicators* mentioned in an explanatory hypothesis is not influenced by case complexity (hypothesis 8 rejected).

As regards the *complexity* of both cases and the *familiarity* of the participants with the problems they imply, the main results can be summarised as follows: *Case Complex* is perceived to be significantly more complex than *Case Simple.* Furthermore the participants are more familiar with the problems of *Client Simple*. Moreover, participants who are more familiar with the problems of *Case Complex* rate them as less complex than participants who are not so familiar with the problems. However, this relation cannot be found in the results for *Case Simple*.

The research questions are answered as follows:

1. Does the complexity of a client's problems have influence on the content of an explanatory hypothesis? If so, which differences can be observed between the simple and the complex case?

The main results concerning the content analysis are that *Case Complex* elicits more explanations that refer to *predisposing experiences, traumas, etc*. of the client, while the hypotheses for *Case Simple* comprise more clues to *precipitating or current*

stressors and/or events that are not mentioned in the other categories. Furthermore, *Case Simple* contains more *repetitions of case information*.

2. Does the complexity of a client's problems affect the following aspects of treatment planning:

- *treatment form*: not statistically tested
- *inpatient or outpatient treatment setting*: Yes, more participants propose an outpatient treatment setting for *Client Simple* than for *Client Complex*.
- *individual or group therapy*: No
- *treatment duration*: Yes, for *Client Complex* a longer duration of treatment is thought suitable by most participants.
- *willingness to treat the respective client*: Yes, more participants are willing to treat *Client Simple* themselves.

4.1 Discussion of the results

4.1.1 Independent variables *complexity* and *familiarity*

The correlation of the variables *complexity* and *familiarity* yield different results for both cases. A possible explanation could be that *Case Simple* is actually so simple that *familiarity* with the client problems cannot further reduce the score for *complexity*. *Case Complex* on the other hand is so complex that only *familiarity* with the problems described can reduce that *complexity* slightly. However, even after this reduction of *complexity* it is still deemed much more complex than *Case Simple*. It may be assumed that actually the variable *complexity* has been manipulated just as was intended.

4.1.2 Quality variables

The majority of all hypotheses are considered to be consistent. This finding is contrary to the results of Kuyken et al. (2005) for this variable. A finding of their study is, that mental health therapists score particularly low on the dimension *coherence* (which is considered to be roughly the same as *consistency*). It appears that the coding instructions for *coherence* or *consistency* are more rigid in that study than in the present study. Kuyken et al. (2005) expect the information given by the therapist to be neither too verbose nor too brief. Furthermore it has to be mentioned in the correct section of the formulation and relevant childhood data and the compensatory strategies should be based on the data whilst the core beliefs and conditionals assumptions should be inferences based on the data. In the current study, the *consistency* of an explanatory hypothesis is assumed to be sufficient, if in principle it could actually be an explanation of the client's problem, i.e. it must not be contradictory, circular or only a restatement of the problem.

The differences in the operationalisation of the variable *coherence/consistency* provide at the same time an indication of a general challenge in this area: the adequate operationalisation of intrinsically vague variables such as *coherence*, *parsimony* or *specificity*. This is also reflected in the results of the reliability measurements of some of the quality variables in this study: even after two extensive consensus meetings, no sufficient agreement concerning the variables *testability* and *specificity* could be achieved. Furthermore, unlike Vermande's (1995) results, the hypotheses generated for both cases do not differ in *form*. Again, it appears that an operationalisation of this variable is difficult.

As regards the analysis of the overall quality, the results support the findings of Hillerbrand and Claiborn (1990) and Groenier et al. (2008): It can be assumed that for *Case Simple* existing diagnostic causal representations are easily available, because *Client Simple*'s problem (*panic disorder* and *specific phobia* are the most frequent classifications) is quite a common complaint in psychotherapeutic practice. Therapists are assumed to be familiar with usual reasons for the development of anxiety disorders and might administer the empirically supported treatment of anxiety disorders (Meichenbaum, 1996) in their everyday practice. Accordingly, existing schemata of disorders with their corresponding diagnostic explanations are easily available (Groenier et al., 2008). For the problem of *Client Complex* (the most frequently picked classification is *dissociative disorder in combination with a depressive episode*) on the other hand, a standard diagnostic explanation is not that easily retrievable and consequently the quality of the explanations offered declines.

4.1.3 Number of hypotheses

The results regarding the number of hypotheses for the two cases support the above-mentioned findings of Vermande (1995) that complex cases elicit significantly more hypotheses than simple cases. This finding again confirms Groenier et al.'s (2008) assumptions about the role of pattern subsumption in psychotherapeutic causal reasoning: To the extent that therapists use pattern recognition to generate explanations, explicit reasoning becomes superfluous, once an appropriate explanation is retrieved. The confirmatory bias mentioned in 1.3 might yield an additional explanation for this phenomenon: Therapists have a tendency to confirm an existing hypothesis and are thus unlikely to entertain alternative explanations (Garb, 1998). For *Case Simple* the existing explanation for *panic disorders* or *specific phobias* can easily be retrieved and confirmed, but for the *dissociative disorder in combination with a depressive episode* of *Client Complex* no "ready" theory can be retrieved and confirmed, and instead several different explanations are imaginable and are thus offered by the participants.

4.1.4 Content variables

Most codes for both cases came from the major category *Inferred mechanism: psychological* with its subcategories. This result does not – as expected - confirm the findings of Eells et al. (1998) and Groenier et al. (2008), that in their practice, therapists engage much more often in the identification and summary of their client's complaints than in hypothesis generation and testing. However, the percentage agreement for most of the content coding categories was insufficient; therefore the results have to be treated with a degree of circumspection.

Another reason for the large proportion of inferred psychological mechanisms can surely be found in the study design. In the study by Groenier et al. (2008) participants were asked to judge the necessity of different diagnostic activities and a second group of participants selected those diagnostic activities they intend to perform in diagnosing a client (with the response options listed in 1.3). In the present study, participants were explicitly asked to generate one or more hypotheses on how the client problems came about. An alternative, e.g. not to generate hypotheses but to summarise case information, was not offered. Considering this direct and explicit request it is noticeable that the content category coded second most frequently for both cases is *Symptom identification and classification inferred from vignette*. A considerable number of participants actually tend to repeat their classification proposal and/or infer other symptoms or problems instead of engaging in reasoning about a possible explanation, although they were explicitly asked do so.

In the present study, simplicity of client problems brings about more direct stressors as explanatory factors, while complexity yields explanations from the domain "traumata". Accordingly the hypotheses of *Case Simple* seem to primarily contain explanations concerning the maintenance of the disorder of *Client Simple* (e.g. "Fear of losing control, perpetuated by a vicious circle of physical sensations, dysfunctional thoughts and avoidance behaviour."), unlike the hypotheses generated for *Case Complex*. Participants tend to explain which factors and mechanisms initially brought the problems of *Client Complex* about (e.g. "Repressed violation, whereupon she left her body for the first time and the dissociative disorder took its origin."). Consequently *Case Simple* yields much more modifiable factors than *Case Complex*. The results for the quality variables *relation* and *relevance* are also in line with this tendency of the participants to explain the maintenance of *Client Simple*'s problems and the origin of *Client Complex*' problems. The explanation of actual maintaining mechanisms requires much more often the use of a specified explanatory *relation*, e.g. "Symptoms *are maintained* by avoidance behaviour, smoking and prescription drug use."

Statements concerning the original development of a disorder rarely yield such a specified explanatory mechanism (e.g. "For self-protection purposes during the rape, the client might have locked herself up by leaving her body.").

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4.1.5 Treatment proposals

Treatment proposals concerning *form of therapy* for both cases do not vary much, although not only the complexity, but also the disorders of both clients are quite different. Witteman and Koele (1999) found in their study about how psychotherapist treatment decisions come about that not (only) patient data and theoretical orientation explain treatment proposals, "but a schema or schemas that go with certain theoretical orientations, refined by practical experience" (Witteman & Koele, 1999, p. 110). Our data seems to confirm these findings.

Results with regard to treatment setting proposals (*inpatient/outpatient* and *individual/group therapy*) and *treatment duration* can be explained by the completely different disorders of both clients. The clear difference in *willingness to treat the respective client* might be due to the expected treatment time and effort. Furthermore, therapists might have a tendency not to treat a patient using a method they have not been trained in. Most participants are cognitive-behaviorally or eclectically oriented. The most frequent proposal for *form of treatment* for *Client Simple* is *cognitive-behavioral therapy* – thus the method the majority of participants has been trained in. The corresponding proposal for *Client Complex is trauma therapy*, a relatively infrequent orientation.

4.2 Limitations of the study

Just as Witteman and Koele (1999) already mentioned in the discussion of their findings, one limitation of this study design certainly lies in the way of presenting the case information to the participants. The use of "paper patients" might reduce validity, because the applicability to daily psychotherapeutic practice is uncertain. On the other hand, therapists do often make treatment proposals for clients they do not actually see, e.g. in treatment planning conferences. Witteman & Koele (1999) further elaborate on the limitation, that results from conducting the study with participants, who know that they do not actually have to treat the patients. It is uncertain if and how an authentic treatment setting would change the findings. It may indeed positively influence the conscientiousness of the participants in hypothesis generation, if they were confronted with clients, they actually had to treat. However, it is assumed that this applies to both cases and therefore does not have significant effect on the relevant findings of this study.

An additional weakness may be suspected in the different number of explanations per case. The higher number of hypotheses for *Case Complex* might operate as a confounding factor, because it bears the possibility of enhancing the number of quality variables as well, e.g. *modifiable factors*, specified explanatory *relations*. Without this confounding factor the statistical analysis of the variables *form*, *consistency* and *positive treatment indicators* might have yielded significant results. However, the applied Chi-Square-statistic adjusts for different sample sizes. The expected cell counts for the quality features of *Case Complex* are

higher in accordance with the larger number of hypotheses of *Case Complex*. Consequently the larger sample size does not affect the size of the calculated residuals and accordingly does not lead to smaller p-values for *Case Complex*.

The present study does have some additional limitations with regard to the coding manual and the coding procedure. Eells et al. (1998) propose the method of Stinson, Milbrath, Reidbord and Bucci (1994) for the segmentation of psychotherapeutic hypotheses into units for content analysis. For the present study, this method was discarded because the instructions for segmentation appear to be too vague to achieve sufficient interrater agreement. Instead, the method of Strijbos et al. (2006) was refined and interrater reliability was good with the use of this method. However, the Content Units thus obtained are small (comprising at most one phrase, often less), while the content coding categories adopted by Eells et al. (1998) often contain "mechanisms" that can typically only be found in larger units such as sentences or even paragraphs. It may be assumed that some of the explanatory working mechanisms some of the participants wanted to describe, could not be adequately identified, because the coding unit was too small. However, the content code most frequently assigned for both cases is *Inferred mechanism: psychological* with its subcategories. That means that after all, a considerable amount of working mechanisms – and not only pure factors – could be found in the small segments employed in this study. Nevertheless, the method of content unit segmentation developed for the present study might be more suitable for the assessment of the presence of certain explanatory factors than of complete mechanisms. However, we wonder how larger Content Units (like the Idea Units proposed by Stinson et al., 2006) can achieve sufficient interrater reliability measurements in coding.

For the content coding section of the present manual the Manual for case formulation and treatment plan content and quality coding by Eells et al. (2005) was refined theoretically and methodologically. However, although the coding categories were thus worked out in detail and the segmentation method was improved (see Appendix B *Manual for content and quality coding of psychotherapeutic hypotheses,* section 2.1), it was still difficult to obtain a sufficient kappa coefficient for most of the content coding categories. One may therefore suspect that Eells et al. (1998) had similar problems to achieve sufficient reliability. However, Cohen's kappa is quite a restrictive method for measuring agreement, particularly – as in the present study – for coding categories that only appear rarely (once or twice) in an analysed dataset. For future research, it is suggested to keep the categories now selected, but aim at a better operationalisation to improve reliability measures or to employ an alternative method of measuring reliability.

The quality coding section of the coding manual is based on the frameworks of Kuyken & Fothergill (2005) and Vermande (1995). It was completed with some new categories, and importantly, coding instructions were devised. However, this still could not

ensure reaching sufficient agreement in the coding process for some variables (e.g. testability), which therefore had to be excluded from statistical analysis (see above). If future research should find them to be vital for the quality of hypotheses, then instructions for coding them will have to be considerably refined.

As regards the content coding categories, some weaknesses became apparent during the coding process. In their instructions of their Manual for case formulation and treatment plan content and quality coding, Eells et al. (2005) write that "for an IU [idea unit] to receive a content code, the subject needs only to consider a particular item in the coding system. The subject need not commit to it, or may even rule it out. […] The important thing for content coding is that the thought appear on the "radar" of the subject's mind." (Eells et al., 1998, p. 2). This approach was adopted for the present coding manual, but after some coding was done, it became obvious that such a neutral and non-judgmental approach to coding is not possible for all categories, because some of them, like *Problems in Global Psychological, Social, or Occupational Functioning* or *Problematic aspects/traits of the self,* can only be assessed in a negative way. Our suggestion for future research is to modify the respective categories to make a "neutral" coding of all categories possible.

4.3 Conclusion

Case complexity has considerable influence on the generation of explanatory hypotheses in psychotherapy, particularly on the number of explanations and on the aspects *modifiability*, explanatory *relation* and *relevance*.

It remains to be seen how the investigated features of explanatory diagnoses actually influence treatment planning and success. How does the quality of an elicited hypothesis affect treatment goals? Does the number of modifiable factors contained in an explanatory diagnosis positively influence the treatment process? Do mentally formed relations between explanatory factors lead to a more coherent or straightforward treatment process?

As already mentioned in section 1.2, searching and giving an explanation for something helps to guide reasoning and is for the above-mentioned reasons vital for therapy planning and success. However, the findings of the present study raise the question, if explicit reasoning is actually necessary in this regard or if the retrieval of diagnostic causal representations is sufficient for successful psychotherapy – given that the not explicitly reasoned hypotheses of *Case Simple* are of higher quality. The relation between this aspect and the above-mentioned features of explanatory hypotheses and therapy outcome might be a future challenge.

Finally it should be checked which modifications in training programs for therapists might be required – explicitly for the treatment of complex client problems.

5 APPENDICES

Appendix A - Questionnaire

Geachte deelnemer,

Met uw deelname aan dit onderzoek helpt u ons zeer om nieuwe inzichten over het psychodiagnostisch proces en de rol van hypothesevorming daarin te krijgen.
Diagnostiek vormt in het kader van psychotherapie een heel belangrijk onderwerp. Maar wat betekent diagnostiek eigenlijk in detail en hoe verloopt diagnosestelling in de praktijk? Welke stappen zijn nodig om een goede en voor de cliënt behulpzame diagnose te stellen? En welke rol spelen diagnostiek en hypothesevorming binnen psychotherapie als geheel?

Deze vragen zullen met uw hulp worden beantwoord. Voor uw bijdrage ontvangt u een Irischeque ter waarde van 30 euro. Deze cheque ontvangt u per ommegaande zodra u de ingevulde vragenlijst naar ons terug heeft gestuurd .
Indien u verder belangstelling voor dit onderwerp heeft, kunnen we u na voltooiing van de studie (vermoedelijk herfst 2009) een korte uitslag van de resultaten toesturen. U kunt daarvoor aan het eind van de vragenlijst uw e-mailadres doorgeven.

Instructie
De vragenlijst bevat twee casusbeschrijvingen waarvoor u een (voorlopige) diagnose, hypothese(s) over het ontstaan van de problematiek en een behandelvoorstel aangeeft.

Leest u eerst de casusbeschrijving voordat u de vragen over diagnose, hypothese(n) en behandelvoorstel beantwoordt. *Houdt u bij het lezen van de casus en het beantwoorden van de vragen de setting waarin u de meeste patiëntcontacten heeft in gedachten.* Ten slotte vragen we u nog om enkele persoonsgegevens.

Bij voorbaat hartelijk dank voor uw moeite!

Casus 1

Intake

Naam patiënt: Mw. A
Geboortedatum patiënt : januari 1965
Datum intake: februari 2008

Reden aanmelding

Patiënte heeft zich aangemeld op verwijzing van de huisarts, omdat ze zich vaak plotseling erg misselijk voelt. Deze klachten ontstaan vooral tijdens het autorijden. Tevens vermijdt ze drukke verkeerssituaties en de snelweg.

Anamnese

Patiënte is onzeker en angstig tijdens het autorijden op de snelweg. 4 a 5 keer in de week heeft ze onverwacht warmteopwellingen of koude rillingen, hartkloppingen, ademtekort en een benauwd gevoel, als ze op de snelweg of in drukke verkeerssituaties raakt. Bovendien voelt ze soms duizelig en is bang flauw te vallen. Hiertoe heeft patiënte Oxazepam voorgeschreven gekregen en gebruikt dit gemiddeld drie keer daags sinds zes jaar maar wil graag van deze medicatie af. Sinds het laatste half jaar lijken de klachten voor haar menstruatie toe te nemen. Momenteel vermijdt patiënte het rijden op de snelweg, wat haar werkzaamheden belemmert. Ook gaat ze drukke verkeerssituaties uit de weg door om te rijden. Bij stilstand voor een stoplicht neemt de angst toe en heeft ze het gevoel geen controle te hebben over haar lichaam. Ze merkt dat ze begint te trillen en is bang dat ze de koppeling niet goed kan indrukken. Het autorijden vindt ze beangstigend omdat ze bang is onverwacht de beschreven klachten te krijgen en hierdoor een auto-ongeluk te veroorzaken.
In 2001 heeft ze deze klachten voor de eerste keer gehad, toen ze het gevoel had te worden ingesloten door vrachtwagens. Patiënte is hier erg angstig van geworden en heeft haar lichamelijke reactie (tintelingen, zweten en licht in het hoofd) als abnormaal beoordeeld. Omdat het op dat moment ook erg druk was op haar werk heeft ze dit als een signaal van overspannenheid gezien en is zes weken thuis gebleven. Er zijn in die periode ook stemmingsklachten geweest. Haar werkzaamheden zijn vervolgens afgebouwd, maar de klachten tijdens het autorijden zijn vanaf het eerste incident, met pieken en dalen, blijven bestaan.
De klachten belemmeren patiënte in haar functioneren. Zo kan ze niet winkelen in een andere stad omdat ze dan over de snelweg moet rijden. Vlak na het incident op de snelweg waren de klachten heviger dan op dit moment. Destijds is ook het meerijden met een ander over de snelweg niet gelukt, is de frequentie van klachten hoger geweest en heeft ze mensenmenigten ook vermeden. Nu gaat dat allemaal beter.
Haar kinderen vinden het vervelend dat hun moeder niet altijd met hen mee kan rijden, maar patiënte voelt zich wel door hen en haar man gesteund. Ook weet ze dat haar man het goed vindt dat ze hulp zoekt voor haar probleem. Patiënte is thuis en op haar werk open over haar klachten. Wel beschrijft ze zichzelf als iemand die zich niet zo snel uit en een hekel aan ruzie heeft. Wel kan ze voor zichzelf opkomen. Anderen zouden haar beschrijven als lief, rustig en

beheerst. Verder zegt ze het liefst de touwtjes zelf in handen te hebben en graag een geordend huis te hebben.

Psychiatrische voorgeschiedenis
Patiënte vertelt geïnteresseerd te zijn in paranormale zaken en heeft in dit kader een kleurenacupunctuur ondergaan. Dit heeft wel geholpen, maar het effect was vluchtig.

Somatische anamnese
Geen lichamelijke klachten. Patiënte rookt sinds ongeveer zes jaar 20 sigaretten per dag nadat ze een periode van 12 jaar is gestopt met roken. Sinds een jaar drinkt ze een glas wijn per dag.

Medicatie
Gebruikt Oxazepam bij spanning twee tot drie keer per dag. Deze medicatie is door de huisarts voorgeschreven.

Biografische informatie
Patiënte is 22 jaar getrouwd en heeft twee thuiswonende kinderen, een zoon van 20 en een dochter van 18. Haar huwelijk is goed. In 2001 is patiënte ooit vreemdgegaan en het echtpaar had toen een hevige ruzie, maar volgens patiënte is dat uitgepraat en is voor hen beiden 'verleden tijd'.
Haar dochter is gepest toen ze ongeveer 14 jaar was. Patiënte zegt dat haar dochter altijd het laatste woord wil hebben en een dominante houding kan hebben wat mensen niet pikken. Ook is haar dochter 'erg moeilijk' geweest in de puberteit. Ze is na het pesten naar een andere school gegaan, maar daar heeft haar dochter gesprekken met de mentor omdat ze nu anderen pest. Patiënte vindt het goed dat haar dochter hiervoor verantwoording moet afleggen "ze moet er zelf nu wat aan doen". Haar zoon heeft van zijn hobby zijn werk gemaakt en werkt in een paardenkliniek. Ze beschrijft hem als een jongen die echt op zijn plek zit en die zeer gemakkelijk is.
Het ouderlijk gezin bestaat uit twee zussen (40 en 47 jaar) en een broer (45 jaar). Vader en moeder zijn nog in leven. Patiënte heeft een goede band met haar familie.
Toen patiënte 13 jaar was is haar vader tijdens het vissen overvallen en met een grote kei op het hoofd geslagen en bewusteloos in het kanaal gevallen. De dader is uiteindelijk opgepakt en in een TBS kliniek geplaatst. Wanneer patiënte hierover vertelt emotioneert dit verhaal haar behoorlijk. Vader is door oplettende buurtbewoners uit het water gehaald en is ternauwernood van de dood gered. Vader heeft hier een schedelfractuur aan overgehouden met een gehoorbeschadiging. Ook is vader na dit incident beduidend achterdochtiger geworden, mede omdat hij slecht hoort. Patiënte kan zich herinneren hier erg van te zijn geschrokken.
Ze herinnert zich de thuissituatie als een goede sfeer waarbij vader wel overheersend en eigenwijs kon zijn. Moeder doet wat vader zegt. Het is een traditionele taakverdeling waarbij vader kostwinner is en moeder het huishouden verzorgt. Haar oudste zus was altijd de

drukste thuis en patiënte vindt dat haar dochter op haar lijkt. Haar broer lijkt het meeste op haar en het jongste zusje is nog rustiger.

Huidige sociale context

Patiënte heeft een LHNO (lager huishoud- en nijverheidsonderwijs) diploma. Haar opleiding is zonder problemen verlopen. Sinds 2000 werkt ze 20 uur in de week als leidinggevende in de schoonmaakbranche. Hiertoe coördineert ze de schoonmaak in verschillende panden waarbij ze zich met de auto vervoert. Naar aanleiding van het hierboven beschreven incident op de snelweg in 2001 heeft ze de verantwoordelijkheid gekregen over 45 in plaats van 55 panden. Patiënte vertelt daarbij dat ze binnen haar werk soms moeite heeft haar grenzen aan te geven. Ook is ze in haar hoofd vaak druk met het werk.
Eerder heeft ze tussen 1983 en 1986 als modinette (naaister) gewerkt en van 1990 tot 2000 als schoonmaakster.
Er zijn geen financiële problemen of problemen voor wat betreft huisvesting.

Psychiatrisch onderzoek

Het betreft een goed verzorgde vrouw. Er zijn geen bijzonderheden in de psychomotoriek. Patiënte maakt gemakkelijk contact en er is sprake van contactgroei. Haar bewustzijn en oriëntatie zijn ongestoord. De aandacht is goed te trekken en te houden. Haar waarneming en denken zijn normaal. Het geheugen ten aanzien van de korte- en lange termijn is normaal te noemen.
Er is een depressieve episode geweest direct na het optreden van de eerste symptomen in 2001, maar momenteel is haar stemming normaal en is het affect normaal modulerend. Haar intelligentie lijkt conform opleidingsniveau. Er is sprake van ziektebesef (lijdensdruk), en ziekte-inzicht (introspectief vermogen). Er is geen sprake van suïcidaliteit.

Geef een voorlopige diagnose (één mogelijkheid aankruisen a.u.b.):

☐ *paniekstoornis met agorafobie*

☐ *paniekstoornis zonder agorafobie*

☐ *specifieke fobie*

☐ *depressieve episode*

☐ *gegeneraliseerde angststoornis*

☐ *paniekstoornis met agorafobie én depressieve episode*

☐ *paniekstoornis zonder agorafobie én depressieve episode*

☐ *specifieke fobie én depressieve episode*

☐ *gegeneraliseerde angststoornis én depressieve episode*

Geef één of meerdere hypothesen over hoe de klachten en problemen volgens u tot stand zijn gekomen bij de cliënte in de casusbeschrijving:

Hieronder kunt u uw hypothese afbeelden, indien u dat wenst.

Geef een behandelvoorstel voor de therapie van de cliënte:

Lengte van de therapie:* ☐ *kort* ☐ *middel* ☐ *lang*

Behandelvorm:* ☐ *individueel* ☐ *groepsgewijs*

Therapiesetting*: ☐ *ambulant* ☐ *klinisch*

* = één mogelijkheid aankruisen a.u.b.

Therapievorm (ten hoogste twee mogelijkheden aankruisen a.u.b.):

☐ *Cognitieve therapie* ☐ *Gedragstherapie* ☐ *Cognitieve gedragstherapie*
☐ *Creatieve therapie* ☐ *Psychodynamisch* ☐ *Traumatherapie*
☐ *Lichaamsgerichte therapie* ☐ *Gezinstherapie* ☐ *Oplossingsgerichte therapie*
☐ *Systeemtherapie* ☐ *Gestalttherapie* ☐ *Psychodrama*
☐ *Hypnose-therapie* ☐ *Medicatie* ☐ *Psycho-educatie*
☐ *Mindfulness Based Cognitive Therapy* (MBCT) ☐ *Steunende/structurerende therapie*

***Zou u de patiënt zelf behandelen**?* ☐ *ja* ☐ *nee*

Met welk behandeldoel zou u de therapie willen beginnen (één mogelijkheid aangeven)?

_____
_____
_____
_____

Hoe complex vindt u de problematiek beschreven in de casus?*
niet complex 1 2 3 4 5 6 7 8 9 10 zeer complex

Hoe bekend bent u met de problematiek beschreven in de casus?*
niet bekend 1 2 3 4 5 6 7 8 9 10 zeer bekend

**** = één cijfer omcirkelen a.u.b.***

Casus 2

Intake

Naam patiënt: Mw. B
Geboortedatum patiënt: juni 1967
Datum intake: maart 2008

Reden aanmelding

Patiënte heeft zich aangemeld op verwijzing van de huisarts, met hoofdpijn en slaapproblemen en voelt zich moe en overspannen. Ze geeft aan, dat ze zich de afgelopen maanden uitgeput voelt en vaak denkt, “dat alles geen zin meer heeft”. Dit maakt haar bang, maar zij zegt, dat ze nog nooit aan zelfmoord gedacht heeft, omdat ze dat haar twee kinderen nooit zou kunnen aandoen.

Anamnese

Naast de boven beschreven klachten vertelt de patiënte dat ze sinds enige jaren in bepaalde situaties afwezig raakt. Dit gebeurt bijna altijd tijdens gepassioneerde seks. Ze stapt dan buiten de situatie, verliest de controle en begint haar partner uit te schelden, hem te slaan en zich tegen seksuele aanrakingen te verweren. Zij weet daar zelf niks van, dat heeft haar partner haar verteld. Hij weigert nu intimiteit met haar en dit belast haar nog meer.
Ook haar moeder heeft al meegemaakt, dat ze afwezig raakte. Ze heeft patiënte verteld dat deze plotseling met een kinderstem begon te spreken. De moeder kan niet precies zeggen in welke situaties dit gebeurt. Patiënte zelf herinnert zich niets. Ze geeft aan zich ook zelf te mishandelen door met haar hoofd tegen een muur te slaan of zichzelf pijnlijke oorvijgen geeft. Dit gebeurt vooral wanneer er na een conflict met haar partner een slecht gevoel in haar blijft.
Bovendien heeft ze nog steeds last van haar gevoelens voor een gewezen collega met wie ze enige jaren geleden in het geheim een relatie heeft gehad (zie Biografische informatie).
In de laatste drie jaren heeft ze twee zware ongelukken met de auto gehad die niet haar schuld waren. Tijdens het laatste ongeluk, twee jaar geleden, is ze bijna overleden en ze vertelt dat ze in de ambulance plotseling uit haar lichaam gestapt is. Ze heeft de situatie in de ambulance van boven gezien en geen pijn gevoeld. Van de artsen heeft ze later gehoord dat de situatie daadwerkelijk zo gegaan is zoals zij het beleefd heeft. Ze zegt dat ze dit naar vindt en dat ze bang is dat het nog een keer gaat gebeuren. In verband met een verkrachting heeft ze dit weleens beleefd (zie onder). Sinds het tweede ongeluk heeft ze ook soms plotseling angst als ze met de auto rijdt en moet dan stoppen.
In verband met haar symptomen vertelt ze dat ze met de collega zeer gepassioneerde seks heeft gehad en hij een voorkeur voor rollenspelen had. Een keer heeft hij haar voorgesteld om de rollen van een verleider en een klein meisje te spelen. Ze heeft meegedaan en onverwacht veranderde de situatie. Ze vertelt, dat ze zich plotseling duidelijk herinnerde dat ze op haar 12e door een vreemde man in een park aangerand werd. Ze was op weg naar haar oma. Ze herinnert nu weer dat ze toen voor de eerste keer buiten haar lichaam gestapt is. Ze geeft aan dat ze de situatie plotseling van boven gezien en haar lichaam niet meer

waargenomen heeft. Toen heeft ze dat aan niemand verteld en geprobeerd er niet meer aan te denken en is het dan ook vergeten. Pas tijdens het seksuele spel met haar partner is haar de aanranding weer te binnen geschoten. Bovendien is precies in deze situatie haar echtgenoot te vroeg van een zakenreis thuis gekomen en heeft haar met haar collega betrapt. Ze zegt dat deze situatie zo erg en verwarrend was voor haar dat ze weer (voor de eerste keer sinds de verkrachting) afwezig is geraakt. Ze herinnert zich niet wat toen gebeurd is. Later is ze in een kliniek weer wakker geworden – haar echtgenoot heeft haar ernaartoe gebracht.
Sinds deze gebeurtenis heeft ze deze situaties waarin ze afwezig raakt vaak beleefd, vooral tijdens de seks.

Psychiatrische voorgeschiedenis
Patiënte heeft in verband met de herinnering aan de verkrachting een psychische breakdown gehad en werd acuut klinisch behandeld. Daarop is ze zes weken in een ziekenhuis voor psychosomatische klachten in behandeling geweest. Dit heeft haar zeer geholpen.

Medicatie
Patiënte neemt op het moment geen medicijnen.

Biografische informatie
Patiënte is de oudste van twee kinderen. Met haar zus heeft ze een goede relatie. Ze vertelt dat moeder heerszuchtig - “een generaal” - geweest is en een sterke prestatiedruk uitgeoefend heeft. Als patiënte de gewenste prestatie niet geleverd had sloeg haar moeder haar. Haar vader is lief geweest, maar ook een “lafaard”, die haar niet kon beschermen tegen de mishandelingen van moeder. Haar grootouders (ouders van de moeder) hebben in de buurt gewoond en ze is daar vaak geweest, omdat oma altijd lief tegen haar was. Oma is tot nu toe een belangrijk persoon in haar leven. Op school heeft ze steeds goede cijfers gehaald en heeft aansluitend een opleiding in het openbaar bestuur afgerond.
Op haar 16e had ze haar eerste seksuele relatie en op haar 17e werd ze zwanger. Ze geeft aan dat haar moeder haar toen toe gedwongen heeft de baby te aborteren. De relatie met haar vriend is vervolgens verbroken. Daarna voelde ze zich thuis zo onprettig dat ze op haar 18e – na een ruzie met moeder waarbij deze haar voor de laatste keer sloeg – haar ouderlijk huis verlaten heeft. Ze had toen al contact met haar eerste man en kon bij zijn familie wonen. Op haar 21e is ze met hem getrouwd, op haar 22e kwam haar eerste zoon ter wereld, drie jaar later de tweede.
Patiënte vertelt dat ze al voor haar huwelijk met haar man een relatie met een collega begonnen is. Die collega was getrouwd, zodat de relatie met hem geheim moest blijven. Ze probeerde zich van hem los te maken door met haar man te trouwen. Haar huwelijk is aan het begin ook heel harmonisch geweest, maar ze voelde zich nog steeds tot haar collega aangetrokken en is steeds weer een seksuele relatie met hem aangegaan. Langzamerhand is een diep vertrouwen tussen haar en deze man ontstaan. „Niemand kent me zo goed als hem. Hij weet alles van mij.“

Na 11 jaar werd het huwelijk ontbonden en zij heeft ook de relatie met haar collega verbroken. De kinderen bleven bij patiënte, maar hebben een goed contact met de vader. Zij heeft een nieuwe man leren kennen en is begonnen om met hem samen een eigen huis te bouwen. Gelijktijdig heeft ze zich weer met de collega ingelaten. De relatie met de nieuwe man is na drie jaar verbroken en ze heeft het huis met de hulp van de collega verder gebouwd. Hij heeft haar ook financieel ondersteund.
In 2005 heeft ze haar huidige man leren kennen en in 2006 is ze met hem getrouwd. Toen heeft ze ook de relatie met haar collega definitief beëindigd. De collega heeft haar aangeklaagd, omdat hij het geld terug wil hebben, dat hij haar geleend heeft. Dit versterkt nu weer het contact met hem.
Haar huidige echtgenoot is zeer attent en empatisch. Hij heeft een keer een situatie met haar beleefd waarin ze buiten zichzelf gestapt is en weigert sindsdien met haar te vrijen.

Huidige sociale context
Patiënte heeft inmiddels een leidinggevende functie in de publieke sector. Ze werkt voltijd en in ploegendienst. Ze zegt dat het contact met de collega´s heel positief is en ze vindt haar werk ook na vele jaren nog interessant.
De kinderen zijn nu bijna volwassen, de oudere zoon volgt de HBO-opleiding tot Leraar Basisonderwijs. Het contact met haar eerste echtgenoot beschrijft ze als vriendelijk en coöperatief. Ze zegt dat ze nu meer tijd voor vriendschappen heeft, waarvan ze zeer geniet. Ze heeft vele vriendschappen door jaren heen behouden en kan daarom nu gemakkelijk aanhaken.

Psychiatrisch onderzoek
Patiënte is een opvallend vrouwelijk geklede vrouw. Het bewustzijn is helder. Het geheugen en de oriëntatie zijn ongestoord. Haar stemming is normaal en het affect is normaal modulerend, echter met een neiging tot depressieve stemming. Geen psychotische symptomen. Ze uit latente suïcidale neigingen, maar er bestaat geen acuut gevaar. Patiënte maakt gemakkelijk contact en er is sprake van contactgroei, maar ze heeft een neiging tot histrionisch gebaren.

Geef een voorlopige diagnose (één mogelijkheid aankruisen a.u.b.):

☐ *posttraumatische stressstoornis (PTSS)*

☐ *depressieve episode*

☐ *depersonalisatiestoornis*

☐ *dissociatieve identiteitsstoornis*

☐ *dissociatieve stoornis nao*

☐ *depersonalisatiestoornis én depressieve episode*

☐ *posttraumatische stressstoornis (PTSS) én depressieve episode*

☐ *dissociative stoornis nao én depressieve episode*

☐ *dissociatieve identiteitsstoornis én depressieve episode*

Geef één of meerdere hypothesen over hoe de klachten en problemen volgens u tot stand zijn gekomen bij de cliënte in de casusbeschrijving:

Hieronder kunt u uw hypothese afbeelden, indien u dat wenst.

Geef een behandelvoorstel voor de therapie van de cliënte:

Lengte van de therapie*: ☐ *kort* ☐ *middel* ☐ *lang*

Behandelvorm*: ☐ *individueel* ☐ *groepsgewijs*

Therapiesetting*: ☐ *ambulant* ☐ *klinisch*

* = één mogelijkheid aankruisen a.u.b.

Therapievorm (ten hoogste twee mogelijkheden aankruisen a.u.b.):

☐ *Cognitieve therapie* ☐ *Gedragstherapie* ☐ *Cognitieve gedragstherapie*
☐ *Creatieve therapie* ☐ *Psychodynamisch* ☐ *Traumatherapie*
☐ *Lichaamsgerichte therapie* ☐ *Gezinstherapie* ☐ *Oplossingsgerichte therapie*
☐ *Systeemtherapie* ☐ *Gestalttherapie* ☐ *Psychodrama*
☐ *Hypnose-therapie* ☐ *Medicatie* ☐ *Psycho-educatie*
☐ *Mindfulness Based Cognitive Therapy* (MBCT) ☐ *Steunende/structurerende therapie*

***Zou u de patiënt zelf behandelen**?* ☐ *ja* ☐ *nee*

Met welk behandeldoel zou u de therapie willen beginnen (één mogelijkheid aangeven)?

_____
_____
_____
___ _____

Hoe complex vindt u de problematiek beschreven in de casus?*

niet complex 1 2 3 4 5 6 7 8 9 10 zeer complex

Hoe bekend bent u met de problematiek beschreven in de casus?*

niet bekend 1 2 3 4 5 6 7 8 9 10 zeer bekend

***** = één cijfer omcirkelen a.u.b.***

Hartelijk dank tot hiertoe! Tot slot vragen we u nu nog om enkele persoonsgegevens:

Geslacht: ☐ *vrouw* ☐ *man*

Leeftijd: _____ *jaar*

Opleiding:

GZ-registratie: ☐ *ja* ☐ *nee*

Verdere opleiding: _____

_____

_____

_____

_____

Voornaamste psychotherapeutische oriëntatie (één mogelijkheid aankruisen):

☐ *behavioristisch* ☐ *cognitief* ☐ *cognitief-behavioristisch*

☐ *systeemtheoretisch* ☐ *psychodynamisch* ☐ *eclectisch*

☐ *humanistisch* ☐ *oplossingsgericht*

Werkervaring als psycholoog (aantal jaren): _____

Werksetting (met de meeste patiëntencontacten, één mogelijkheid aankruisen):

☐ *eerstelijnszorg* ☐ *forensisch* ☐ *GGZ*

☐ *(psychiatr.) ziekenhuis* ☐ *ouderenzorg* ☐ *revalidatie*

Gemiddeld aantal uren patiëntencontacten per week: _____

Wenst u over de uitslagen van de studie geïnformeerd te worden? Geef dan a.u.b. hieronder uw emailadres:

_____

Appendix B - Manual for content and quality coding of psychotherapeutic hypotheses

1 General purpose and Instructions

The purpose of this manual is to allow for representation of psychotherapeutic hypotheses in a standardized format so that their structure and merits may be assessed scientifically. “A hypothesis consists either of a suggested explanation for an observable phenomenon or of a reasoned proposal predicting a possible causal correlation among multiple phenomena.” (Wikipedia,s.v. *hypthesis*, 07.03.2009). A psychodiagnostic hypothesis is a (yet to be tested) assumption about a particular factor or a combination of factors that may explain the problem displayed by the patient. In the context of the current manual the words “hypothesis” and “explanation” are therefore used interchangeably. The nature of such a hypothesis can vary widely, depending on which theory of psychotherapy and psychopathology the therapist uses.

After this introductory section, this manual comprises two main sections:

- Section 2, “Content Coding”, gives instructions for the segmentation of text into Content Units and guides the preparation of psychotherapeutic explanatory hypotheses for statistical analysis of their content.
- Section 3 of this manual, “Quality coding”, introduces a procedure for segmenting text into Quality Units and contains criteria for assessing the quality of psychotherapeutic explanatory hypotheses.

While content can be identified in a relatively easy and reliable way by using the technique of segmentation into Content Units (see below) and coding with the Case Formulation Content Coding Method (Eells et al., n.d.), the evaluation of the quality of a hypothesis is far more challenging. The only really verifiable way to assess the quality of psychotherapeutic explanatory hypotheses would be to measure the effects of a treatment based on the very hypothesis. This has not been possible in the present research setting. It is therefore necessary to identify criteria by which the quality of a hypothesis can be assessed in theory.

Scientific method requires the testability of a hypothesis. Therefore scientists generally base their hypotheses on prior observations or on extensions of established scientific theories. However, proceeding by purely scientific standards is not possible in the psychotherapeutic setting, nor is it necessary in this context. Nevertheless, a minimum of testability of psychotherapeutic hypotheses must be guaranteed in practice. It serves client protection by ensuring that a thorough understanding of the client is attempted and that the therapist doesn’t act arbitrarily. Normally, a psychotherapist tests his hypotheses during the therapeutic process, either by means of psychological tests or screenings or by sheer observation. In the course of the therapy, he has to control on a regular basis if the client’s problems change for the better. If they don’t, he will reconsider his hypothesis and revise it if necessary. In order to assure these more scientific aspects of therapists’ hypotheses, the quality section of this manual starts with the rating of basic formal prerequisites of psychotherapeutic hypotheses. These include *form* and *logical properties*. It is assumed that certain types of explanations with a certain structure are “better” than others in terms of

having a higher explanatory value and thereby opening up more psychotherapeutic treatment possibilities. Other criteria like the *scientific foundation of a hypothesis* or the *quotation of sources* or *the identification of a theoretical framework* (Vermande, 1995) may be important to assess the scientific quality of some piece of research, but do not seem to be crucial with regard to the possible success of psychotherapy.

The main part of the quality rating of this manual includes criteria that are meant to evaluate the clinical utility of a hypothesis. It is assumed that a hypothesis on or an explanation for the problems of the client is “good” if it is “useful” with regard to the goals of the therapy. Subcategories of this section are the modifiability and the number of positive treatment indicators mentioned by the therapist (as from now called therapist, clinician or subject).

Instructions

You are presented with the following data.

1. the original case description that was submitted to the clinicians
2. a set of restatements of the case, each made by a clinician, with the following structure:
    a) a diagnosis in terms of established diagnostic categories
    b) an explanatory hypothesis concerning the symptoms described
    c) a treatment recommendation, including the specification of the first treatment goal.

Your task concerns exclusively part 2b.

Content and quality of the hypotheses are assessed in four steps:

(1) Segmentation of the text into Content Units
(2) Content coding
(3) Segmentation of the text into Quality Units
(4) Quality rating.

For each step, two raters worked independently, reliability estimates are based on these independent ratings. We define “agreement” as occurring when both raters assign the same code to a formulation element. The raters then resolved disagreements in a consensus meeting.

2 Content Coding

2.1 Segmentation of the text into Content Units[1]

The unit that forms the basis of the Content Coding is the Content Unit (CU). This is characterized by the following properties:

The objective of segmenting the text into CUs is to gather as much information as possible, that is, no important content must be missed. Therefore the unit coded is small, i.e. a sentence or part of a sentence. It is assumed that by this procedure several “empty” units will be generated or units that only contain repetition of case information. This disadvantage is accepted to avoid “unit boundary overlap” and to extract as much meaningful information as possible from the text.

The main criterion for segmentation is the identification of a proposition on semantic grounds, i.e. a unit which comprises the "content" or "meaning" of a simple declarative sentence. In other words, a declarative sentence, represented by a certain pattern of symbols, marks, or sounds, is the most straightforward way of expressing a proposition. The largest and most frequently occurring unit is thus a complete sentence. Sentences that contain several propositions can be further segmented, depending on their content/meaning. A common sense approach should be used in determining ‘meaning’.

The following instructions are meant to illustrate the procedure outlined above with typical phrases the coder will come across.

1) Each expression is first segmented into sentences on the basis of a full stop, question mark or exclamation mark that the author of the text put.

   Example 1: “He has a genetic loading for depression.”

   Analysis: One unit that still has to be checked for further propositions in step 3 (example 1).

   Example 2: “His family of origin has been exposed to perseverative, dramatic losses, with the possible consequence of a climate of menace and insecurity.”

   Analysis: One unit that still has to be checked for further propositions in step 3 (example 2).

   Example 3: “As a reaction to cardiovascular problems and in connection with stress, she interpreted her physical sensations as menacing, developed fear, which reinforced her physical symptoms, and thereby her panic built up in a spiral.”

   Analysis: One unit that has to be checked for further propositions in step 3 (example 4).

2) Each sentence that is demarcated by a punctuation mark constitutes a segment, regardless whether a finite form or verb is present.

   Example 1: “Triggering situation: traffic. Maintaining factor: avoidance in other situations as well (generalization). Reinforcing factor: stress at the work-place.”

[1] According to Strijbos et al.’s “Alternative unit of analysis and segmentation procedure” (see references)

Analysis: Three units that have to be checked for further propositions in step 3 (example 3).

3) Each unit thus obtained is further split into segments, viz. CUs, if it comprises separate propositions that can be phrased as 'meaningful' sentences in themselves (regardless of the categories you will afterwards use for coding). In the examples, CUs will be numbered by red superscripts.

Example 1: "He has a genetic loading for depression[1]."

Analysis: One CU, because the phrase "for depression" does not code an independent proposition.

Example 2: "His family of origin has been exposed to perseverative, dramatic losses[1], with the possible consequence of a climate of menace and insecurity[2]."

Analysis: First CU: 'His family of origin has been exposed to perseverative, dramatic losses.'
Second CU: 'with the consequence of a possible climate of menace and insecurity'.

Example 3: "Triggering situation: traffic.[1] Maintaining factor: avoidance in other situations as well (generalization).[2] Reinforcing factor: stress at the work-place.[3]"

Analysis: First CU: 'Triggering situation: traffic.', second CU: 'Maintaining factor: avoidance in other situations as well (generalization).', third CU: 'Reinforcing factor: stress at the work-place.' No more propositions that might be expressed as 'meaningful' sentences in themselves can be identified.

Example 4: "As a reaction to cardiovascular problems[1] and in connection with stress[2], she interpreted her physical sensations as menacing[3] and developed fear[4], which reinforced her physical symptoms[5], and thereby her panic built up in a spiral. [6]"

Analysis: First CU: *:* "As a reaction to cardiovascular problems", second CU: "and in connection with stress", third CU: "she interpreted her physical sensations as menacing", fourth CU: "developed fear", fifth CU: "which reinforced her physical symptoms", sixth CU: "and thereby her panic built up in a spiral."

4) In order to test for proposition status, you may find it helpful to mentally rearrange the order of words to get a 'meaningful' sentence. The same principle applies to CUs that take the form of a topic, followed by some suitable punctuation mark, typically a colon, followed by the comment (see example 2).

Example 1: "As a reaction to cardiovascular problems[1] and in connection with stress[2], she interpreted her physical sensations as menacing[3] and developed fear[4], which reinforced her physical symptoms[5], and thereby her panic built up in a spiral.[6]"

Analysis: The first CU "As a reaction to cardiovascular problems" can mentally be rearranged (and completed) into "She reacted to cardiovascular problems." The second CU: "and in connection with stress" can be transformed to "Furthermore she had stress.". The third CU: "she interpreted her physical sensations as menacing" does not have to be rearranged, it comprises already a complete sentence, the fourth CU: "and developed fear" is transformed to

"She developed fear.", the fifth CU: "which reinforced her physical symptoms" is rearranged to "(The fear) reinforced her physical symptoms." and the sixth CU: "and thereby her panic built up in a spiral." again is already a complete sentence that does not have to be rearranged.

Example 2: "Triggering situation: traffic.[1] Maintaining factor: avoidance of other situations as well (generalization).[2] Reinforcing factor: stress at the work-place."[3]

Analysis: CU1 can mentally be rearranged to "The triggering situation is traffic.", CU2 can be transformed to: "The maintaining factor is her avoidance of other situations as well." And CU3 is mentally rearranged to: "The reinforcing factor is her stress at the work-place." Thus three CUs (see above), the introductory words (triggering situation, maintaining factor, reinforcing factor) do not form separate CUs, but are part of the following segment.

5) Expressions in brackets are often in a telegraphic style, and thus they are difficult to phrase as a 'meaningful' sentence. It is assumed that expressions in brackets are summaries, synonyms or technical terms referring to the information preceding them and therefore do not need to be segmented in separate units. Only if the expression in parentheses contains new and 'meaningful' information shall it be assigned to a CU.

Example: "Triggering situation: traffic.[1] Maintaining factor: avoidance in other situations as well (generalization).[2] Reinforcing factor: stress at the work-place.[3]"

Analysis: Three CUs (see above), the information in brackets ("generalization") is only a technical term for the preceding information.

6) Segmentation of enumerations (lists of phrases typically marked off by bullet points):

a) First, each bullet point is assigned to a segment.

Example:

- "personality factors: avoidance of conflicts, enhanced controlledness, need for controlling, introversion
- triggering factor: menacing traffic-situation
- maintaining condition: avoiding behaviour
- straining factors: lacking ability to cope with stress at the workplace, conflicts with the daughter"

Analysis: Four units that have to be checked for further propositions in step b).

b) Each unit thus obtained is further split into segments, subject to the presence of separate propositions that can be phrased as 'meaningful' sentences in themselves (see above, step 3).

Example:

- "personality factors: avoidance of conflicts[1], enhanced controlledness[2], need for controlling[3], introversion[4]
- triggering situation: menacing traffic-situation[5]
- maintaining condition: avoiding behaviour[6]
- straining factors: lacking ability to cope with stress at the workplace[7], conflicts with the daughter[8]"

c) If the main item in a list is divided in sub items (e.g., 2.1, 2.2, etc.), then the above rules (a, b) apply.

d) As regards the internal structure of a bullet point item, the same rules as above (4,5) apply:

Example:

- "personality factors: avoidance of conflicts[1], enhanced controlledness[2], need for controlling[3], introversion[4]
- triggering situation: menacing traffic-situation[5]
- maintaining condition: avoiding behaviour[6]
- straining factors: lacking ability to cope with stress at the workplace[7], conflicts with the daughter[8]"

Analysis: Eight CUs (see above), the introductory words (personality factors, triggering situation, maintaining condition, straining factors) do not form independent CUs, but are merged into the following segment.

2.2 Content coding principles

The goal of the content coding step is to achieve a set of reliable, consensus codes for each Content Unit in each formulation. The primary task is to determine the presence or absence of certain categories of information that a clinician might consider in an explanatory diagnosis. All statements are coded. CUs that contain both explanans and explanandum, receive a code for the explanans only. The CU's that are offered as explanatory, that is, containing new information that is not itself included in the vignette, receive one of the codes **1-9**. The CUs that only contain repetitions of the case information receive code **10**. It is assumed that quite a few CUs will have to be coded as **10** due to segmentation in relatively small Units.

Only information is coded that refers directly to the client. No code is assigned if a subject only mentions someone else than the client, e.g., their own client who is like the client in the vignette, the vignette client's family members, previous therapists, etc.

Use manual section A. and fill in the enclosed Content Coding Sheet. For a CU to receive a content code, it suffices that the therapist considers that particular item of the coding system. He need not commit to it, or may even rule it out. For example, a subject may say, "I doubt that his childhood experiences play a crucial role." or "I'm not sure if his childhood has had any influence on his actual problems.." In each case, the proper code is **2.1** (*Predisposing experiences, events, traumas, stressors inferred as explanatory, childhood and/or adolescence*). The important point in content coding is that the thought appear on the "radar" of the subject's mind. It should appear clearly, however. A helpful criterion for applying a code to a CU is to imagine you are standing in front of an audience of 100 psychotherapy researchers and are defending your code. Would you be comfortable doing that? If so, apply the code. If not, do not. Each Content Unit may receive only one code. Enter the Content Unit number and the corresponding code for each CU in the Content Coding Sheet.

2.3 Content Coding Tips

- What to do if a CU contains more than one element:
  Make a judgment as to what main or central point the subject is making and code accordingly. Code for the greater clinical importance and focus. If one element is expressed with greater explicitness or clarity, code that element.
- If in doubt, do not code. If a statement is so vague or ambiguous that its meaning is not clear to you, do not give it any coding.
- Be careful not to infer beyond the data presented. Try to understand what the clinician considered important to formulate, but do not over-interpret him/her.
- Consider alternative codes. After you have tentatively decided upon a code, do not assume that it is the best code. Consider other codes that might better capture the information in the CU, then decide between them.
- A common sense approach should be used in determining item categories. Information that may not be explicitly presented as a certain item may be coded as that item if that is what the clinician meant even if he did not use the canonical wording.

A Content Coding of explanatory/inferred information[2]

1 Problems in Global Psychological, Social, or Occupational Functioning

The subject considers the individual's overall level of functioning. He/she can refer to global functioning in terms of duration (chronicity versus acuteness) and/or severity (severely disabling versus mildly disabling conditions). This category only includes psychological, social, and occupational (or school) functioning. All references to DSM Axis 5 are coded here (A GAF scale score need not be assigned.). Do **not** assign code **1** if a more specific (i.e., nonglobal) code better fits the CU. Code global strengths under **7**.

*Example 1: "*This client can obviously persevere[1] since she earned a Ph.D[2]."

Analysis CU1: Assign code **7.1.**, because subject mentions a strength, not a problem.

Analysis CU2: Assign code **10** (*repetition of information given in the vignette*).

*Example 2: "*The client experiences severe constraints in his daily functioning[1]."

*Analysis***:** Assign code **1**, because the subject refers to the severity of the client's global functioning.

2 Predisposing experiences, events, traumas, stressors inferred as explanatory

These include events or experiences in the person's biography that have contributed to his or her vulnerability toward developing problems or symptoms. If the time reference is not clear, assign code **2**.

2.1. Childhood and/or adolescence (0-18 years)

Antecedent experiences, stressors, life events, and traumas that occurred during infancy, childhood, or adolescence (ages 0-18). This category also comprises statements over the individual's early attachment.

Example: "The constant abuse by her uncle in her early childhood[1] plays a crucial role with regard to the subsequent development of the depression.[2]"

Analysis CU1: Assign code **10**

Analysis CU2: The subject indicates that the childhood experiences contributed to the current problems. Assign code **2.1**.

---

[2] Based on and to some extent extracted from section C. "Formulation/ Inferred Information" of the Case Formulation Content Coding Method by Eells, Kenjelic, Lucas & Lombart, n.d.

2.2. Adulthood

Antecedent factors, stressors, life events, and traumas that occurred in adulthood, either past or recent adulthood.

If these stressors are identified as factors precipitating current symptoms, assign an appropriate code from the categories **3 – 5** or code **6** (*other precipitating or current stressors and/or events).*

Example 1: "The divorce triggered her first panic attack[1]."

> *Analysis*: Assign code **6**, because although the named factor (divorce) lies in the past, the subject associates it directly with the onset of the panic disorder, and it can not be assigned to any of the codes **3 - 5**.

Example 2: "In the past years the client witnessed several road accidents[1] that made him vulnerable for the development of the anxiety disorder[2]."

> *Analysis CU1*: Assign code **10**
>
> *Analysis CU2***:** Assign code **2.2**, because the identified factor (road accidents) is not directly linked with the onset of the disorder.

3 Inferred mechanism: Psychological

This is the clinician's conceptualization of the mechanisms or processes that are inferred to be causing, directly contributing to, or maintaining the individual's symptoms and/or problems. This mechanism may be presented from many perspectives including: maladaptive/dysfunctional thoughts or beliefs, unresolved conflicts, views of self and others, fixation in psychosocial stages, factors reinforcing problematic behaviour, and biological vulnerabilities.

If the subject mentions a specific psychological mechanism, maybe in form of psychological terminology or he/she mentions a particular psychological theory that can not be coded as **3.1 – 3.6**, then assign code **3**.

Example 1: "Her panic disorder developed due to classical conditioning[1] and was reinforced later by means of operant conditioning[2]."

> *Analysis CU1 and CU2*: Classical and operant conditioning are basic theories in psychology and the subject assumes that it is known by the reader. He/She does therefore not describe the work mechanisms of this theory in detail, that presumably would have been coded **3.1 – 3.6**, but leaves it at that with this general theory. Assign code **3**.

3.1. Problematic aspects/traits of the self

This category involves both relatively stable, maladaptive characteristics of the self as well as the person's disability to maintain a coherent, stable, and positive self evaluation. It includes an individual's incapability for responsibility, maintaining a

cohesive self-identity, stable self-esteem, and self-competence. Relevant statements may include maladaptive/dysfunctional thoughts and/or beliefs about the self, a core conflict, problematic behaviours, or incongruence between the real and ideal self. Are ideals, goals, and ambitions congruent with abilities? Is the individual overly susceptible to extreme fluctuations in inflation or deflation of self-esteem? How vulnerable is the person to precipitous drops in self-esteem? This category also involves internalized and stable negative feelings, like feelings of guilt or exaggerated shame that contribute to the development or maintenance of the individual's problems.

Note: These problematic aspects only concern the self and do not explicitly include others. For problematic aspects that include others, assign code **3.2** (See examples under **3.2.**).

Example1: "Because of his limited self-worth[1], the client responds to the current crisis with anxiety[2] and depression[3]."

Analysis CU 1: Assign code **3.1**.

Analysis CU2 and CU3 : Assign code **10**.

Example 2: "Since childhood he feels burdened with guilt and shame.[1]"

Analysis: The subject refers to a stable condition of negative feelings. Assign code **3.1**.

3.2. Problematic aspects of relatedness to others

Consideration of the individual's capacity to accurately perceive, relate to, and understand others. Code this category when there is a reference to problems in the individual's capacity for intimacy, empathy, ability to maintain separateness between self and others (i.e., maintain appropriate interpersonal and role boundaries). Distorted perceptions of others (e.g., as idealized or devalued) are coded here as well as lacking capacity for basic trust. Relevant statements may be presented as maladaptive/dysfunctional thoughts and/or beliefs about others, distorted perceptions of others (e.g., as "all good" versus "all bad," or as "victimizers" versus "potential victims"), or as problematic behaviour involving others. These are aspects about the person's concept of others that are maladaptive or contributing to the person's difficulties.

Note: These problematic aspects are only about relatedness to others. For problematic aspects of the self that do not include others, assign code **3.1** (see example under **3.1**).

Code **3.6** if a subject explicitly frames an interpersonal problem (which ordinarily would be assigned code **3.2**.) in terms of learning theory, learning deficit, etc. (see example 2)

Example 1: "The client tends to problematic short-term relations[1] and promiscuity[2]."

Analysis CU1 and CU2: The subject refers to basic relational problems of the client, assign code **3.2**..

*Example 2: "*She didn't get the opportunity to build up long-lasting relations during her childhood and youth[1]. Therefore she isn't able now to respect the personal boundaries of her partners.[2]"

Analysis CU1: The subject traces the attachment problems of the client back to a childhood learning deficit. Assign code **3.6.**

Analysis CU2: Assign code **3.2**.

3.3. Dysfunctional thoughts and/or beliefs (not specifically self or others)

Unconditional and conditional (if-then statements) beliefs that are presented as part of the underlying mechanism causing the person's problems, but not explicitly referring to the concept of self or others (see example 2). This category also involves "dysfunctional" feelings that contribute to the individual's difficulties, e.g. unrealistic fear.

Example 1: "She believes that driving during rush hour will definitely lead to a severe accident. [1]"

Analysis: This belief does not explicitly refer to her concept of herself or others, but it represents a mechanism that causes the client´s panic attacks. Assign code **3.3.**

Example 2: "She fears a new panic attack[1] and therefore avoids driving by car[2]."

Analysis CU1: The subject refers to a "dysfunctional" feeling, assign code **3.3**.

Analysis CU2: Avoidance of driving is mentioned as a coping-strategy, assign code **3.5**.

Example 3: "She perceives herself as being so ugly and unattractive to others[1] that she barely dares to leave home anymore[2].

Analysis CU1: These dysfunctional beliefs of the client refer explicitly to her self-concept, assign code **3.1**.

Analysis CU2: Assign code **3.4**.

3.4. Problems to manage emotions / Affect regulation or dysregulation

Consideration of how the individual manages emotions or of a mechanism used to control, avoid, or otherwise manage affect. Also statements that refer to some maladaptive emotion or emotional reaction or difficulties the client has with handling his own feelings (client reacts to certain situations or events with exaggerated or unexpected feelings, cannot express his feelings, cannot get in touch with his feelings, etc.).

Note: If a readily recognized defense mechanism is used, assign code **3.5** (see examples).

Example 1: "Throwing things around in her room seems to be a way for her to manage difficult situations and negative feelings[1]."

Analysis: The subject attributes a coping-intention to the behaviour of the client, therefore assign code **3.5.**

Example 2: "Throwing things around in her room seems to be a reaction to negative feelings[1]."

Analysis: The identified affect regulation behaviour is not framed in terms of defense mechanisms or coping style (in that case it should be assigned to code **3.5**). Assign code **3.4**.

3.5. Defence mechanisms or coping style

Consideration of defense or coping mechanisms habitually used by the individual. These must be identified as such or be readily recognized as common mechanisms of defense or of coping.

Example 1: "Cutting herself is a strategy for handling stress across life[1], and I'd really be worried about her.[2]"

Analysis CU1: the subject suggests that the client cut herself as a strategy for coping with stress. Assign code **3.5.**

Analysis CU2: This statement is personal, no code is assigned (empty CU).

Example 2: "She seems to be a person that is more intellectual[1] and perhaps has a problem getting in touch with her feelings[2] and expressing her feelings[3] and that rather will intellectualize about her problems[4]."

Analysis CU1: The trait "intellectual" is presented in the context of maladaptive behaviour (intellectualization as defense mechanism, see CU4), thus code **3.1** is assigned. In connection with adaptive behaviour, code **7.1** would be appropriate.

Analysis CU2: The subject considers how the client manages her emotions, assign code **3.4**

Analysis CU3: Assign code **3.4**

Analysis CU4: Intellectualization is a common defense mechanism, assign code **3.5**.

3.6. Skill, social learning or behavioural deficit

Skill, social learning, or behavioural deficits identified as contributing to the individual's current problems or difficulties. A skill or social learning deficit is a social ability the individual is inferred as never having learned adequately. These are skills

that the individual may be able to learn, but has not yet acquired. A behavioural deficit refers to applying a social skill that has been learned. Code **3.6** if a person explicitly frames an interpersonal problem (which ordinarily would be assigned code 3.2.) in terms of learning theory, learning deficit, etc.

Example 1: "In his family predominates a climate of forced harmony[1] – his poor ability to handle conflicts seems to be a result thereof[2]."

Analysis CU1: The stressor "climate of forced harmony" is linked to the client's current problems and none of the codes **3 - 5** seem appropriate. Therefore assign code **6**.

Analysis CU2: The client's poor ability of handling conflicts is considered a skill deficit that the client could not learn adequately. Assign code **3.6**.

Example 2: see example 2 under code **3.2**.

4 Inferred mechanism: Biological/Physical

Consideration of genetic or acquired biological influences contributing to or being a result of the individual's problems. This code is also assigned when the subject explicitly refers to physical conditions or problems.

Example 1: "He seems to have a genetic loading for depression.[1]"

Analysis: Assign code **4**.

Example 2: "His mental impairment makes family life difficult sometimes"[1].

Analysis: The mental impairment of the client is a biological condition that is considered influential concerning his problems. Assign code **4**.

Example 3: "Her strain manifests as physical symptoms (e.g. hyperventilation or tremour)[1]."

Analysis : The subject correlates physical difficulties of the client with her psychological problems. Assign code **4**.

5 Inferred mechanism: Social or Cultural Factors

5.1. Absence of or poor psychosocial support

A lack of psychosocial support that contributes to or exacerbates the individual's difficulties. These include a lack of support from spouse or immediate family members and few or no close friends or confidants.

Example 1: "Due to her divorce she lost a great part of her social contacts[1]. She misses this emotional support in her current crisis[2]."

Analysis CU1: The divorce is considered as an event that contributed to the current problems of the client. Assign code **2.2**.

Analysis CU2: Assign code **5.1**.

Example 2: "Due to her poor living conditions[1] she lacks social support[2]."

Analysis CU1: Assign code **5.2,** because her living conditions are named as a source for her problems.

Analysis CU2: Assign code **5.1**.

5.2. Demographic/cultural factors (e.g., SES, gender) as a source of problems

Cultural or demographic factors that contribute to the individual's functioning. Includes SES, gender, unusually strict religious or moral views, member of an "outgroup" when inferred as problematic.

Example 1: "She suffers from several social problems, such as low income[1], poor working conditions[2] and lack of social network[3]. These factors contribute to her feeling of hopelessness[4]."

Analysis CU1 – CU3: Assign code **10**, because the named factors are repetitions of case information.

Analysis CU4: The preceding demographic factors are considered as being causal for problems of the client. Assign code **5.2**

Example 2: see example 2 under **5.1**

5.3. Role conflict: role strain, role transition, role dispute

These are problems in which the individual's social roles are emphasized more than his/her internal psychological organization. They include

1) conflict with others or within the self about the social roles the individual plays or should play, e.g., employee versus parent versus spouse, or as one type of spouse as opposed to another type of spouse.

2) developmental changes, e.g., adolescent to adult, change from single to married status, change from married to divorced status, non-parent to parent. These may be framed as "identity" problems, which would be assigned to **3.1** unless coder infers a social role context as primary. Role transitions encompass major life events such as graduation, marriage, retirement, moving, changing jobs, being diagnosed with a severe illness, divorce, etc.

Always consider **5.3** if the formulator emphasizes conflicts related to socially prescribed roles.

Assign code **2** if the explanatory focus is more on past events, traumas, or experiences that are specific to the individual or **3.X** if the focus is on an intrapsychic or interpersonal pattern or organization.

Example: "He's in an inner conflict: On the one hand he feels a strong urge to live independently from his parents[1], but on the other hand he does not yet feel up to that big step in his life[2]."

Analysis CU1 and CU2: Both CUs describe feelings that are directly linked to detachment problems due to a role transition. Assign code **5.3**.

6 Other precipitating or current stressors and/or events

The subject mentions stressors, life events and traumas that cannot be coded as **3 – 5**. He/She links them directly to the individual's current symptoms or problems. These include stressors that have precipitated the onset of the symptomatology or exacerbated existing problems/symptoms, therefore code **2** can not be assigned either.

Example 1: "The client witnessed a severe accident.[1] This traumatic experience reinforced her anxiety symptoms.[2]"

Analysis CU1: Assign code **10**.

Analysis CU2: The subject assumes that the experience of witnessing an accident is directly linked to the client's disorder. None of the codes **3 - 5** is appropriate, assign code **6**.

Example 2: "Her constant problems to allow for intimacy in her love relationships[1] reinforce the frequency of failed relationships[2]."

Analysis CU1 and CU2: Although both CUs refer to a current stressor, code **3.2** is more appropriate than code **6**, because the subject mentions problematic aspects of the client's relatedness to others. Assign code **3.2**.

7 Positive treatment indicators

7.1. Strengths/adaptive skills, aspects or traits of self

Features of the individual that are identified as strengths or adaptive skills that are currently helping or are expected to help the individual's overall level of functioning. Include aspects of the person's self-concept that are presented as adaptive or beneficial in the person's functioning.

Example 1: "His controlledness often leads to difficulties with his wife[1]. But at the same time this trait shall help him to overcome the current crisis[2].

Analysis: CU1: The subject first mentions a problematic consequence of a trait of the client. Assign code **3.1**.

Analysis CU2: Assign code **7.1**, because now it is assumed that the same trait has a positive connotation as well.

see example 1 under code **1**.

7.2. Adaptive perceptions/views of others

Aspects of the person's concept of others that are adaptive or beneficial in the person's functioning are assigned to this code.

Example: "She perceives her spouse to be supportive of getting help for her problems[1]."

Analysis: Assign code **7.2**.

7.3. Positive motivation for treatment

Clinician considers individual's positive motivation toward treatment.

Example: "Her panic attacks have distinct impact on her family life[1] and she definitely wants to change the current situation[2]."

Analysis CU1: The subject regards the panic attacks as being a stressor to the family life. No other code seems appropriate. Assign code **6**.

Analysis CU2: Assign code **7.3**.

7.4. Adaptive wishes, hopes or goals

Goals, wishes, or hopes attributed to the patient (not to the therapist!) that appear to be helpful or adaptive in nature.

Example: "Despite all her negative thoughts[1] she has "decided" not to get insane[2] or die prematurely,[3] but managed to separate from her violent partner[4]."

Analysis CU1: The subject refers to maladaptive thoughts of the client. Assign code **3.3**.

Analysis CU2 and CU3: The subject mentions positive thoughts or "goals" of the client that serve as resources for managing her life. Assign code **7.4**.

Analysis CU4: The separation from the partner is interpreted as an important, positive step, the client already has achieved. Assign code **7.6**.

7.5. Good psychosocial support

Qualities of the individual's social support network that are seen as strengths by the therapist, such as close friends or confidants, a supportive spouse, supportive siblings or family members.

Example: "Although the children are sometimes annoyed by her mothers incapability to transport them by car[1], they still are very sympathetic and supportive of their mother[2]."

Analysis CU1: Assign code **10**.

Analysis CU2: Assign code **7.5**.

7.6. Progress already achieved

The subject mentions behaviour or events that are meant to demonstrate progress the client has already achieved. If such positive and adaptive behaviour is not mentioned as progress (and thus a resource) of the client, but without any particular intention, it is assigned to code 10.

Example 1: "She had better times in the past[1], but at the moment she does not seem to be able to manage the various demands of her daily life[2]."

> *Analysis CU1*: The subject does not indicate a progress the client achieved and does not refer to the "better times" as being a resource for her current crisis. It is thus assigned code **10**.
>
> *Analysis CU2*: Assign code **1**.

Example 2: see example under code 7.4.

8 Identification of potential therapy-interfering factors

Items identified as obstacles or possible obstacles to successful treatment outcome. Include references to the risk of premature drop-out.

Example 1: "Moving to another city will make it difficult for her to hang in there[1] and comply with the treatment.[2]"

Analysis CU1 and CU2: Assign code **8**.

Example 2: "Her poor living conditions made it difficult for her in the past to approach her problems[1] and have to be kept in mind while planning treatment.[2]"

Analysis CU1: Assign code **5.2**.

Analysis CU2: The subject indicates that the client's living conditions could possibly form an obstacle to successful treatment. Assign code **8**.

9 Symptom identification and classification inferred from Vignette

9.1. Symptoms and problems

This code is for statements about symptoms and problems that go beyond the information provided in the vignette. It also includes speculations over increased levels of frustration or stress that contribute to the individual's difficulties.

Use this code when **1 - 8** do not seem appropriate and code statements referring explicitly to DSM-classification as **9.2**.

Example 1: "Most likely the client also suffers from attachment difficulties[1] and a distinct fear to find herself abandoned[2]".

Analysis CU1: The subject infers further problems that are not mentioned in the vignette. Assign code **9**.

Analysis CU2: Again the subject speculates on symptoms that are not included in the vignette; assign code **9**.

Example 2: "She seems to constantly overstrain herself[1], which leads to physical symptoms[2]."

Analysis CU1: The subject refers to overstrain/stress of the client, thus a problem not explicitly mentioned in the case description. Assign code **9.1**

Analysis CU2: Statements about physical conditions are assigned to code **4**.

9.2. Classification of disorders

The subject assigns a classification according to *DSM IV* or *ICD 10* to the client´s problems that is not explicitly mentioned in the vignette (which ought to be coded as **10**).

Example 1: "The described instability in mood[1] and the chaotic and unstable interpersonal relationships[2] could also be a sign of a borderline personality disorder (301.83)[3]."

Analysis CU1 and CU2: The subject infers symptoms/problems that go beyond the case information. Assign code **9.1**.

Analysis CU3: The subject assumes a psychiatric disorder that is not mentioned in the vignette. Assign code **9.2**.

Example 2: "The client feels anxious during riding in heavy traffic[1] and interprets her physical symptoms as dangerous[2]."

Analysis CU1: The subject mentions a symptom (feeling anxious) that is provided in the vignette. Assign code **10**.

Analysis CU2: The subject refers to information given in the vignette, but not simply in form of repetition. The (mis)interpretation of the client's feelings are presented as part of the underlying mechanism causing the person's problems. Assign code **3.3**.

10 Repetition of information given in the vignette

This code is for CUs that only repeat or summarize case information. That is, the extracted text is not in any way linked to a particular mechanism or factor or the like **within that same CU**, so that the CU could be assigned any of the categories **1 - 9**.

Most often the repeated information is connected to some mechanism or factor in the course of the text, i.e. in one of the next CUs or a preceding CU, to make explicit the presuppositions for another statement that can be assigned one of the codes **1 - 9**. If such a mechanism or factor the subject's statements are aimed at can be identified in one of the

“surrounding” CUs, code **10** is assigned. If the repeated information is clearly connected to a mechanism or the like **within that CU**, then the most appropriate code from among the categories **1 - 9** is assigned. (If in doubt, remember the advice, from point 4 of the instructions for segmentation into Content Units, to mentally rearrange the order of words to get a ‘meaningful’ sentence.). Thus, codes **1 - 9** have priority over code **10**.

Example: “She has experienced two serious traumas in the course of her life[1] that have certainly contributed to her current problems[2].”

> *Analysis CU1*: Text from the vignette is repeated in form of a summary. The connection with the client’s problems is established in the second CU. Assign code **10**.
>
> *Analysis CU2*: The subject refers to the client’s trauma’s (“that”) in order to explain her current problems. Assign code **2**.

More examples can be found under some of the other codes.

3 Quality Coding

3.1 Segmentation of the text into Quality Units (QUs)

The goal of the quality rating is to provide an overall measure of each hypothesis provided. The information is therefore segmented into separate hypotheses. Whereas the unit coded in the content coding step is the CU, the segment underlying the quality coding of the text is the **Quality Unit (QU)**. It comprises minimally one sentence or list item. QUs consist of CUs, so that each QU boundary is also a CU boundary, but not necessarily vice versa.

The boundary of a QU is defined by coherence. CUs that are logically associated with each other and form thus part of one argument, comprise a single QU. A QU may contain several CUs, **if** they are argumentatively linked with each other. The connection between those CUs may either be stated explicitly or it may be simply indicated by identifying the way the single CUs work together and thereby form one separate mechanism (see example 4).

Information that is just a repetition of case information (CUs assigned code **10**) and/or not offered as explanatory **and** that is not linked in any way to another CU, will not be segmented at all in this section. It is, thus, assumed that some CUs will simply be left over (see examples 5 and 6).

In the following examples, CUs are indicated by red superscripts, QUs by blue superscripts.

*Example 1: "*One possible reason for the client's depression is his uncertainty at work[11]. Another cause could be the conflicts with his wife[22]. Furthermore he has a genetic loading for depression[33]."

Analysis: These are three CUs (three "meaningful" propositions). In this case each CU forms a QU as well, because the subject names three different reasons for the depression of the client and doesn't link them in any way.

Example 2: "uncertainty at work[11], relational conflicts[22], genetic loading[33]"

Analysis: These are three separate Quality Units again, because the subject mentions three different factors and doesn't link or combine them.

Example 3: "Increased strain because of work stress[1] and perfectionism[2] in combination with the anxiety-causing situation on the freeway[3] lead to avoidance[4] and thereby to over-generalization[5] and maintenance of the anxiety symptoms[61]."

Analysis: The subject names six independent factors, thus 6 CUs. However, they are all part of a unified hypothesis, because they are combined to form one coherent explanation for the problem. Thus: one Quality Unit.

Example 4: "Triggering situation: traffic[1]. Maintaining factor: Avoidance in other situations as well (generalization) [2]. Reinforcing factor: stress at the work-place. [31]"

Analysis: Although three independent factors – and thus three CUs - are mentioned and not explicitly linked with each other, it is nevertheless assumed that the subject aims at describing a coherent explanation for the client's disorder. The factors named are not simply listed, but are assigned to specific mechanisms that are working together, "triggering, maintaining and reinforcing" the problem. They form thus parts of one (composite) hypothesis.

Example 5: "[She has taken on an executive position in her company[1] and supervises ten employees[2]]. The relational problems with her spouse seem to have negative impact on her mental health[31]."

Analysis: The first sentence is a summary of some of the case information. It has already been segmented as two CUs in the Content Coding section and been assigned Code **10** (*repetition of information given in the vignette*). Since it does not connect in any way to the following – explanatory – statement, it does not form part of a QU. In the second CU the subject aims at explaining part of the client's problem. It is thus assigned to a QU.

Example 6: "Six years ago the patient has taken on an executive position[1], six years ago she restarted smoking[2] and at the same time she seems to have had much stress at her workplace[3]. Also six years ago, her anxiety symptoms appeared for the first time[41]. She seems to be someone who wants to do everything correctly and well[52]."

Analysis: This text has to be segmented into two QUs. The first sentence does not contain any new or explanatory information (i.e., three CUs that are assigned to code **10**), but it is linked argumentatively with the second sentence, so that one hypothesis is generated (namely, the changes that occurred in the client's life six years ago are correlated in some way with her anxiety). The following (third) sentence (the fifth CU) contains new information that is offered as explanatory and not linked with the preceding CUs; thus it forms another QU.

3.2 Quality coding principles

Section B "Quality coding of explanatory/inferred information" is supposed to reliably and comprehensively evaluate the quality of psychotherapeutic hypotheses.
The ratings are assigned to each Quality Unit. In contradistinction to content coding, it is possible and even desirable to assign several quality codes to one Quality Unit.
Use manual section B and fill in the enclosed Quality Coding Sheet. Enter the number for each Quality Unit into the sheet and then go through every category and check which rating to assign to this QU.

3.3 Quality Coding Tips

- Code with care! Make sure to read the rating categories thoroughly before you start coding.
- If in doubt, do not code. If a QU is so complex or incomplete that its meaning is not clear to you, do not give it any coding.
- Be careful not to infer beyond the data presented. Try to understand what the clinician considered important to formulate, but do not over-interpret him/her.
- Try to be objective! The ratings will admittedly reflect the subjective opinion of the rater to some extent. In order to achieve an outcome that is as objective and accurate as possible, try to contain yourself and disregard your personal evaluation.

B Quality coding of explanatory/inferred information3

Definition of basic terms:

- Explanandum: That part of a complete explanation that represents the thing to be explained, here the patient's problem or symptom.
- Explanans: That part of a complete explanation that represents the explanatory portion (some factor responsible for the explanandum).
- Direct factor: A factor that immediately leads to the explanandum without intermediate factors. With regard to causal hypotheses the direct factor immediately precedes the explanandum. With regard to functional hypotheses, where the problem is explained by its favorable effect, the direct factor may immediately follow the explanandum (Vermande, 1995).
- Indirect factor: A factor leading to another factor, which may in turn be either direct or indirect.
- Linear relationship: A relationship of direct proportionality that, when plotted on a graph, traces a straight line.
- Nonlinear relationship: Any relationship that is not linear. With regard to the categories at hand, hypotheses are meant that can graphically not be expressed as a straight line, but as a model, with the explanandum as central point and the explaining factors exerting their influence from different directions.
- Unidirectional: all component parts of a hypothesis are aligned in the same direction in space
- Bidirectional: one or more factor(s) of a hypothesis operate(s) in two directions.

1 Form

Note: The subcategories **1.1**. through **1.4** are mutually exclusive. That means that only one of these categories can be picked for each QU. Code **1.5** describes an additional criterion that can apply to each of the former categories and has to be checked for each QU after it has been assigned one of the codes **1.1** – **1.4** (see examples).

1.1. Organisation of the factors adduced in a coherent explanatory model (4 points)

Several direct **and** indirect factors are mentioned by the subject with **not only linear and/or not only unidirectional** links between the separate factors. Overall the statements are well integrated in a more or less complex model. The links and connections between the different elements of the model are obvious.

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[3]Based on an unpublished manuscript by Fothergill & Kuyken (2002) and a doctoral thesis by Vermande (1995) (See References)

Example 1: "The depression has to be seen as a decompensation for overstraining[1], perfectionism[2] and an exaggerated need for controlling[3] and was precipitated by reorganization at his workplace[4]. He reacted to the occupational insecurity with even more work[5] and more control[6]. Furthermore the diagnosis "arterial occlusion" has triggered fear by the patient[7] – remembrance of his father -[8] and a feeling of helplessness[9], which worsened the depression[101]."

Analysis: The subject names several direct and indirect factors which are linked with each other. The elements mentioned are not only connected with each other in a linear way, but some of them have a nonlinear relationship and thereby form a coherent model of the onset and maintenance of the client's problem. Assign code **1.1**.

Furthermore code **1.5** is assigned, because the subject specifies the way that the factors exert their influence ("a decompensation", was precipitated", "triggered", "worsened").

Example 2: "Overstrain at the workplace[1] led to a feeling of helplessness[2] that contributed to the depressive reaction[31]."

Analysis: The subject mentions several factors as well, but they are linked in a linear way. Assign code **1.2**.

No specified explanatory mechanism can be identified, the subject just speaks of "lead to" and "contribute". Code **1.5** may thus not be assigned.

1.2. Explanatory chain (3 points)

Contains direct **and** one or more indirect factors that are linked in a **linear and unidirectional** way.

Example 1: "In a stressful situation the patient developed cardiovascular symptoms[1] that she interpreted as threatening[2]. This anxiety reinforced her physical symptoms[3] and led thereby to a spiral of anxiety[41]."

Analysis: The subject identifies three indirect factors ("stressful situation", "cardiovascular symptoms", "interpreted as threatening") and one direct factor ("reinforcement of physical symptoms") that are linked in a linear way with each other and with the explanandum (anxiety). Assign code **1.2**.

Furthermore some of the mechanisms are specified ("interpreted", "reinforced"). Assign code **1.5** as well.

Example 2: "Stressful traffic situations trigger anxiety symptoms[1]. Stress at the workplace increases her general vulnerability for such anxiety states,[2] and her avoiding behaviour reinforces the problem.[31]."

Analysis: At first sight this hypothesis looks like an explanatory model. But the elements of this hypothesis are all direct factors ("stressful traffic situations", "stress at the workplace", "avoiding behaviour") that exert their influence

immediately on the explanandum (anxiety). It is thus a composite hypothesis, assign code **1.3**.

The working mechanism of the factors named is specified (trigger", "increase vulnerability for", "reinforces"), code **1.5** is thus assigned, too.

1.3. Composite hypothesis (2 points)

Contains two or more direct factors and no indirect factors.

Example 1: "Poor self-worth[1], inhibition of aggression[2] and a dependency-autonomy-conflict lead to the development of the disorder[31]"

Analysis: Each of these factors works immediately on the explanandum, it is thus a composite hypothesis, assign code **1.3**. Code **1.5** is not assigned.

Example 2: "Her poor self-worth[1] leads to an inhibition of aggression[2] and thereby to a dependency-autonomy-conflict that triggered the disorder[31]."

Analysis: In contradistinction to the preceding example, the elements of this hypothesis are linked in a linear way, so that two indirect factors ("poor self-worth", "inhibition of aggression") and one direct factor ("dependency-autonomy-conflict") emerge. Assign code **1.2**.

One of the mechanisms is further specified now ("triggered the onset"), thus code **1.5** is assigned as well.

1.4. Simple hypothesis (1 point)

The subject mentions only one direct factor.

Example: "The dissociative disorder seems to be a consequence of early traumatisation[11]"

Analysis: The hypothesis comprises only one factor and is thus assigned code **1.4**.

The working mechanism of the factor is not specified ("a consequence of"), therefore code **1.5** cannot be assigned.

1.5. Specification of explanatory relation or mechanism (0,5 points)

A subject specifies either the character of explanatory relation that links the explanans with the explanandum or simply gives explicit further information on the way the explanatory factor exerts its influence. That is, it is not sufficient, if the subject clarifies the relation between two variables with arrows or uses terms as "leads to" or "is the cause of". Common specifications in this context are "reinforces", "precipitates the onset of", "activates", "is a maintaining factor of", etc.

In case several factors are named, it is sufficient if the mechanism of **one** of them is further specified. The code may only be assigned once for each hypothesis, thus it

does not matter whether a subject mentions only one specified mechanism or several distinct ones.

Example 1: "Her constant somberness lead to relational problems with her husband[1] and thereby reinforce the experience of isolation and rejection.[21]"

> *Analysis*: In the first CU the subject just mentions a general causal relation between the two factors ("lead to"), but in the second CU he/she gives a specification of the explanatory relation ("reinforce"). Code **1.5** is assigned.

Example 2: "Triggering factor: uncertainty at work[11]."

> *Analysis*: The subject gives further information about the way the factor exerts its influence: "triggering". Thus code **1.5** is assigned.

See examples under points 1.1 – 1.4 as well.

2 The logical properties of explanation: Consistency, specificity, relevance and testability (0-3 points)

The subject should bring forward aspects that are not extracted from the vignettes but new and inferred propositions. Nevertheless the text should refer to the vignette. One should get the impression that the subject has understood the case, i.e. the elements of the hypothesis should be clearly integrated and bear an adequate relation to the information given in the vignette *and* bear a relation with at least one of the client's difficulties. That is, the hypothesis must be **relevant** in view of the complete case information.

The elements in the explanatory structure should be **specific** and have sufficient depth, so that the reader does not require an explanation of the explanatory factor itself.

The explanation should be **consistent**, that is, in principle it could actually be an explanation of the client's problem, i.e. it must not be contradictory, circular or only a restatement of the problem. The explanandum should not succeed the explanans in time.

Testability, a property applying to an empirical hypothesis, involves two components: (1) falsifiability, which means that it is clear what would constitute a valid counterexample to the hypothesis, and (2) the practical feasibility of observing a reproducible series of such counterexamples if they do exist. In short, a hypothesis is testable if it is truly possible to decide whether it is true or false of actual experience. The hypothesis mentioned by the subject should thus be explicit and distinct, formulated in a precise and straightforward manner. An operationalisation of the hypothesis has to be possible, i.e. the factor made responsible is manipulable and can be found in the presence; evidence for it should be (theoretically) observable. Operationalisation tends not to be possible if an explanation is ambiguous, vague or very complex.

Hypotheses may consist of several different factors, some of them testable, and others not. The score for testability is assigned, when at least one of the named factors in one hypothesis is testable.

Five point scale (0 - 4 points):

There are in total four criteria that indicate the quality of a hypothesis concerning its logical properties: relevance, specificity, consistency and testability. Relevance is considered to be a basic criterion. It is therefore inevitably necessary for an explanation in order to get at least 1 point and has to be fulfilled for all other ranks, too (except for very poor = 0 points).

a) Very good (4 points):

The subject refers adequately to the information given in the vignette and his/her explanation is specific, consistent and testable. All four criteria are given.

Example: "Her uncertainty concerning her work situation has triggered the first panic attack[11]."

> *Analysis*: The explanans could actually be an explanation of the problem, it is consistent, specific and relevant. It relates to the case information and it is testable. Assign 4 points.

Checklist for score a) very good:

√ **All** of the four criteria hereunder are given:
- The explanation is relevant.
- The explanation is consistent.
- The explanation is specific.
- The explanation is testable.

b) Good (3 points):

One of the above mentioned criteria (testability, specificity, consistency and relevance) is not fulfilled.

Example 1: "Her traumatic childhood experiences (abuse) may have caused the panic disorder[11]."

> *Analysis*: This hypothesis is consistent, specific and has sufficient depth. It could theoretically really be an explanation of the problem and relates to the case information. However, it is not testable, because the explanans (trauma in childhood) is very remote in time. Therefore no operationalisation is possible. Assign 3 points.

Example 2: "The avoidant behaviour causes the panic attacks[11]".

> *Analysis*: A component of the problem (avoidant behaviour) is labelled as explanatory factor. This explanation confuses cause and effect and is therefore not consistent. However, it is specific enough and testable. The

subject has understood the case information and refers to it; that is, it is relevant as it regards the client's problem and symptoms. Assign 3 points.

Checklist for score b) good:

√ **Three** of the four criteria hereunder are given:

- The explanation is relevant.
- The explanation is consistent.
- The explanation is specific.
- The explanation is testable.

c) Sufficient (2 points)

The hypothesis fulfils two of the four mentioned criteria. That is, it either doesn't explain the client's difficulties and/or it doesn't bear sufficient depth and/or it is in some way inconsistent (contradictory, circular, tautological) and/or the hypothesis is unspecific and/or not testable.

Example 1: "The client's personal problems have intensified her anxiety disorder[11]."

Analysis: This explanation is consistent, relates to the case information and could really explain the problem. However it is not specific enough ("personal problems") and therefore not testable, either. Assign 2 points.

Example 2: "The panic attacks may be caused by a combination of relational[1] or occupational factors[21]. "

Analysis: The subject names two possible reasons for the client's disorder. Although the explanation is consistent and relevant, it is not testable, because it is too vague (thus not specific either). Assign 2 points.

Example 3: "The panic attacks are precipitated by her poor overall situation[11]."

Analysis: The subject refers to the case information and the explanation is consistent, but it is totally unspecific. It is therefore not testable either. Assign 2 points.

Checklist for score c) sufficient:

√ **Two** of the four criteria hereunder are given:

- The explanation is relevant, i.e. the subject has understood the issue and refers to it.
- The explanation is consistent.
- The explanation is specific.
- The explanation is testable.

d) Poor (1 point)

The explanation does only fulfil one of the required criteria.

Example 1: "The anxiety states during driving are a result of the panic disorder[11]".

Analysis: This explanation is circular. The subject provides a covering, descriptive label for the problem, but doesn't mention any new aspects. It is thus not consistent and is not testable. It is not specific either. However, the subject has understood the case and refers to the information given in the vignette. Assign 1 point.

Example 2: "Those panic attacks are anxiety states[11]."

Analysis: This explanation is tautological, the problem ("panic attacks") is just restated ("anxiety states"). It is thus not testable. It is not very specific either ("those panic attacks"), but the subject refers to the vignette and has understood the issue. Assign 1 point.

Checklist for score d) poor:

√ **One** of the four criteria hereunder is given:

- The explanation is relevant, i.e. the subject has understood the issue and refers to it.
- The explanation is consistent.
- The explanation is specific.
- The explanation is testable.

e) Very poor (0 points)

No points are assigned if the subject doesn't seem to have read the vignette sufficiently or hasn't really understood the issue. Also, 0 points are assigned to a hypothesis that is completely irrelevant and doesn't explain anything at all.

Example 1: "Abuse in childhood has led to little self-worth[1] and self-protection[2]. These two factors cause promiscuity[31]."

Analysis: The client described in the vignette has mood swings, suffers from dissociative states and anxiety. The hypothesis does not at all explain any of those central problems and is thus irrelevant. Assign 1 point.

Checklist for score e) very poor:

√ **None** of the four criteria hereunder is given:

- The explanation is relevant, i.e. the subject has understood the issue and refers to it.
- The explanation is consistent.
- The explanation is specific.
- The explanation is testable.

3 Clinical utility

3.1. Modifiability (0 - 2 points)

The factors posited in the hypothesis should be modifiable. Factors that are modifiable can be influenced by the client. That means that they ought to lie in the

present and concern the client himself or his direct environment, so that these factors can be altered through a behavioural change of the client.

Three point scale (0-2 points):

a) Directly modifiable (2 points)

At least one of the identified factors concern the client in an immediate way and lies in the present. It may thus be modified by the client through a behavioural change. *Example 1*: "The client's exaggerated perfectionism causes her panic attacks[11].

Analysis: This explanation offers a factor that might be changed during treatment of the client and it is not explicitly called a character trait. Assign 2 points.

b) Indirectly modifiable (1 point):

None of the named factors may be modified directly by the client, because they don´t concern the client himself or they lie within the past. However, at least one of them concerns someone from the client´s direct environment or some of his living circumstances and it is not too remote in time, so as to be modifiable, i.e. at least one of the described factors can probably still be found in the client´s personality or behaviour. That means, at least one of the factors lies within the client's reach. It can be altered indirectly by the client, e.g. by means of interaction with someone or through modification of the circumstances. In case of past events, the therapist can check together with the client, if some behaviour from the past still persists and may be altered.

Example 1: "The constant humiliation by her partner causes and maintains her depression[11]."

Analysis: The identified reason lies with another person than the client. However, it may be possible to influence the client's relationship during therapy or to even involve the partner. Another solution to stop the negative influence of the partner may be separation. Assign 1 point.

Example 2: "Her working conditions, above all the shift work[1], precipitate her symptoms[21]."

Analysis: The factor ("working conditions/shift work") cannot be modified through a behavioural change of the client, but it might be possible for her to change the job or to arrange other working conditions with the head of the business. Assign 1 point.

Example 3: "In the year 2001 the client drove between trucks. She was in a bad mood. She got afraid and interpreted her physical symptoms as abnormal. Since that time she remained anxious in the car."

Analysis: The factors lie in the past, but the described event happened only a few years ago and at least one of the elements (interpretation of the symptoms as abnormal) does probably endure to date. Assign 1 point.

c) Not modifiable at all (0 points):

None of the identified factors for the client's disorder is modifiable at all, because they all lie completely out of the client's reach (that is, they are either remote in time or they concern exclusively other persons or circumstances the client has no influence on).

Example 1: "The client has experienced traumatisation during childhood[1]. This led to the development of her depression[21]."

Analysis: The identified factor (traumatisation) is very remote in time (childhood) and thus not modifiable. Assign 0 points.

Example 2: "The development and maintenance of her disorder is due to her physical impairment[11]."

Analysis: The client is not able to change anything about her disability. Assign 0 points.

3.2. Positive treatment indicators

According to section 7 of the content coding manual, positive treatment indicators are:

- Strengths/adaptive skills, aspects or traits of self
- Adaptive perceptions/views of others
- Positive motivation for treatment
- Adaptive wishes, hopes or goals
- Good psychosocial support
- Progress already achieved.

It is assumed that positive treatment indicators form the basis of any treatment planning and are thus useful with regard to the therapy success.

Three point scale (0-2 points)

Positive treatment indicators are identified during content coding and ranked as follows:

- no positive treatment indicator mentioned: 0 points
- 1 or two positive treatment indicators mentioned: 1 point
- 3 or more positive treatment indicators mentioned: 2 points.

Example: "Her panic attacks have distinct impact on her family life[1] and she definitely wants to change the current situation[21]."

Analysis: During Content Coding, CU2 was assigned code 7.3 (Positive motivation for treatment). It is the only positive treatment indicator in that QU and thus assigned 1 point.

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