Personality development as predictor of psychological distress in patients suspected of lung cancer or esophageal cancer

Adriaan van 't Spijker

Personality development as predictor of psychological distress in patients suspected of lung cancer or esophageal cancer

Persoonlijkheidsontwikkeling
als voorspeller van psychische problemen
bij patiënten die worden onderzocht op
longkanker of slokdarmkanker

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'Hoe was het?'
'Het was verschrikkelijk!' – ze was buiten
adem van het klimmen met die stapel boeken.
'Jij hebt het wel eens over demythologiseren,
maar nu weet ik wat je bedoelt!'
Hij bleef glimlachend boven aan de trap
staan, zich naar haar omdraaiend. Uit de
kamer klonk luid gelach en geroep.

J.J. Voskuil, Het Bureau, V, 573

Aan mijn ouders

Voor Lucia, Willem, Inge en Maaike

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Introduction

Introduction

Cancer patients suffer from a variety of problems, somatically, socially and psychologically. Somatically, the illness and treatment threaten physical integrity. Cancer is an insidious disease, in which the patient is severely ill before he notices any symptoms. The (mostly) invasive treatment often results in the patient feeling worse after treatment than before. This means that the confidence the patient has in his own body is diminished.

Socially, the illness, treatment and its consequences (tiredness, lack of energy, feeling ill) may result in social isolation. This can be increased by the fear and uncertainty of by-standers how to approach the patient, what to say to him, and what to expect from him.

Psychologically, the patient has to cope with the emotional consequences of the illness, such as changes in life perspective, mourning his lost health, and anxiety and uncertainty about the future.

The literature on the prevalence of psychological distress in cancer patients is equivocal. The percentages of depressed and/or anxious patients reported in the literature vary widely from 0% to 49% (cf. Bulman, 1992; Omne-Ponten, Holmberg, Burns, Adami & Bergstrom, 1992; Devlen, Maguire, Phillips, Crowther & Chambers, 1987). It is worthwhile to solve the lack of clarity on this point. This leads to the first research question of this thesis: what is the prevalence and course of psychological distress in cancer patients?

In order to provide timely psychological treatment for those patients who can profit from it, it is needed to identify risk factors for psychological distress in cancer patients. Because personality is related to psychological distress (cf. Blatt, 1990; Vaillant, 1990; Strauman, 1994; Mansson, Christensson, Johnson & Colleen, 1998), it can be worthwhile to study the prospective value of personality factors in cancer patients. Psychodynamic developmental psychology provides a relevant frame of reference (Straker, 1998). The diverse theoretical schools of psychodynamic theory (cf. Pine, 1990) add to the understanding of emotional reactions and provide a reference for interventions. From an ego-psychological point of view the defense and coping mechanisms of patients are understood. From a object-relational point of view, the interaction between the cancer patients

on the one hand and physicians and family members on the other can be clarified. For instance, the threat of object loss influences the relationship between cancer patients and important others. Self psychology helps to understand the influence of the threat to the integrity of the self and the need for an empathic advance towards the patient (Straker, 1998; Postone, 1998). Psychodynamic therapy can help those patients whose illness has triggered the intensification of an intrapsychic conflict (Postone, 1998).
Modern developmental theories state that development is a lifelong process, that is started by a developmental challenge, that is a distortion of the existing psychological equilibrium (Colarusso & Nemiroff, 1987; Settlage, Curtis, Lozoff, Lozoff, Silberschatz & Simburg, 1987; Tyson & Tyson, 1990). The diagnosis of cancer leads to an emotional reaction, and thus poses a developmental challenge. Thereby, the diagnosis of cancer puts into operation the developmental process.
Because the diagnosis of cancer means a developmental challenge, and because psychodynamic theory is useful in psycho-oncology, a psychodynamic developmental point of view is indicated in the pursuit of predictive factors for psychological distress in cancer patients. The Developmental Profile of R.E. Abraham (1997a, 1997b; Van, van Foeken, Ingenhoven, Tremonti, Pieper-de Vries, de Groot, van 't Spijker, Spinhoven & Abraham, in press) is constructed from this point of view. It yields an assessment of eight aspects of personality development, covering concepts from three out of the four mainstream psychodynamic theories. This leads to the second research question of this thesis: what is the predictive usefulness of personality for psychological distress in cancer patients?
The outline of this thesis is as follows.
In the first chapter the existing literature on the prevalence and course of psychological distress in cancer patients is reviewed. Meta-analytical techniques are applied when possible. The focus is on the prevalence and course of psychological distress, and on predicting factors hereof.

In the second chapter, an overview is presented of currently available psychodynamic instruments for personality assessment, including the Developmental Profile of R.E. Abraham. The instruments are judged on their usefulness for clinical practice and scientific research. Relevant points are the time needed for the use of the instrument, representation of concepts from different psychodynamic schools, and reliability and validity of the instruments.
The third chapter studies the reliability of the Developmental Profile. The focus is on the reliability of an overall score for the different developmental lines, in stead of the reliability of the developmental levels. This is done in order to use as many personality factors in the predictive study as possible.
The fourth, fifth and sixth chapter of this thesis are concerned with the prevalence of psychological distress and the relationship of distress and personality factors during the diagnostic phase (chapter 4), three months later (chapter 5) and six months later (chapter 6). These chapters each follow the same pattern: the prevalence of psychological distress, the relationship between psychological distress and personality factors, and the predictive usefulness of a combination of personality factors on psychological distress are presented.
Chapter 7 provides an overview of the results of this study, and discusses the results of this study in the light of the existing literature. Recommendations for future studies and interventions are made.

Chapter 1:

Psychological sequelae of cancer diagnosis: A meta-analytical review of 58 studies after 1980

Chapter one

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Psychological sequelae of cancer diagnosis: a meta-analytical review of 58 studies after 1980. *Psychosomatic Medicine, 1997, 59*, 280-293

Abstract

The prevalence, severity and course of depression, anxiety and general psychological distress in cancer patients are studied with the help of meta-analyses and qualitative analyses. Qualitative analyses were also applied with respect to other relevant variables. A literature search was conducted via Medline and via cross references of articles identified via Medline. Meta-analysis was applied when possible. There is a wide variation across studies in psychological and psychiatric problems. Meta-analysis showed no significant differences between cancer patients and the normal population with respect to anxiety and psychological distress. However, cancer patients appeared to be significantly more depressed than normals. Compared to psychiatric patients, cancer patients were significantly less depressed, anxious or distressed. Compared to a sample of other medical patients, cancer patients showed significantly less anxiety. With respect to course, a significant decrease was found for anxiety, but not for depression. Further meta-analyses showed significant differences between groups of cancer patients with regard to tumor site, sex, age, design of the study and year of publication. From the qualitative analyses it appeared that medical, demographic and psychological variables were related inconsistently to psychological and psychiatric problems. Future studies should aim at exploring possible causes for the sometimes impressive differences in psychological or psychiatric problems among patients with cancer.

Introduction

In the past decades a large number of studies have been published on the psychological and psychiatric sequelae of a cancer diagnosis. The disease and treatment may lead to functional restrictions or disabilities which, in turn, may give rise to a diversity of psychosocial problems. These problems may also be related to a changing perspective of life. Psychological interventions are shown to be beneficial in cancer patients (Fawzy, Fawzy, Arndt & Pasnau, 1995; Meyer & Mark, 1995). In order to plan interventions efficiently, it is important to gain insight into the prevalence, severity and course of the psychological sequelae and into the variables influencing these problems (Trijsburg, van Knippenberg & Rijpma, 1992).

As far as we know, reviews of studies which addressed the prevalence and severity of psychological problems related to cancer have been restricted to: specific cancer sites, e.g. breast cancer (Irvine, Brown, Crooks, Roberts & Browne, 1991; Fallowfield & Hall, 1990; Kiebert, de Haes & van der Velde, 1991), lymphoblastic leukemia (Mulhern, Friedman & Stone, 1988), or pancreatic cancer (Green & Austin, 1993); specific treatment modalities, e.g. chemotherapy (Cull, 1990); specific problems, e.g. depression (Petty & Noyes, 1981; Massie & Holland, 1990; Razavi & Stiefel, 1994; McDaniel, Musselman, Porter, Reed & Nemeroff, 1995), or anxiety (Stiefel & Razavi, 1994); or general issues, such as the quality of life (de Haes & van Knippenberg, 1986). One study (Welch-McCaffrey, Hoffman, Leigh, Loescher & Meyskens, 1989) reviewed the long-term psychosocial implications in cancer survivors, but did not present any prevalence data during the course of the illness period.

In contrast to these studies, the present review not only focuses on studies that describe the prevalence and severity of problems, but also on studies that address the course of psychological and psychiatric problems in several groups of cancer patients. The questions are: 1) what is the prevalence and severity of psychological problems; 2) what is the course of psychological problems during and after treatment of cancer; and 3) which variables are related to psychological problems during and after treatment of cancer?

Table 1. Overview of the studies and methodologies

author	Site	design[1]	moment of measurement	n	instruments
Alexander et al. (1993)	heterogeneous	S	during treatment	60	interview
Baider et al. (1988)	breast, colon, testicular	C	not specified	234	PAIS, STAI, BDI
Bloom et al. (1993)	Hodgkin's disease, testicular	C	1 to 7,5 year after treatment	173	POMS, CES-D
Bukberg et al. (1984)	heterogeneous	S	during treatment	62	interview
Bulman (1992)	breast	P	after surgery, after radio, 6, 12 months	54	HAD
Burgess et al. (1988)	heterogeneous	P	3 and 12 months after diagnosis	178	STAI, Wakefield
Cain (1983)	gynaecological	S	within one month after diagnosis	60	CES-D, HRDS
Cassileth et al. (1989)	heterogeneous	P	2, 8, 14 months after diagnosis	128	POMS
Cella et al. (1987)	Hodgkin's disease, testicular	C	> 18 months after diagnosis	90	BSI
Davies et al. (1986)	head & neck	S	before biopsy	75	Leeds scales, GHQ
Dean (1987)	breast	P	prior to surgery, 3 and 12 months afterwards	122	interview, GHQ
Derogatis et al. (1983)	heterogeneous	S	during treatment	215	interview

[1] C: cross-sectional, S: survey, P: prospective

author	Site	design[1]	moment of measurement	n	instruments
Devlen et al. (1987a)	Hodgkin's disease or non-Hodgkin's lymphoma	C	6 months to 6 year after surgery	90	PSE
Devlen et al. (1987b)	Hodgkin's disease or non--Hodgkin's lymphoma	P	1 week, 2, 6 and 12 months after diagnosis	150	PSE
Ell et al. (1989)	heterogeneous	P	diagnosis, 3-6 months, 9-12 months, and 2 years	253	MHI
Espie et al. (1989)	intra-oral	C	1/2 - 10 years after surgery	41	GHQ, HAD
Fallowfield et al. (1986)	breast	C	4 to 32 months after surgery	101	interview
Fallowfield et al. (1990)	breast	P	2 weeks, 3, 12 months after surgery	269	HAD
Fife et al. (1994)	heterogeneous	S	several stages of disease	333	PAIS
Friedman et al. (1988)	breast	C	during visit to the hospital	67	PAIS
Friedman et al. (1990)	breast	C	during visit to the hospital	49	PAIS
Ganz et al. (1992)	breast	S	1 month after surgery	229	POMS
Gilbar et al. (1989)	heterogeneous	S	after dropping out or after treatment	106	PAIS, BSI
Goldberg et al. (1992)	breast	P	at admission, 6, 12 months after surgery	322	RSCL
Gritz et al. (1990)	testicular	C	after treatment	34	POMS, CES-D

author	Site	design[1]	moment of measurement	n	instruments
Hardman et al. (1989)	heterogeneous	C	not specified	126	GHQ, interview
Heeringen et al. (1989)	breast	S	after treatment	102	HRDS
Holland et al. (1986)	pancreas/ gastric	S	begin treatment	218	POMS
Hopwood et al. (1991)	breast	P	start treatment, 1-3 months later	214	HAD, RSCL
Hughes et al. (1982)	breast	P	before surgery, 3, 6, 9-12 months after surgery	44-	GHQ
Hughson et al. (1988)	breast	P	1, 3, 13, 18 and 24 months after surgery	132	GHQ-60
Jenkins et al. (1994)	heterogeneous	P	before BMT, 1 and 6 months after discharge	31	HAD
Kornblith et al. (1992)	Hodgkin's disease	C	> 1 year after treatment	273	BSI
Kukull et al. (1986)	lung	P	one and two months after diagnosis	65	POMS
Lee et al. (1992)	breast	P	prior to surgery and 3 and 12 months afterwards	197	PSE
Lesko et al. (1992)	leukemia	C	> 1 year after treatment	73	BSI
Levy et al. (1992)	breast	P	after surgery and 3 and 15 months afterwards	129	POMS

author	Site	design[1]	moment of measurement	n	instruments
Litwins et al. (1994)	heterogeneous	C	> 1 year after treatment	54	SIP
Lloyd et al. (1984)	Hodgkin's disease or non-Hodgkin's lymphoma	S	after diagnosis	40	interview
Lowery et al. (1993)	breast	C	1 to 60 months after diagnosis	195	PAIS
Maraste et al. (1992)	breast	S	2 months after surgery	133	HAD
Maunsell et al. (1992)	breast	P	3 and 18 months after surgery	227	PSI
McArdle et al. (1990)	breast	P	6, 9, 12 months after surgery	119	GHQ, Leeds Scales
McCorkle et al. (1983)	lung	P	1 and 2 months after diagnosis	67	POMS
McDonald (1988)	rectal	S	1 year after diagnosis	420	Leeds Scales
Neuling et al. (1988)	breast	P	one week, 1, 3 months after surgery	59	STAI, Wakefield
Northouse (1989)	breast	P	3 and 30 days and 18 months after surgery	2 x 41	BSI, PAIS
Omne-Ponten et al. (1992)	breast	P	4 and 13 months after surgery	99	Maguire Rating Scales
Pinder et al. (1993)	breast	C	0-14 months after recurrence	139	HAD
Schmale et al. (1983)	heterogeneous	C	1 -8 years after diagnosis	104	HIS-GWB

author	Site	design[1]	moment of measurement	n	instruments
Silberfarb et al. (1980)	breast	S	4 months after mastectomy, 3 months after recurrence, 3 months after start of chemotherapy	146	interview
Stanton et al. (1993)	breast	P	prior to biopsy, after biopsy and after surgery	117	POMS
Stefanek et al. (1987)	heterogeneous	S	during treatment	126	BSI
Syrjala et al. (1993)	heterogeneous	P	pretransplant, after 90 days, 1 year	67	BSI, BDI
Thomas et al. (1987)	heterogeneous	P	after surgery, 3 and 12 months after surgery	106	Maguire Scales
Waligora-Serafin et al. (1992)	heterogeneous	P	start of treatment, 3 and 6 months afterwards	100	POMS
Watson et al. (1984)	breast	S	1 week after surgery	24	POMS, STAI
Watson et al. (1991)	breast	S	1-3 months after diagnosis	360	HAD

Method

Studies eligible for this review were identified using Medline. In addition, the references of the relevant studies were inspected to identify other eligible studies. The literature search covered 1980 to 1994. The following inclusion criteria had to be met: 1) information on prevalence, severity or course of psychological problems; 2) use of reliable and validated instruments; and 3) no psychological intervention study. If more than one report had been published on a study, only one was selected for this review. Fifty-eight studies fulfilled all the criteria for the review.

The review focused on depression, anxiety and psychological distress, because these problems were addressed in the majority of the studies. Other problems, e.g. sexual dysfunction, anticipatory nausea or vomiting, social and relational dysfunction, are typical of specific types of cancer or cancer treatment and/or were mentioned less frequently and/or were measured with non-validated instruments, hence these will not be reported upon.

Methodological aspects of the studies were reviewed. Relevant data concerning psychological and psychiatric problems (percentages and mean scores) were entered into tables. Using the standard deviation of a reference group, d-values (Cohen, 1977) were computed both from percentages and mean scores. Meta-analyses were performed to compare the amount of psychological and psychiatric problems in cancer patients to the amount of these problems in the normal population, in psychiatric patients, and in patients with other medical problems. Other meta-analyses were performed to make comparisons within the group of cancer patients concerning the course of psychological problems over time, tumor site, sex, age, design of the study, and year of publication. For any comparison to be made, at least two studies had to be available in each group. The comparisons were made with the normal population as a reference. Meta-analyses of other medical, sociodemographic, and psychosocial variables proved to be impossible due to a lack of information or too small a number of studies to be entered into a comparison. The meta-analyses were restricted to scores obtained by instruments for which norms were available in published articles. To prevent confounding due

to multiple use of any prospective study, only scores obtained at 3-6 months after diagnosis were used for the meta-analyses. For the analysis of the course of psychological problems, d-values at 2-4 months were compared to d-values at 11-13 months. To prevent bias due to the use of idiosyncratic criteria in determining cut-off scores in single studies, we compared mean scores presented in the studies to the mean scores of the reference groups. The same bias might apply to studies presenting percentages. However, in these studies, this bias cannot be circumvented. Any difference between the cancer patients and the reference groups was tested with the z-test. Comparisons between groups of cancer patients were performed using the t-test.

Results

Methodological Aspects

Methodological aspects determine the extent to which the results of a study can be generalized to other populations. Important factors are the design of the study and the instruments used.

Design

With regard to the time perspective, studies could be divided into three groups: cross-sectional studies, survey studies, and prospective studies.

In the cross-sectional studies, psychological problems were measured at a specific point in time in all the patients, whereas the time since diagnosis or treatment differs between patients. Of the studies reviewed, 16 fall within this category (Table 1, column 3). In the survey studies, psychological reactions were measured at a fixed point in time after the diagnosis or treatment. There are 17 survey studies. In the prospective studies psychological or psychiatric problems were measured at consecutive, fixed points in time in the same group of patients. Of the studies reviewed, 25 fall in this category.

Instruments

The extent to which the results of one study are comparable with the results of other studies depends, among other things, on the instruments used. Some instruments were constructed to assess the probability of a psychiatric diagnosis

Table 2: Percentages of patients with a probable psychiatric disorder, per tumor site

author / type of cancer	Depression			Anxiety			GPD[2]		
	%	d_p[3]	d_n[4]	%	d_p	d_n	%	d_p	d_n
Breast cancer									
Bulman (1992)									
surgery	6%	-	-	17%	-	-	-	-	-
radiation	2%	-	-	12%	-	-	-	-	-
6 months	2%	-	-	12%	-	-	-	-	-
12 months	0%	-	-	6%	-	-	-	-	-
Dean (1987)									
prior to surgery	-	-	-	-	-	-	15%	-	0.40
3 months	-	-	-	-	-	-	10%	-	0.07
12 months	-	-	-	-	-	-	5%	-	-0.10
Fallowfield et al. (1986)									
mastectomy	21%	-	0.24	26%	-	0.08	-	-	-
breast conserving	27%	-	0.41	31%	-	0.20	-	-	-

[2] General Psychological Distress: results of the Global Severity Index of the Brief Symptom Inventory, Total Mood Distress of the Profile of Mood States, patients above the cut-off of the General Health Questionnaire or overall percentages of patients with any psychological disturbance presented in studies using a psychiatric interview

[3] d-value, psychiatric patients as reference

[4] d-value, normal population as reference

author / type of cancer	Depression			Anxiety			GPD[2]		
	%	d_p[3]	d_n[4]	%	d_p	d_n	%	d_p	d_n
Fallowfield et al. (1990)									
mastectomy									
2 weeks	29%	-	0.47	42%	-	0.46	-	-	-
3 months	27%	-	0.41	32%	-	0.22	-	-	-
12 months	21%	-	0.24	28%	-	0.13	-	-	-
breast conserving									
2 weeks	22%	-	0.27	37%	-	0.34	-	-	-
3 months	15%	-	0.06	31%	-	0.20	-	-	-
12 months	19%	-	0.18	27%	-	0.10	-	-	-
Hopwood et al. (1991)									
start of treatment	9%	-	-	9%	-	-	-	-	-
3 months	11%	-	-	14%	-	-	-	-	-
Hughes et al. (1982)									
prior to surgery	-	-	-	25%	-	0.05	-	-	-
follow-up	-	-	-	-	-	-	18%	-	0.15
Hughson et al. (1988)									
1 month	8%	-	-0.14	15%	-	-0.18	-	-	-
3 months	7%	-	-0.17	8%	-	-0.35	-	-	-
13 months	7%	-	-0.17	2%	-	-0.49	-	-	-
18 months	1%	-	-0.35	5%	-	-0.42	-	-	-
24 months	2%	-	-0.32	2%	-	-0.49	-	-	-

author / type of cancer	Depression			Anxiety			GPD[2]		
	%	d_p[3]	d_n[4]	%	d_p	d_n	%	d_p	d_n
Lee et al. (1992)									
mastectomy									
prior to surgery	8.2%	-	-0.14	-	-	-	-	-	-
3 months	8.2%	-	-0.14	-	-	-	-	-	-
12 months	2.1%	-	-0.32	-	-	-	-	-	-
breast conserving									
prior to surgery	6%	-	-0.20	-	-	-	-	-	-
3 months	5%	-	-0.23	-	-	-	-	-	-
12 months	4%	-	-0.26	-	-	-	-	-	-
Maraste et al. (1992)	1,5%	-	-	14%	-	-	-	-	-
Maunsell et al. (1992)	21%	-	0.25	-	-	-	-	-	-
Omne-Ponten et al. (1992)									
mastectomy									
4 months	46%	-	0.94	45%	-	0.56	-	-	-
13 months	45%	-	1.06	49%	-	0.53	-	-	-
breast conserving									
4 months	37%	-	0.80	40%	-	0.34	-	-	-
13 months	40%	-	0.89	43%	-	0.41	-	-	-
Pinder et al. (1993)	12%	-	-	19%	-	-	-	-	25%
Silberfarb et al. (1980)									
primary tumor	-	-	-	-	-	-	10%	-	-0.46
recurrence	-	-	-	-	-	-	15%	-	-0.35
final stage	-	-	-	-	-	-	5%	-	-0.57

author / type of cancer	Depression			Anxiety			GPD[2]		
	%	d_p[3]	d_n[4]	%	d_p	d_n	%	d_p	d_n
Head and neck									
Davies et al. (1986)	29%	-0.32	-	40%	-0.08	-	-	-	-
Espie et al. (1989)	24%	-	-	17%	-	-	41%	-	-
Hodgkin's disease or non-Hodgkin lymphoma									
Devlen et al. (1987a)	19%	-	0.29	12%	-	-0.14	-	-	-
Devlen et al. (1987b)									
3 months	9.2%	-	-0.04	13.3%	-	-0.10	-	-	-
6 months	5%	-	-0.18	2.5%	-	-0.39	-	-	-
9 months	3.3%	-	-0.23	1.7%	-	-0.41	-	-	-
12 months	1.7%	-	-0.29	0.9%	-	-0.43	-	-	-
Lloyd et al. (1984)									
2 weeks	-	-	-	-	-	-	37.5%	-	0.17
4-6 months	-	-	-	-	-	-	26%	-	-0.08
Gynaecological									
Cain (1983)	36%	-2.77	-	-	-	-	-	-	-
Leukemia									
Lesko et al. (1992)	-	-	-	-	-	-	31%	-1.09	-
Rectal									
McDonald (1988)	25%-	-0.40	-	26%	-0.36	-	-	-	-
Heterogeneous tumorsites									
Alexander et al. (1993)									
aware of diagnosis	-	-	-	-	-	-	50%	-	0.45
not aware of diagnosis	-	-	-	-	-	-	20%	-	-0.21
Bukberg et al. (1984)	42%	-	1.06	-	-	-	-	-	-

author / type of cancer	Depression			Anxiety			GPD[2]		
	%	d_p[3]	d_n[4]	%	d_p	d_n	%	d_p	d_n
Derogatis et al. (1983)	6%	-	-0.14	2%	-	-0.40	47%	-	0.38
Hardman et al. (1989)	-	-	-	-	-	-	29%	-	-0.01
Jenkins et al. (1994)									
pretransplant	17%	-	0.22	33%	-	0.42	-	-	-
Syrjala et al. (1993)									
pretransplant	6%	-1.70	-	-	-	-	-	-	-
Thomas et al. (1987)									
3 months	-	-	-	-	-	-	21%	-	-0.19
12 months	-	-	-	-	-	-	18%	-	-0.25

Table 3: Mean scores and d-values, per tumor site

author / tumor site	Depression			Anxiety			Distress		
	Mean	d_p	d_n	Mean	d_p	d_n	Mean	d_p	d_n
Breast cancer									
Baider et al. (1988)	6.8	-1.71	-	-	-	-	17.1	-	-
Friedman (1988)	-	-	-	-	-	-	0.52	-	-
Friedman (1990)	-	-	-	-	-	-	0.54	-	-
Ganz et al. (1992)	-	-	-	-	-	-	15.8	-2.08	-0.93
Levy et al. (1992)									
Mastectomy									
prior to surgery	-	-	-	12.8	-0.90	-0.14	-	-	-
3 months	-	-	-	6.3	-1.64	-1.03	-	-	-
15 months	-	-	-	8.7	-1.36	-0.59	-	-	-
breast conserving									
prior to surgery	11.0	-1.07	-0.34	12.8	-0.89	-0.14	-	-	-
3 months	8.2	-1.24	-0.58	8.5	-1.39	-0.73	-	-	-
15 months	6.8	-1.33	-0.70	8.8	-1.35	-0.69	-	-	-
Lowery et al. (1993)	-	-	-	-	-	-	13.8	-	-

author / tumor site	Depression			Anxiety			Distress		
	Mean	d_p	d_n	Mean	d_p	d_n	Mean	d_p	d_n
Neuling et al. (1988)									
in hospital	11.3	-2.56	0.58	-	-	-	-	-	-
1 month	10.2	-2.77	0.45	-	-	-	-	-	-
3 months	8.2	-3.15	0.21	-	-	-	-	-	-
Northouse (1989)	-	-	-	-	-	-	0.52	-1.1	0.71
Stanton et al. (1993)									
prebiopsy	10.2	-1.12	-0.40	11.2	-1.08	-0.36	39.8	-1.08	-0.13
postbiopsy	13.4	-0.92	-0.13	13.0	-0.88	-0.13	48.1	-0.84	0.09
postsurgery	9.0	-1.20	-0.51	8.6	-1.38	-0.72	34.6	-1.27	-0.28
Colon									
Baider et al. (1988)									
male patients	-	-	-	-	-	-	11.8	-	-
female patients	-	-	-	-	-	-	22.4	-	-
Hodgkin's disease or non-Hodgkin's lymphoma									
Bloom et al. (1993)	9.0	-0.90	-0.39	10.7	-0.9	-0.33	23.5	-1.27	-0.53
Cella et al. (1987)									
early stage	.42	-1.28	0.30	-	-	-	.45	-1.21	0.48
late stage	.62	-1.09	0.74	-	-	-	.52	-1.11	0.71

author / tumor site	Depression			Anxiety			Distress		
	Mean	d_p	d_n	Mean	d_p	d_n	Mean	d_p	d_n
Kornblith et al. (1992)	-	-	-	-	-	-	16.5	-1.63	-0.82
Leukemia									
Lesko et al. (1992)									
male									
chemotherapy	0.24	-1.44	-0.09	0.35	-1.35	0.00	0.34	-1.36	0.13
BMT	0.51	-1.19	0.50	0.39	-1.31	0.91	0.43	-1.24	0.42
Female									
chemotherapy	0.44	-1.26	0.35	0.76	-0.94	0.09	0.53	-1.10	0.74
BMT	0.45	-1.15	0.37	0.4	-1.30	0.11	0.42	-1.25	0.39
Lung									
Kukull et al. (1986)									
1 month	-	-	-	-	-	-	35.1	-1.03	-0.20
2 months	-	-	-	-	-	-	24.6	-1.79	-0.72
McCorkle et al. (1983)									
1 month	-	-	-	-	-	-	32.2	-1.10	-0.30
2 months	-	-	-	-	-	-	22.2	-1.80	-0.79
Pancreatic/gastric									
Holland et al. (1986)									
pancreatic	10	-0.80	-0.30	13	-0.60	0.02	-	-	-
gastric	6	-1.10	-0.68	10	-1.00	-0.43	-	-	-

author / tumor site	Depression			Anxiety			Distress		
	Mean	d_p	d_n	Mean	d_p	d_n	Mean	d_p	d_n
Testicular									
Baider et al. (1988)	-	-	-	-	-	-	15.9	-	-
Bloom et al. (1993)	6.6	-1.11	-0.62	9.3	-1.03	-0.53	15.5	-1.66	-0.85
Cella et al. (1987)									
early stage	0.39	-1.31	0.24	-	-	-	0.45	-1.21	0.48
late stage	0.54	-1.17	0.57	-	-	-	0.44	-1.22	0.45
Gritz et al. (1990)	4.9	-1.20	-0.78	9.5	-1.00	-0.50	11.3	-1.80	-1.00
Heterogeneous tumor sites									
Burgess et al. (1988)									
confronting									
3 months	8.4	-3.11	-	-	-	-	-	-	-
12 months	7.7	-3.24	-	-	-	-	-	-	-
non-confronting									
3 months	10.3	-2.75	-	-	-	-	-	-	-
12 months	9.7	-2.86	-	-	-	-	-	-	-

author / tumor site	Depression			Anxiety			Distress		
	Mean	d_p	d_n	Mean	d_p	d_n	Mean	d_p	d_n
Cassileth et al. (1989)									
2 months	-	-	-	-	-	-	28.6	-1.49	-0.46
8 months	-	-	-	-	-	-	16.5	-1.90	-0.84
14 months	-	-	-	-	-	-	12.4	-2.23	-1.06
Ell et al. (1989)									
9-12 months	-	-	-	-	-	-	148.6`	-	-1.14
2 year	-	-	-	-	-	-	150.6	-	-1.10
Fife et al. (1994)									
men	-	-	-	-	-	-	32.0	-	-
women	-	-	-	-	-	-	25.9	-	-
Gilbar et al. (1989)									
drop out	1.23	-0.53	2.07	-	-	-	-	-	-
therapy completed	0.87	-0.86	1.13	-	-	-	-	-	-

(depression, anxiety, or any psychiatric disorder) i.e. the General Health Questionnaire (GHQ; Goldberg, 1978), the Brief Symptom Inventory (BSI; Derogatis & Melisataros, 1983), the Beck Depression Inventory (BDI; Beck & Steer, 1987), the Wakefield Depression Inventory (WDI; Snaith, Ahmed, Mehta & Hamilton, 1971), the Leeds scales (Snaith, Bridge & Hamilton, 1976), the Hospital Anxtiety and Depression scale (HAD; Zigmund & Snaith, 1983), the Hamilton Rating Scales for Depression and Anxiety (HRD, HRA; Hamilton, 1959, 1960), the Maguire rating scales (Maguire, Lee, Bevington, Kucheman, Crabtree & Cornell, 1978), the Centre for Epidemiologic Studies Depression Scale (CES-D; Roberts & Vernon, 1983), the Millon Clinical Multiaxial Inventory (MCMI; Millon, 1983), the Present State Examination (PSE; WHO, 1992), the Diagnostic Interview Schedule (DIS; Robins, Helzer, Croughan & Ratcliff, 1981) and the Standardized Psychiatric Interview (SPI; Goldberg, Cooper, Eastwood, Kedward & Shepherd, 1970). Other instruments were constructed to assess psychological distress or psychological problems in general, e.g. the Profile Of Mood States (POMS; McNair, Lorr & Droppleman, 1971), the Sickness Impact Profile (SIP; Patrick & Deyo, 1989), the Mental Health Inventory (MHI; Veit & Ware, 1983) and the Psychological Adjustment to Illness Scale (PAIS; Derogatis, 1986). Generally, these instruments are not used to estimate the probability of a psychiatric diagnosis.

Psychological and psychiatric problems

Prevalence

Percentages and mean scores of psychological and psychiatric problems are presented in Tables 2 and 3 for different tumor sites separately. Percentages of patients with a depressive disorder according to the criteria used in the study, ranged from 0% to 46%. The percentages of patients with an anxiety disorder, also according to the criteria used in the study, ranged from 0.9% to 49%.

Meta-analyses

Compared to a reference group from the normal population, patients with cancer were not significantly more anxious or distressed, but they were significantly more depressed (mean d-value 0.20). This d-value can be qualified as "small" (Cohen, 1977). Compared to a reference group of psychiatric patients, patients with

cancer showed significantly less depression, anxiety or general distress (mean d-values -1.39, -0.99, -1.42 respectively). Compared to a sample of other medical patients, patients with cancer showed significantly less anxiety (d-value -0.37, p<0.001).

Course

Anxiety in cancer patients decreased significantly over time. No significant decrease was found for depression. Due to the insufficient number of studies, comparisons for general psychological distress proved to be not possible.

Table 4: Mean d-values compared to the normal population

	n	K	Depression	n	K	Anxiety	n	K	Distress
Breast	14	1151	0.13**	12	869	-0.13**	7	568	-0.26**
Testicular	4	152	-0.15**	4	152	-0.01**	4	152	-0.23
Hodgkin disease	5	355	0.18	5	355	0.08*	4	238	-0.04**
Divers	13	1410	0.40**	12	1348	0.44**	13	1591	-0.07**
Women	16	1187	0.16**	14	905	-0.09**	9	604	-0.08**
Mixed	20	1881	0.24**	19	1819	0.29**	22	2092	-0.22**
Under 50	16	927	0.32**	16	927	0.40**	14	794	0.00**
50 and over	11	1189	0.12**	10	1145	0.06**	9	1172	-0.60**
Prospective	15	1235	0.04**	13	953	-0.15**	9	755	-0.42**
Other	21	1833	0.32**	20	1771	0.31**	22	1941	-0.08**
3 months	8	761	0.20	8	761	0.04**	-	-	-
12 months	8	742	0.17	8	742	-0.06**	-	-	-
'80-'87	27	1720	0.22**	26	1482	0.15**	22	1487	-0.10**
'88-'94	9	1348	0.16**	7	1242	0.04**	9	1209	-0.36**
Overall	36	3068	0.20*	33	2724	0.12	31	2696	-0.18

(n: number of studies, K: number of patients in studies * p<0.05, ** p<0.01)

Tumor site

Table 5 shows as a consistent finding, that the amount of psychological and psychiatric problems was significantly lower in breast cancer patients than in all

other cancer groups, and significantly higher in studies with heterogeneous groups of cancer patients than in studies with specific groups of cancer patients. With respect to testicular cancer patients and patients with Hodgkin's disease or non-Hodgkin lymphoma the results were inconsistent.

Table 5. Significant differences between groups of cancer patients with respect to psychological and psychiatric problems

Reference	Depression	Anxiety	General distress
Normal population	breast < all other	breast < all other	breast < all other
	testicular < all other	testicular < all other	
		Hodgkin < all other	Hodgkin > all other
	heterogeneous > specific	heterogeneous > specific	heterogeneous > specific
Psychiatric patients	breast < all other	breast < all other	
	testicular > all other	testicular < all other	
	Hodgkin > all other		Hodgkin > all other
		heterogeneous > specific	heterogeneous > specific

Sex

Studies in which only female cancer patients were studied showed significantly less depression and anxiety and significantly more general psychological distress than studies in which both male and female patients were studied.

Age

Studies with younger patients (mean age <50 years) reported significantly more depression, anxiety and general distress than studies with older patients (mean age 50 years or over).

Design

In prospective studies, significantly less depression, anxiety and general distress were reported than in survey or cross-sectional studies.

Year of publication

Significantly more depression, anxiety and general distress was reported in older studies (published before 1988) than in more recent studies (published after 1987).

Descriptive review

Several studies described relationships between psychological adjustment and other variables that could not be used for meta-analysis. These variables can be grouped into medical variables, social-demographic variables and psychosocial variables.

Medical variables

In most studies, there was no overall pattern for higher psychiatric morbidity to be associated with type of treatment modality (Bloom, Fobair, Gritz, Wellisch, Spiegel, Varghese & Hoppe, 1993; Fallowfield, Baum & Maguire, 1986; Fallowfield, Hall, Maguire & Baum, 1990; Goldberg, Scott, Davidson, Murray, Stallard, George & Maguire, 1992; van Heeringen, Moffaert & de Cuypere, 1989; Hopwood, Howell & Maguire, 1991; Lee, Love, Mitchell, Parker, Rubens, Watson, Fentiman & Hayward, 1992; Lesko, Ostroff & Mumma, 1992; Levy, Haynes, Herberman, Lee, McFeeley & Kirkwood, 1992; Litwins & Rodrigue, 1994; Lloyd, Parker Ludlam & McGuire, 1984; Northouse, 1989; Waligora-Serafin, McMahon, Pruitt & Davenport, 1992). However, three studies showed distress to be more common in breast cancer patients after mastectomy than after breast conserving therapy (Maraste, Brandt, Olsson & Ryde-Brandt, 1992; McArdle, Hughson & McArdle, 1990; Omne-Ponten, Holmberg, Burns, Adami & Bergstrom, 1992). In seven studies, physical performance, symptom distress or postoperative pain were negatively related to psychological adjustment (Mukberg, Penman & Holland, 1984; Cassileth, Lusk, Walsh, Doyle & Maier, 1989; Hopwood et al., 1991; Lee et al., 1992; McCorkle & Quint-Benoliel, 1990; Pinder, Ramirez, Black, Richards, Gregory & Rubens, 1993; Syrjala, Chapko, Vitaliano, Cummings & Sullivan, 1993). Other variables, such as stage of the disease (TNM-classification), and phase of the disease (first tumor, recurrence, final phase) were inconsistently related to psychological problems.

Demographic variables

Results were inconsistent with regard to educational level, and marital status (Cassileth et al., 1989; Dean, 1987; Kornblith, Anderson, Cella, Tross, Zuckerman, Cherin, Henderson, Canellos, Kosty & Cooper, 1992; Lesko et al., 1992; Maunsell, Brisson & Deschenes, 1992; Northouse, 1989; Pinder et al., 1993; Schmale, Morrow, Schmidt, Adler, Enelow, Murawski & Gates, 1983; Stefanek, Derogatis & Shaw, 1987; Syrjala et al., 1993). Being employed was related to more psychological problems than not being employed in two studies (Kornblith et al., 1992; Omne-Ponten et al., 1992).

Psychosocial variables

Results were inconsistent with regard to previous psychiatric history (Dean, 1987; Maraste et al., 1992; Maunsell et al., 1992; Pinder et al., 1993), and to social support (Bukberg, Penman & Holland, 1984; Gritz, Wellisch, Siau & Wang, 1990; Neuling & Winefield, 1988; Syrjala et al., 1993).

A confronting coping style, optimism, or a fighting spirit were found to be positively related to psychological adjustment in five studies (Burgess, Morris & Pettingale, 1988; Friedman, Baer, Lewy, Lane & Smith, 1988; Friedman, Nelson, Baer, Lane & Smith, 1990; Stanton & Snider, 1993; Watson, Greer, Rowden, Gorman, Robertson, Bliss & Tunmore, 1991). Passive acceptance, helplessness, anxious preoccupation, avoidance, denial, the appraisal of cancer as a threat, a feeling of loss of control, asking the question 'why me', or fatalism were associated with more psychological distress in nine studies (Ell, Nishimoto, Morvay, Mantell & Hamovitch, 1989; Fife, Kennedy & Robinson, 1994; Friedman et al., 1988; Friedman et al., 1990; Lesko et al., 1992; Litwins & Rodrigue, 1994; Lowery, Jacobsen & DuCette, 1993; Stanton & Snider, 1993; Watson et al., 1991).

Discussion

As was also shown in other review articles (e.g. McDaniel et al., 1995), there appeared to be a wide variation in the percentage of patients with psychological or psychiatric problems and in the mean scores for depression, anxiety and psychological distress. How can these differences be explained? First,

methodological issues are discussed. Thereafter, the amount and course of psychological and psychiatric problems are discussed as well as variables influencing these problems.

Methodology

Design

Significantly less depression, anxiety and general psychological distress were found in prospective studies compared to cross-sectional or survey studies. Two explanations are considered. First of all, the difference may be explained by the different time intervals used in the cross-sectional and survey studies versus the prospective studies. In the cross-sectional studies the time since the diagnosis and treatment is different for each patient in a study, being even as long as 29 years in one case (McDonald, 1988). In the case of a long time lapse since the diagnosis or treatment, psychological or psychiatric problems at the time of measurement may be due to variables other than cancer. In survey studies, the results may also be confounded by unmeasured variables. Because no baseline measurement is available, it remains unclear to what extent the results are influenced by confounding or interacting variables. Secondly, the difference could be explained by the procedure applied in the meta-analysis. The time frame used for prospective studies in the meta-analysis was restricted to 3-6 months after diagnosis. Differences in the moment of measurement may therefore explain differences in d-values between prospective studies and other studies. However, this explanation seems rather unlikely because at 12 months after diagnosis, the difference between prospective studies and other studies is the same or even larger (see Table 4).

Instruments

The large variability in results may be due, in part, to the great diversity in instruments used, to differences in the cut-off score used in studies presenting percentages, and to whether or not somatic symptoms are included in the measurement of psychiatric problems, e.g. depression (Bukberg et al., 1984). The inclusion or exclusion of somatic items in the measurement of psychiatric problems across studies could not be corrected for in the present review.

Psychological and psychiatric problems

Prevalence

This review shows that the reported percentages of patients with psychological or psychiatric problems vary widely between individual studies (0-46% for depression; 0.9-49% for anxiety; and 5-50% for psychological distress). Meta-analysis showed that the amount of anxiety and general psychological distress in patients with cancer does not differ significantly from that in the normal population. Cancer patients showed a higher amount of depression compared to normals (d-value 0.20). This d-value can be considered as "small" (Cohen, 1977). When the meta-analysis is restricted to studies published after 1987, the difference is not significant (d-value 0.16). Compared to psychiatric patients, cancer patients were significantly less depressed, anxious, or distressed. Compared to other medical patients, patients with cancer were significantly less anxious. The findings are in sharp contrast to some individual studies, as, for instance, the study of Derogatis, Morrow, Fetting, Penman, Piasetsky, Schmale, Henrichs & Carnicke (1983), in which was concluded that the amount of psychiatric problems in cancer patients is three times as high as in the general population. However, the findings of this review are based on aggregated findings from many studies. Therefore, the conclusion from the present review is more robust than conclusions from an individual study.

The question arises why psychological and psychiatric problems in cancer patients do not differ substantially from those in the normal population. Several explanations may be considered. 1) A cancer diagnosis could have a less severe impact than is generally assumed. This could be more so nowadays than before. We found that, compared with the normal population, the amount of depression, anxiety and general psychological distress in cancer patients is significantly lower for studies published after 1987 than for studies published before 1988. This lower amount of psychological or psychiatric problems after 1987 may be due to improvements in patient education and in medical treatment or to downward shifts in stage and age at diagnosis, leading to improved prognosis. 2) Patients could consciously suppress any (pre-existing) psychological problems because they

have to deal with a major life-event. Although this explanation may have some appeal, empirical evidence is lacking. 3) Patients may (unconsciously and partially) deny their feelings of depression, anxiety and distress rather than confront them because of an inability to cope with these feelings. This inability may be related to the stress of cancer. Some studies support this explanation. Studies on cancer and other diseases have shown that the impact of a disease is often, albeit temporarily, accompanied by denial (Watson, Greer, Blake & Shrapnell, 1984; Kreitler, Chaitchik & Kreitler, 1993; Shedler, Mayman & Manis, 1993). On the basis of a meta-analysis, Suls & Fletcher (1985) concluded that denial may be beneficial in the short run after a severe stressor, but that on the long run approaching strategies are better. According to some authors, severe stress necessitates the individual to accommodate his/her internal representations to reality (e.g. changing the representation 'people get the disease they deserve' into the representation 'everybody runs the risk of getting cancer') (Horowitz, 1986). Denial may be beneficial at first, because it has the function of 'a temporary preservative before more problem-focused forms of coping can be brought to bear' (Lazarus, 1983, page 25; see also Janoff-Bulman, 1992, page 99). In the long run, denial may become detrimental, because if the patient does not take relevant action, this may for instance lead to undertreatment.

Tumor site

In this review it was found that breast cancer patients showed less, and that heterogeneuos groups of cancer patients showed more psychological problems, compared to other cancer patients taken together. Inconsistent results were found for patients with testicular cancer and Hodgkin's disease or non-Hodgkin lymphoma. In some individual studies comparing groups of patients with different types of cancer, no significant differences were found (Cella, Tross, Orav, Holland, Silberfarb & Rafla, 1989; Cassileth, Lusk, Brown & Cross, 1985). Although the results of this review favor the view that there are differences between groups of cancer patients, these differences may be due to confounding variables, such as differences in prognosis between types of cancer. However,

any meta-analysis by more specific tumor types is impossible at this stage. Further research is therefore needed to clarify this issue.

Sex and age

Studies with female cancer patients reported less depression and anxiety than studies in which the study-population was mixed or completely male. As this finding is in contrast to epidemiological studies, in which females generally are reported to have more psychological problems than males, it is possible that our results are confounded, for instance by age differences and differences in type of tumor and prognosis.

Younger patients were reported to have a higher amount of depression, anxiety and general psychological distress than older patients. One explanation could be that younger patients have more problems in adapting to the stress of cancer, because severe illness and the possibility of dying does not fit in their 'life cycle phase' (cf Brown, 1989).

Course

Most of the individual prospective studies showed that psychological problems gradually diminished in the course of time. The percentage of patients with a probable depressive disorder decreased in the first year after the diagnosis in all relevant studies. With the exception of anxiety, we were unable to corroborate this decrease of psychological problems over time in the meta-analysis. Several explanations for this lack of support may be considered. 1. Since cancer patients already show a low amount of psychological and psychiatric problems at 3 months (see Tabel 4), it is difficult to find a decrease (floor effect). 2. Recall bias may occur due to previous measurements, leading to an increase of error. 3. A response shift, i.e. a change in a subject's standard of measurement for determining his/her level of functioning on a given dimension (Sprangers, 1988), may occur. This means that if the patient changes his/her criterion, he/she will consider the distress to be of a different severity. Further study is indicated on this issue.

Descriptive review
Medical, demographic and psychosocial variables seem to be rather inconsistently related to distress, except for treatment modality, employment status, and coping style. With regard to coping style, two clusters were found. The first cluster consists of confrontation, fighting spirit, or optimism. In general, this cluster is positively related to psychological adjustment. The second cluster consists of passive acceptance, helplessness, anxious preoccupation, avoidance, denial, feelings of loss of control, or fatalism. In general, this cluster is negatively related to psychological adjustment.

Conclusions and recommendations
On the basis of our meta-analysis, we conclude that, as a group, cancer patients do not experience more psychological distress than the normal population, with the exception of a somewhat higher amount of depression. Of further interest is the finding that the percentage of depression, anxiety and general psychological distress reported in studies before 1988 was significantly higher than the percentage reported after 1987, taking the normal population as reference. It would be interesting to study the influence of improvements in patient education, patient care, medical treatment and early diagnosis on this phenomenon.
One other interesting finding was that the percentages of distressed patients appeared to differ between different forms of cancer, contrary to the findings of Cella et al., (1989) and Cassileth et al., (1985). Further study may clarify possible pathways connecting biological characteristics of different types of tumor with (differences in) psychological distress (McDaniel et al., 1995).
Other medical and demographic variables, except treatment modality, employment status, and coping style, yielded largely inconsistent findings regarding psychological distress. Further study in the field of psychological impact of and coping with the disease, in relation to psychological distress, seems warranted.
From the results of most of the prospective studies, it appears that psychological and psychiatric problems decrease over time, although meta-analysis failed to

support this finding. It seems that the moment of measurement may be crucial for the amount of problems found. Therefore, studies should specify this moment. Also, prospective studies are to be preferred, because they yield information about variables influencing the course.

Unfortunately, it was not possible to estimate the prevalence of psychological and psychiatric problems from the many studies presenting mean scores. Because information with respect to outlying cases was lacking, the percentages of patients with scores in the very high range could not be presented. We therefore recommend that apart from the mean scores and standard deviations, percentages of patients with a score above a given cut-off score, or with a score more than 1 sd above the mean (i.e. the upper 16% of a normal distribution) be presented in future studies.

The main conclusion that cancer patients do not experience more psychological distress than the normal population, with the exception of depression, is based on the comparison of mean scores and percentages between groups. Of course, this does not preclude that individual cancer patients suffer largely from depression, anxiety, psychological distress or other problems. Similarly, many cancer patients may be capable of restoring their psychological equilibrium without professional help, while a minority of patients may be less resilient. The detection of patients who are at risk is important in order to plan professional services in an efficient way (Trijsburg et al., 1992). Therefore, it is necessary to study the causative role of psychosocial variables in the patients who do well and in those who are likely to develop psychological or psychiatric problems.

Chapter 2:

Psychodynamic personality assessment

Chapter two

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Abstract

In clinical psychology, psychiatry and psychotherapy, instruments for the assessment of personality development are needed more and more. These instruments provide important information for treatment planning. Furthermore, they can be used to evaluate the effectiveness of therapy. This article presents an overview of instruments for assessment of personality development. Recently developed instruments reflect the gradual shift in psychodynamic theory from drive oriented to a self-representational and object-relational orientation. More attention should be paid to the development of instruments that provide insight into predictive factors for effective psychotherapy. Psychoanalytic theory provides a framework for the construction of these instruments.

Introduction

Personality assessment is important both for clinical work and for scientific research. In clinical work, personality assessment is important for treatment selection and treatment evaluation. In scientific research, personality assessment can help find factors predictive of effective treatment.

Several approaches within personality theory can be distinguished. Momentarily the trait approach, for instance the 'Big-Five' theory, elicits much research. This theory assumes that personality can be described in five traits, namely neuroticism, extraversion, intelligence, friendliness and conscientiousness (see Costa & McCrae, 1992). Psychoanalytic personality theory is another approach. This theory starts in the psychoanalytic points of view, such as the structural (Id, Ego, and Super-Ego), the object-relational, and the genetic point of view. The genetic point of view, represented in developmental theory, dates back to Freud. Initially, Freud (1953/1905; 1961/1923a) was concerned with the development of the psychosexual functions. He described five separate phases. His theory is later extended and refined by others regarding the phases of development and the number of ego-functions studied (the developmental lines, A. Freud, 1963, 1981). The development of different psychoanalytic developmental theories has led to the construction of instruments for personality assessment.

For several reasons the interest in systematic and reliable personality assessment is increasing. First, the inclusion of a separate Axis for personality pathology in the DSM system makes the construction of assessment instruments necessary in order to make reliable diagnoses. This has stimulated the research into personality disorders in the last two decades (Miller, 1993). However, the DSM system does not provide treatment indications. Clinicians feel a need for an assessment system that not only yields a classification of symptoms, but also offers guidelines for treatment planning and treatment evaluation. The relevance hereof is shown in studies into the psychotherapy process and the effectiveness of psychotherapy. From these studies it appears that the quality of interpersonal relations (object-relations) is positively related to the effect of short-term psychoanalytic psychotherapy (Crits-Christoph & Connolly, 1993; Høglend, 1993).

Furthermore, it appeared that the quality of the therapeutic relationship influences the effectiveness of psychotherapy. Research has shown that the quality of the therapeutic relationship is related to ego-strength. Patients who rapidly can establish a good working relationship (patients with more ego-strength) seem to profit more from explorative therapy, while other patients can profit more from supportive therapies (Beenen & Trijsburg, 1997). An estimation of the level of development of several personality characteristics is thus relevant for the estimation of the probable effectiveness of a treatment and for treatment planning. Second, because of the multitude of ideas in the psychodynamic approach and the lack of their conceptual clarity, an increasing need was felt for unequivocal operationalizations of ideas (Jacobson & Cooper, 1993). Third, new instruments for therapy-evaluation are needed, for instance for the assessment of interactional influence of patient and therapist, and for the assessment of changes in the patient, such as changes in self-reflective functioning (Beenen & Trijsburg, 1997).

This chapter offers an overview of the mostly used psychodynamically oriented instruments for personality assessment. We focus on the time needed for the use of the instrument, the clinical utility of the instrument, the usefulness of the instrument for scientific research and the representation of several theoretical schools in the instrument. Based on this overview, a choice can be made for the best instrument in different situations.

First, we present a short introduction on the points of view in psychodynamic developmental models. Then, the instruments are presented, and judged on the points mentioned above. We end with a discussion on changes in the theory and instruments.

Psychoanalytic developmental theories

Psychoanalytic developmental theories rest on the genetic, structural and object-relational point of view. In the genetic and object-relational point of view it is stated that experiences in (early) childhood form the basis for the functioning later in life, and thus also for the occurrence of psychological disturbances (Tyson & Tyson,

1990). Within psychoanalytic developmental theory the importance of early experiences is emphasized. Because the first psychoanalysts worked with adults, the early development had to be reconstructed based on the material the patients presented. Later, research was done (e.g. by Anna Freud (1962) and Margaret Mahler (1968; Mahler, Pine & Bergman, 1975) with children, so that the developmental process could be followed from the beginning.

Freud (1961/1923b) was the first to describe the structural point of view. He distinguished three separate entities in the psychic functioning: the Id, the Ego, and the Super-Ego. The relationship between these three is important for the functioning of the individual and thereby also for the classification of psychopathology. The genetic and structural point of view are complementary (Tyson & Tyson, 1990). The genetic point of view focuses on the development of psychopathology. It tries to understand the development of psychopathology out of early childhood development. From the structural point of view an ideal-typical development is described, which can be used to assess distortions in the individual development (Blanck & Blanck, 1994).

Modern developmental theories emphasize that development is a lifelong process, leading to changes in and adaptations of existing structures during the entire life (Tyson & Tyson, 1990). Concerning the understanding of pathological behavior, this means that less emphasis is placed on early (pre-oedipal and oedipal) development, because symptoms can be the result of disruptions later in the developmental process. In this vision, the second halve of life can change the perspective on the first halve. This is different from the vision until now, in which the second halve of life is understood from the first halve (Colarusso & Nemiroff, 1987).

Based on the different developmental theories several instruments for the assessment of personality development have been constructed. The most important are described hereafter.

Instruments for personality assessment

In the clinical setting, personality assessment is normally based on clinical judgment, not on standardized and reliable instruments. The advantage of the clinical interview is that can easily be adapted to the specific situation of the patient and the need for information of the clinician. At the same time, this is a major limitation, because it hampers the statistical reliability of the clinical interview (Beutler, 1995). To confront this problem and in order to be able to make comparisons between different observers, several instruments for personality assessment are constructed.

The instruments are described in chronological order. The focus is on instruments that can detect differences in the level of development and structuralization of the personality.

The developmental profile of Anna Freud

Based on Anna Freud's developmental profile for children (Anna Freud, 1962), Anna Freud, Nagera and W.E. Freud (1965) constructed the developmental profile for adults. Unlike the profile for children, which is aimed at the description of a continuing process of development, the profile for adults is aimed at the description of the completed process of development. The profile is based on several sources of information, such the clinical interview, and reports of therapy sessions. The profile is completed only at the end of the treatment. In the profile several aspects of the functioning of the patient are assessed: the reason for referral, a description of the patient during the interview, the family background and personal history, possible relevant circumstances in the surroundings of the patient, the distribution of libido and aggression and the positions of the Super-Ego (including sources of anxiety and the defense structure of the patient), fixations and regressions, conflicts and some general characteristics relevant for psychoanalytic treatment. The profile should be used as a way of thinking and structuring the material, and not a questionnaire to be filled in.

Loevinger's Sentence Completion Test

Based on the theory of ego-development, Loevinger (1976; Loevinger & Wessler, 1970) constructed a protocol for the assessment of the level of development of

the ego, based on the answers on a sentence completion test. In Loevinger's theory ten stages of development are distinguished, ranging from pre-social to integration. A judge allocates the answers to the best fitting level of development. The test is based on the assumption that every individual has a central level of functioning, although behavior of other levels can be seen. The assessment is based on the answers of the complete test, and represents the general level of functioning.

Bellak's Ego Function Assessment Scale (EFA)

Based on interviews with psychotic patients, neurotic patients and normal individuals, Bellak, Hurvich en Gediman (1973; Bellak, Hurvich, Silvan & Jacobs, 1968) constructed an interview and scoring-protocol for the assessment of twelve ego-functions. The EFA can be scored based on this interview, but also on psychotherapy sessions. The ego-functions included are: reality-testing (including orientation in time, place, and person), judgment, sense of reality (e.g. depersonalization and derealization), regulation and control of drives, affects, and impulses, object relations, thought processes, adaptive regression in the service of the ego, defensive functioning, stimulus barrier, autonomous functioning, synthetic-integrative functioning, and mastery-competence. These functions are assessed on a 13-point scale. Both the lowest and the highest level are mostly meant as points of reference for the clinician, and seldom used. Mean functioning is defined as the absence of clearly maladaptive behavior, but also as a shortage of optimal behavior. Mean functioning is indicated by a score of 11 (range 1-13). This means that the EFA is focused on subnormal functioning: in the subnormal range much more differentiation is possible than in the normal range. The borders between psychotic, borderline and normal functioning are gradually. Different levels of functioning of a patient (e.g. highest level, characteristic level, current level, lowest level) can be plotted in a profile.

Kernberg's structural interview

Kernberg (1981, 1984) constructed an interview for assessment of the structure of the personality organization of a patient. Psychotic, borderline and neurotic personality organizations can be distinguished. In the structural interview three

aspects of functioning of the patient are assessed, namely the level of identity-integration, the defense style and reality testing. In the interview a tension is created by clarifications, confrontations and interpretations of the (identity)conflicts, defense style and distortions of reality, concerning both the content of the interview and the (transference) relationship between patient and interviewer. By the creation of this tension the underlying personality organization becomes more visible. The advantage of the structural interview is the focus on the interaction between patient and interviewer, in combination with the psychoanalytic technique of interpretation of conflictual aspects of the interaction, including defense. In this way both the symptoms (the target of descriptive psychopathology) and the underlying personality organization are highlighted (1984, p. 30). In a cyclical way several subjects are discussed, namely: existing problems and symptoms, pathological character traits, identity-diffusion, reality-testing, psychotic symptoms in behavior, affect and thinking, and hallucinations, the sensorium, memory and intelligence.

The Karolinska Psychodynamic Profile (KAPP)

Based on the above mentioned theories (especially Kernberg's theory on personality organization) Weinryb and Rössel constructed an interview based on which 18 aspects of personality development and mental functioning are assessed (Weinryb & Rössel, 1991; Weinryb, Rössel & Åsberg, 1991a, 1991b). The KAPP is constructed to stay close to clinical phenomena. The 18 aspects are clustered in six factors: quality of interpersonal relations, personality functioning, affect-differentiation, the body as source of self-respect, sexuality and the impression of the meaning as individual. A seventh factor consists of other aspects of personality, concerning ways of mental functioning and character traits forming the personality and the individual (Weinryb & Rössel, 1991, p. 7). According to Weinryb & Rössel a disturbance on one line is not neccessarily related to a disturbance on another line. This is a major theoretical difference between the KAPP and for instance Anna Freud's developmental profile. The non structured interview is based on Kernberg's interview (see above). Weinryb and Rössel emphasize that not only what is said should be used in the assessment,

but also non-verbal impressions and the interaction during the interview. The assessment is based on the actual behavior of the patient, and not on postulated capacities of the patient. For every factor, three levels of functioning are described, with definitions and examples. An assessment between two levels can be made. This means that actually five levels can be assessed for each factor.

Blanck and Blanck's 'fulcrum of development'

Based on Mahler's work, Blanck and Blanck (1994) reviewed their original model of personality development, so that now the phase of rapprochement forms the center of development. In this phase, the child's awareness of separateness grows, while at the same time the child has an increased need to share with his mother every one of his newly acquainted skills. The mother has to tolerate the child's ambivalence of growing individuation and need for closeness (Mahler, Pine & Bergman, 1975). In Blanck and Blanck's vision, the diagnostic process concerns the level of structuralization that the individual has reached. They differentiate five aspects in the development of the individual: drives, ego, defense, self- and object relations, and affects. For each of these aspects they describe an optimal level of structuralization. In combination, these form the 'ideal person', meaning an ideal-typical description of development. This description can function as a point of reference for the assessment of pathology. For each aspect they also describe characteristics of the developmental process, from the biological birth, via the phase of rapprochement, to the 'psychological birth'. With the help of these characteristics an assessment can be made of the level of structuralization of the patient.

The developmental profile of R.E. Abraham

In Anna Freud's developmental profile it was not specified how the material for the assessment should be obtained. Furthermore, the development of several abstract concepts, such as libido, and Super-Ego, is difficult to assess based on actual behavior. Therefore R.E. Abraham (1993, 1997a, 1997b) developed a semi-structured interview, for the assessment of 8 aspects of personality development. These aspects are social attitude, object-relations, self-image, norms, needs, cognitions, defense and coping style. Every developmental line can

be scored on 10 levels of development, ranging from lack of structure to maturity. The lower six levels represent maladaptive levels of development, the four highest levels represent adaptive levels of development. Statements of the patient, representative of the lower six levels are only scored when they occur excessively.

Judgment of the instruments

In the judgment of the instruments, we focus on the time needed for the assessment, the clinical utility of the instrument, the utility of the instrument in scientific research, and the representation of concepts from psychoanalytic theory.

Time investment

Not all authors present an indication of the time needed for the assessment. Anna Freud's profile is the most time consuming, because it is only completed after the end of the treatment. An assessment based on intake-interviews, which necessarily leads to an incomplete profile, takes more than one session, and several hours for interpretation of the material. Blanck and Blanck also indicate that for the assessment of the 'fulcrum of development' several sessions are needed. The other instruments take less time, usually a couple of hours. Abraham indicates that the interview for his profile takes approximately two hours, with one hour for the scoring of the material. The interview on which the KAPP is based also takes approximately two hours. Bellak and others indicate that the EFA can be scored based on an interview lasting two hours, but also on the basis of regular psychotherapy sessions. Kernberg's structural interview takes approximately 1.5 hours. The quickest assessment is of course the Sentence Completion Test. The exact time needed to fill in the questionnaire is not indicated, but 30 minutes seems a reasonable estimation. We estimate that the scoring of the KAPP, EFA, the structural interview and the Sentence Completion Test takes one or more hours. Training is needed before the instruments can be used reliably. Of course, the training for the use of the instruments providing a

clear scoring manual, with definitions and examples takes less time than the training for the other instruments.

Usefulness

The usefulness of the instruments in different settings is dependent on the relevance for clinical practice or scientific research, and the reliability and validity of the assessments. For clinical practice, it is important that the material yields information that is relevant for treatment, and that a judgment is sufficiently subtle. For scientific research it is important that the material is relevant, but also that the interjudge variability is minimal. Therefore, the material should be obtained and scored in a standardized way. The instruments described differ markedly on this point.

Anna Freud's profile, and Blanck and Blank's 'fulcrum of development' are based on clinical material. These instruments clearly provide clinically relevant material. However, because a standardized way of obtaining and scoring the material is lacking, the reliability of these instruments is not sufficient.

The other interviews (EFA, the structural interview, KAPP and R.E. Abraham's developmental profile) yield clinically relevant material. Furthermore, the reliability can be better, because the material is obtained by standardized interviews, and because the rules for scoring are clearly described. The quality of the material is limited by the experience of the interviewer. For instance, Kernberg's structural interview is largely dependent on the ability of the interviewer to challenge the defense of the patient.

The reliabilities for the interviews are reasonable to good (EFA: Bellak, Hurvich, Gediman & Crawford, 1970; Sharp & Bellak, 1978; Kernberg's structural interview: Derksen, Hummelen & Bouwens, 1989; KAPP: Weinryb, Rössel & Åsberg, 1991b; R.E. Abraham's developmental profile: Van, Ingenhoven, van Foeken, van 't Spijker, Spinhoven & Abraham, 2000).

Kernberg's structural interview, the KAPP, and Blanck and Blanck's 'fulcrum of development' can be scored at three levels. This is enough for severe pathology, but for the assessment of less severe pathology or for subtleties in normal development more differentiation is needed. In the developmental profile of Anna

Freud different numbers of levels are used for different developmental lines. The EFA and R.E. Abraham's developmental profile provide the possibility of a subtle assessment of personality development. The center of these instruments remains distorted development.

Loevinger's Sentence Completion Test is clinically useful, because the answers can be discussed and used during the treatment. For scientific research, this instrument is less useful, firstly because the first level of development is not represented in the protocol, and secondly because the criteria for scoring are equivocal.

Representation of theoretical concepts

Table 1 shows that the instruments differ in the representation of concepts from psychoanalytic theory.

Functions of the Ego (e.g. defense style) are represented in all instruments. More recent developments in psychoanalytic theory, for instance the influence of object-relational theory, are of course only represented in more recently constructed instruments (structural interview, KAPP, 'fulcrum of development', and R.E. Abraham's developmental profile). The decrease in the importance of drive development is represented in more recently constructed instruments. Except for the 'fulcrum of development', drive development is not assessed in the newest instruments. Concerning a multidimensional assessment of personality development, R.E. Abraham's developmental profile is interesting, because it offers a combination of concepts from several psychoanalytical schools. This instrument can help in the integration of concepts from different schools within psychoanalysis, and also be a bridge with other branches of psychology (e.g. cognitive psychology).

Discussion

Theory

The question arises how far the instruments cover the different theoretical concepts (see Table 1). Before this question is answered, three points are discussed, namely changes in the focus of psychoanalytic theory,

Table 1. Overview of psychoanalytic concepts in the instruments for personality assessment

	A. Freud (developmental profile)	Loevinger (sentence completion test)	EFA	Kernberg (structural interview)	KAPP	Blanck and Blanck ('fulcrum of development')	Abraham (developmental profile)
S. Freud (drive development)	x		x			x	
S. Freud, Hartmann e.a. (structural development, ego-functions, including defense)	x	x	x	x	x	x	x
A. Freud (developmental lines)	x		x		x	x	x
Mahler (object-relational development)				x	x	x	x
Kernberg (ego-identity, defense, reality testing)				x	x	x	x
Kohut (narcisism)							x
Erikson (identity development through life)		x					x
Loevinger (ego development)		x					x

development through life, and the lack of conceptual clarity in psychoanalytic theory.

Changes in the focus of psychoanalytic theory. The focus in psychoanalytic theory has changed gradually. Initially it was focused on drive development. Later on, ego development and the concept of developmental lines were added. Momentarily, the focus is on the development of self-representation and object-relations. This change started with the description of the structural point of view (Freud, 1961/1923b), and was elaborated on by Hartmann, Kris and Loewenstein (Hartmann, 1939; Hartmann, Kris & Loewenstein, 1946). Partially, these changes can be attributed to the decrease in the importance of drive theory, but also on the high level of abstraction of this theory (e.g. the concept of cathexis). This high level of abstraction hinders the translation of concepts in terms of actual behavior. The focus on the reconstruction of pathological behavior based on development in early childhood has also decreased, while at the same time direct observation of the developmental process in children has increased (e.g. in the work of Anna Freud and Margaret Mahler). Finally, theories outside psychoanalytic theory have gained influence (Eagle, 1996). For instance, the thinking about the concept of representation in psychoanalytic theory has been stimulated by the rise of cognitive psychology. An integration of the different approaches in psychodynamic developmental theory will stimulate further research in this area. The developmental profile of R.E. Abraham seems to be a first initiative in this direction.

Development through life. Another major change is the increased attention for development through life. Although Erikon's theory (1950) was formulated early, only recently more attention has been given to the integration of models of adult development in psychodynamic theory (Colarusso & Nemiroff, 1987). Central points in adult development (the aging body, limitations in life perspective) can have major influence on the individual. One of the reasons for the limited attention for development later in life seems to be that the phase model of development that is predominant in the description of childhood development is less applicable in describing development in adulthood (Settlage, Curtis, Lozoff, Lozoff,

Silberschatz & Simburg, 1987). The phase model is less applicable in adulthood, because development in adulthood is more socially and culturally determined and far less biologically than in childhood. Furthermore, not all adults pass the same stages (e.g. parenthood, working career). More research into the relationship between the central theme's in the development of adults and behavior is needed.

Lack of conceptual clarity in psychoanalytic theory. In psychoanalytic theory there is need for unequivocal definitions of different ideas (Jacobson & Cooper, 1993). Differences between the instruments in the number of concepts assessed are partly due to the lack of conceptual clarity within psychoanalytic theory. For instance, concerning the development of the Ego, is this one central function as in the theory of Loevinger, or the result of the interaction of several functions as in the other instruments? Compared with the Big-Five model of personality, psychoanalytic developmental theory is far less a unity. As was stated above, the integration of different approaches will be a step forward.

Agreement between the instruments and psychoanalytic theory. The change in focus in psychoanalytic theory is found in the instruments presented. Three out of four recently constructed instruments (Kernberg's structural interview, the KAPP, and R.E. Abraham's developmental profile) do not assess drive development. Only in the 'fulcrum of development' (Blanck and Blanck) drive development is assessed. Recently constructed instruments (Kernberg's structural interview, KAPP, Blanck and Blanck's 'fulcrum of development', Abraham's developmental profile) all pay attention to the development of object-relations. It is remarkable that all instruments assess the development of psychic structure, first described by Freud in 1923. His theory still is the basis of much of the thinking in psychoanalytic developmental theory.

Another remarkable point is that in spite of the increasing attention for development through life, most instruments ignore this aspect. Only R.E. Abraham's developmental profile is constructed for assessment of development later in life. A disadvantage of this instrument can be that only the last 10 years are assessed, so that earlier developments get less attention.

The lack of conceptual clarity within psychoanalytic theory is reflected in the instruments presented. For instance, in the KAPP, satisfaction with sexual relationships is incorporated in the scale of sexuality, while in R.E. Abraham's developmental profile it is incorporated in the aspect of 'identity' on the line of needs. Another example is the turning to others for help and support. In the KAPP this is assessed on the factor of impression of 'meaning as individual', while in R.E. Abraham's developmental profile this is assessed in the line of coping styles (affiliation).

Instruments

Here, the following points are discussed: time investment for psychodynamic personality assessment, the tension between clinically relevant assessments and scientific useful assessments, and the reliability and validity of psychodynamic personality assessments.

Time investment. This overview shows that subtle psychodynamic personality assessment is time consuming. Almost all authors indicate that much time is needed for the use of the instruments, from a couple of hours to a complete psychoanalytic treatment (Anna Freud). This is not unexpected, considering that psychodynamic personality assessment concerns a multitrait-multilevel assessment of the complex psychic functioning. This is a disadvantage compared with relatively easy to use self report questionnaires (e.g. MMPI). However, the MMPI does not take a developmental point of view. Also, a diagnosis based on symptoms, without attention for the underlying personality structure, can lead to incorrect treatment indications (Kernberg, 1981; 1984, Blanck & Blanck, 1994, Abraham, 1997a). From this point of view, an a-theorerical stance, as taken in the DSM-system in which disturbances are classified according to symptoms, is a limitation in the diagnostic process. Blanck and Blanck (1994) present the example of obsessive complaints, which can have different meanings for a neurotic patient, a patient with borderline personality disorders or a patient with somatic problems. A symptom-based diagnosis can not only lead to incorrect treatment indication, according to Sharp and Bellak (1976), but this type of diagnosis lacks meaning in a psychoanalytic, psychodynamic way. A quick,

symptom-based assessment and a global impression of the level of functioning of a patient can be indicated in acute situations. In other situations a more extended diagnostic phase is needed, in which more attention is paid to the therapeutic potentials of the patient and the meaning of the symptoms for the patient.
Clinical relevance and scientific usefulness The discussion on clinical relevance and scientific usefulness focuses partially on the possibility of subtle assessments. Clinically relevant assessments are often more subtle than scientifically useful assessments. In order to make statistically reliable statements less equivocal assessments are needed. However, clinical judgment is sometimes less subtle, for instance concerning the presence or absence of early developmental disruptions in the indication for explorative psychotherapy. Examples are Kernberg's structural interview, and Blanck and Blanck's 'fulcrum of development', in which three levels of development can be assessed. In the KAPP, two intermediate levels between the three main levels can be scored. For treatment indication a division in three can be enough (for instance for the indication of supportive therapy for borderline patients, versus explorative therapy for neurotic patients). For scientific research a more subtle approach is necessary. Further distinction within the group of neurotic patients is needed for prognostic factors in psychotherapy. From this point of view Anna Freud's profile, Loevinger's Sentence Completion Test and R.E. Abraham's profile clearly have added value.
The same discussion about the subtleties of assessment is important for the number of personality aspects that is assessed. For instance, in Loevinger's Sentence Completion Test only one general indicator of personality development is presented, based on the assessment of four domains of development. In the KAPP on the other hand, 18 aspects of personality development, clustered in 6 factors are assessed. Defense, self-representation, and object-relations have become central ideas in psychoanalytic theory. Except for the Sentence Completion Test, these aspects are assessed in all instruments.
Reliability and validity of psychodynamic personality assessment Both for scientific research and for therapy evaluation it is important that data on

personality development are measured reliably and valid. Three criteria have to be met for reliable assessments: data must be reproducible (an interview should yield the same results when used by different interviewers, or when the same interviewer repeats the interview after a short period of time), the selection criteria for the inclusion of information in the scoring must be unequivocal (different judges should use the same information for the scoring), and the scoring protocol must be clear (one statement can be scored in only one category). Although a clinical interview can be very valuable in clinical practice, it is not suitable for scientific research, because it does not fulfill the first criterion for reliability. Therefore, Anna Freud's profile and Blanck and Blanck's 'fulcrum of development' are not suited for use in scientific research. Information obtained by Kernberg's structural interview is largely dependent on the experience of the interviewer. It is therefore unclear to what extend different interviewers would obtain the same information. Because these three instruments are constructed primarily for use in clinical practice, there is no major argument against the use of these instruments. For scientific research the other instruments are more useful. The data of these instruments are obtained by standardized protocols. A caveat is that the interaction between interviewer and interviewee can be used in the scoring of some instruments, which endangers the reliability of these instruments.
Validity concerns whether the instrument measures what it is intended to measure. Personality development is a multitrait-multilevel concept, and the instruments should at least be able to assess several aspects of personality development on different levels. All instruments assess multiple aspects of personality development on multiple levels, and thus have some face-validity (see Table 1). The instruments differ in the number of concepts measured. R.E. Abraham's developmental profile integrates most theoretical positions and concepts.
The validity of the instruments is limited in so far the concepts they intend to measure are not clearly defined. The examples above about the allocation of satisfaction with sexual functioning and the allocation of affiliation illustrate this. As such, all instruments suffer from the lack of conceptual clarity of psychodynamic

theory. At the same time, the use of instruments incorporating multiple points of view, such as R.E. Abraham's developmental profile, may be a step in reaching agreement between psychodynamic schools on the definition of concepts.

Conclusion

In psychoanalytic theory a change in focus has occurred from a drive oriented to a object relational approach. Also, there is currently more interest in development through life. These changes are reflected in the newer instruments for personality assessment. Recently constructed instruments, such as R.E. Abraham's developmental profile, do not assess drive development and libido, but do give an impression of other aspects of personality development. Modern developmental theories stress that no one system is independent of other systems, or otherwise stated that no aspect of personality development is independent of the development of other parts (Tyson & Tyson, 1990). The distinction that is made between developmental lines is thus a theoretical abstraction, differentiating aspects of functioning that in reality can not be differentiated (e.g. object relations and self representation, who both have their basis in the differentiation between me and not-me). This artificial differentiation can easily lead to too much emphasis on one of both aspects (Blatt, 1990; Blatt & Blass, 1990). Furthermore the danger of reification exists.

Another danger is the normative aspects of developmental theories. It is almost impossible to describe normal development without referring to cultural norms and values (e.g. the position of homosexuality in Freud's models of development and modern theories of development). The danger of stigmatization is real.

Research into the relationship between personality characteristics and the effectiveness of therapy is valuable. Until now, research has shown that the development of object relations and ego-strength is related to the effectiveness of psychoanalytic psychotherapy. This type of research is certainly valuable for the indication for therapy.

Chapter 3:

The inter-rater reliability of the Developmental Profile in patients suspected of lung cancer or esophageal cancer

Chapter three

This chapter is based on the following manuscript:

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The inter-rater reliability and clinical validity of the Developmental Profile in patients suspected of lung cancer or esophageal cancer

Abstract

The reliability of the individual cells (representing a specific level of a specific developmental line) and overall scores of developmental lines of the Developmental Profile, an instrument for psychodynamic personality assessment, was estimated in 127 patients suspected of lung cancer or esophageal cancer. Two raters independently scored the interviews. Percentage observed agreement, Cohen's kappa, and ICC were used to estimate the reliability. The mean percentage observed agreement was high in this study. Linearly weighted Cohen's kappa's were low for the individual cells, but the ICC for the developmental lines was moderate to good. The lowest levels of development were relatively difficult to assess. The Overall Functioning score for each line turned out to be reliable. Because of the lower reliability for certain developmental lines, we suggest that consensus scores be used for research purposes.

Introduction

A central and empirically validated assumption in psychodynamic theory is that personality development is related to general functioning. For instance, Vaillant (1990) showed that the use of immature defense mechanisms during adolescence was related to less successful adaptation later in life than the use of more mature defenses.

However, several theoretical and methodological problems are related to this research area. A first theoretical problem is that psychodynamic theory is becoming more and more diversified (Wallerstein, 1992; Mitchell & Black, 1995) in the sense that the number of concepts in psychodynamic theory has increased. Confusion about the meaning and usefulness of concepts across different schools has arisen (e.g. the role of drives in different schools). The diversification has urged the need of unambiguous operationalizations of concepts in behavioral terms (Jacobson & Cooper, 1993). A second theoretical problem is the so-called 'genetic fallacy' (Tyson & Tyson, 1990). This means that psychopathological behavior is simply understood as a repetition of behavior patterns learned during early childhood. To circumvent the genetic fallacy, not only the behavior associated with early phases of development should be assessed, but also behavior that is learned later in life.

A first methodological problem is the reliability and validity of psychodynamically oriented personality assessment. Psychodynamic instruments for personality assessment intend to measure both the conscious and unconscious, hidden basis of behavior. This implies that interpretation of the hidden basis of behavior is necessary. Clinicians may differ about the interpretation of behavior, which may lead to decreased reliability. Currently available psychodynamically oriented instruments for the assessment of personality development are for example the Ego Functions Assessment (EFA; Bellak, Hurvich & Gediman, 1973; Bellak, Hurvich, Silvan & Jacobs, 1968), the Structural Interview (SI; Kernberg, 1981, 1984), the Karolinska Psychodynamic Profile (KAPP; Weinryb & Rösssel, 1991; Weinryb, Rössel & Åsberg, 1991a, 1991b) and the Scales of Psychological Capacities (PC; Zilberg, Wallerstein, Dewitt, Hartley & Rosenberg, 1991; Dewitt,

Hartley, Rosenberg, Zilberg & Wallerstein, 1991). Except for the PC, for which no reliability data are available, the reliabilities of the instruments are considered sufficient. For the EFA inter-rater reliability coefficients (Spearman-Brown correlation) of 0.61 to 0.88 are reported, with a median correlation of 0.80, in a sample of schizophrenic patients. The EFA can also be scored on protocols derived from projective tests. The reliabilities for these assessments are lower (range 0.54 to 0.73, median 0.68; Bellak, Hurvich, Gediman & Crawford, 1970). For the SI, in a sample of 47 Dutch psychiatric patients three raters reached an agreement between 57% and 78% and inter-rater reliabilities (Cohen's kappa) between 0.53 and 0.71 (Derksen, Hummelen & Bouwens, 1989). For the KAPP, in a sample of patients with substance abuse disorder, a mean ICC of 0.84 was found, with a range of 0.62 to 0.95 (Weinryb, Busch, Gustavsson, Saxon & Skarbrandt, 1998). However, replication studies on the reliability of structured interviews for personality disorders failed to reach the high levels of inter-rater reliability that the authors of the instruments reported (Zimmerman, 1994). A second methodological problem is that structured interviews may be subject to a response set in the same way as self-reporting questionnaires. Alterman, Snider, Cacciola, Brown, Zaballero & Siddiqui (1996) found that respondents with a response set to 'look bad' as measured with a self-reporting questionnaire qualified for more lifetime psychiatric diagnoses in a structured interview than patients without this test-taking attitude. They also found that the interviewer may not be aware of such a response set. A third methodological problem is that the relationship between personality and psychopathology may be contaminated, because of overlap in definitions. For example, a definition of neuroticism such as 'the extent to which a person perceives and experiences the world as threatening, problematic, and distressing' (Watson, Clark & Harkness, 1994) implies a relationship between neuroticism and psychopathology. In the same vein, the positive relationship between depression and negative thinking (Garber, Weiss & Shanley, 1993) and the relationship between neuroticism and somatoform disorders (Kirmayer, Robbins & Paris, 1994) is contaminated. A fourth methodological problem is that the correlation between personality and

psychopathology may in part be explained by confounding variables, such as the genetic make-up of an individual, exerting influence both on personality and psychopathology (Carey & DiLalla, 1994).

As a last point, the applicability of the available instruments in normal populations may be problematic, because these instruments are mainly constructed for use in clinical samples. Except for the PC, which has an equal number of adaptive and maladaptive anchorpoints, all other instruments provide extensive information on maladaptive aspects of personality development, but they focus less on adaptive aspects of personality development. Their focus on clinical psychological and psychiatric phenomena makes the instruments less suitable for use in normal populations.

Therefore, what is needed is an instrument that provides information on both maladaptive and adaptive aspects of personality development, based on the assessment of theoretical concepts from different schools, operationalized in mutually exclusive behaviors. Furthermore, a scoring manual with clear examples and scoring rules should be available, as well as a standardized interview, to obtain the relevant information. The Developmental Profile (DP; Abraham, 1993, 1997a, b) is such an instrument. The purpose of this article is to study the inter-rater reliability of this instrument. We studied patients suspected of lung cancer or esophageal cancer in order to estimate the reliability of the instrument in a non-psychiatric population, which is at risk for psychological distress.

The research question for this study is: what is the inter-rater reliability of the DP, both for the individual cells and for an aggregated score for each developmental line?

We hypothesize that the individual cells are less reliably scored than an aggregated overall score for developmental lines.

The Developmental Profile

The DP (Abraham, 1993, 1997a, b; Van, van Foeken, Ingenhoven, Tremonti, Pieper-de Vries, de Groot, Van 't Spijker, Spinhoven & Abraham, in press) is a semi-structured interview, for the assessment of the level of personality

development. It assesses eight developmental lines and one line of miscellaneous aspects of personality development.

Theoretical background of the DP The theoretical frame of reference of the DP is psychodynamic developmental psychology, egopsychology, object-relations theory and self-psychology. The DP is based on the genetic point of view, in which it is assumed that adult personality characteristics bear a considerable resemblance to behavioral patterns of early childhood (Tyson & Tyson, 1990). Individual behavior is a combination of various developmental levels (Bellak & Goldsmith, 1984). Anna Freud (1963) introduced the concept of developmental lines, in order to understand behavior on the basis of several aspects of personality development. The level of development of one line does not necessarily determine the level of functioning on another line. The developmental lines of the DP are based on several psychoanalytic theories. Ego-psychology (e.g. Freud, 1936) is reflected in the lines of defense style and coping style. Erikson's (1950) theory of social development is reflected in the line of social attitude. Object-relations theory (Kernberg, 1981; Mahler, Pine & Bergman, 1975) is reflected in the line of object-relations, as well in some defenses that stem from this model (e.g. splitting). Self-psychology (Kohut, 1971) is reflected in the line of self-image, as well in the level of development of self-centredness. Loevinger's (1976) and Kohlberg's (1981) theory of moral development is reflected in the line of norms, while the influence of Piaget (1962) on cognitive development and of Fonagy & Target (1996) on reflective functioning is found in the line of cognitions. The several levels of development are a combination of classical Freudian theory (neurotic developmental levels; Freud, 1953/1905), object-relations theory (the borderline and psychotic developmental levels assumed by Kernberg (1981) to precede neurotic development), and the developmental levels in adulthood, described by Erikson (1950). Also, the conflict free sphere described by Hartmann (1964/1950) is represented in the adaptive developmental levels of the DP. The arrangement of developmental levels is based on the observation that the excessive occurrence of early childhood behavioral patterns in adults is

accompanied by more severe disorders in psychosocial functioning than the occurrence of later childhood behavioral patterns.

One of the advantages of the DP is that clinicians and researchers from different psychoanalytical schools can use the same instrument. The DP may thus stimulate the exchange of research findings across different theoretical schools.

Data selection and scoring The DP is scored based on a semi-structured interview (see Appendix A), corresponding largely to a normal clinical interview. Topics of the interview are lifestyle, school and work; partner, children and other relations; religious, political and other social activities; sports and hobby; the patient's reactions to stressful events, his needs and finally experiences of anxiety, anger, guilt, shame, and insufficiency. The interview is carried out according to the so-called 'a-b-c-model', meaning that information is elicited about a) the affective significance, b) the actual behavior and c) the cognitive meaning of a situation. Statements of the subject can be scored on ten, hierarchically ordered levels. The items on the six lower levels represent immature or maladaptive behavior patterns, the items on the four higher levels represent mature or adaptive behavior patterns.

Combination of the ten developmental levels with the nine developmental lines results in a matrix of 90 cells, each representing a specific level of a specific developmental line. For each of the cells a definition and examples of statements fitting the cell are provided in a scoring manual (see Appendix B for an example). The behavioral patterns described in definitions and examples had to fit three criteria. First, the behavioral patterns had to be clinically relevant. Second, the behavior had to be related to a single developmental level. Third, the definitions had to be related to manifest behavior.

For each level an endscore can be computed, representing the degree in which the individual shows behavior patterns that are typical for that level. The endscores are computed by summating the scores of the cells at each level and than transforming these raw scores into a score between 0 and 3. Thus, the final matrix consists of 100 cells (90 cells for each level of each developmental line and 10 cells for the endscore of each level).

Tables 1 and 2 present an overview of the developmental lines and the developmental levels represented in the DP.

Table 1: Overview of Developmental Lines

Developmental line	Definition
Social Attitude:	The habitual behavior of the patient in daily contacts.
Object Relations:	The meaning or role the patient ascribes to his significant others or to people in general.
Self Images:	The criteria which determine one's sense of self-esteem.
Norms:	A frame of reference for assessing the correctness or feasibility of the behavior.
Needs:	A general desire or urge for something one lacks.
Cognitions:	The manner in which one attributes meaning to one's experiences.
Problem Resolving Behavior	
I Thoughts and Feelings:	Thoughts and feelings as a reaction to internal or external stress.
II Action:	Action as a reaction to internal or external stress.
Miscellaneous:	Level specific, largely affective habitual behavior patterns.

A favorable aspect of the DP is that the information gathered can be used in the planning of treatment for individual patients (Abraham, 1997a), because the interview provides the same information as a clinical interview. For instance, patients with adaptive levels of development are more suitable for insight oriented therapy, whereas patients with more maladaptive development can be helped better by supportive therapy. Patients with maladaptive development of several lines, but with adaptive development of cognitions, can benefit from cognitive therapy.

The reliabilities of the endscores for each level of development are shown to be satisfactory (mean squared weighted Cohen's kappa 0.70, range 0.53 to 0.84; Van, Ingenhoven, van Foeken, van 't Spijker, Spinhoven & Abraham, 2000). Although these endscores provide relevant material both for clinical practice and for scientific research, they do not use all the information available in the DP. We

therefore studied the reliability of the individual cells, as well of the different developmental lines.

Table 2: Overview of Levels of Development (from immature to mature)

Developmental level	Definition
Lack of structure:	The lack of a frame of reference and / or the lack of certain general human abilities.
Fragmentation:	A lack of inner consistency.
Self-centeredness:	An excessive and / or egoistic attitude.
Symbiosis:	An incomplete separation, an inability to function independently.
Resistance:	The lack of autonomy; a lack of inner freedom.
Rivalry:	An insecurity about one's own qualities as an adult man or woman, together with a striving to prove oneself.
Individuation:	Self-realization; living life in one's own way, taking into account the existing possibilities as well as the interests of others.
Solidarity:	Functioning in a relationship. Being part of a larger entity, without losing one's own personality.
Generativity:	A true joint responsibility for the functioning of society.
Maturity:	Decentralisation whereby one's personal interests are no longer of primary importance; no longer placing oneself at the center of things.

We choose a population of somatically ill patients, because a priori no severe personality problems are to be expected in this population. In this way the adaptive levels of the DP are scored more than in a psychiatric population.

Method

Subjects. Subjects in this study were 127 subjects suspected of lung cancer or esophageal cancer, admitted to the University Hospital Rotterdam 'Dijkzigt' for diagnostic work-up. The sample consisted of 105 men and 22 women. The mean age of the subjects was 62,1 year (range 34 to 81 year). Subjects were interviewed by the first author, or by trained students. Each patient was interviewed after he had given informed consent.

Interview. The interviews lasted about 45 minutes. Interviews were tape-recorded and typed out verbatim. Each individual cell was rated using a four-point scale

from 0 (not present) through 3 (very clearly present). The verbatim text was scored independently by two authors (AvtS and HLV).

Training of interviewer One of the raters in this study (HLV) was involved in the construction of the interview. The second rater (AvtS) was trained in the background and scoring of the interview, using the first thirty-three interviews of the present study. The scores of these interviews are not used in the analyses.

Analysis. First the number of scored statements in each cell was counted. Cells without observations were not used in further analyses. For the cells the percentage observed agreement, the percentage expected agreement and Cohen's kappa were computed, using squared weights for the differences in scoring. The overall mean kappa was computed. Next, four scores for each developmental line were computed: 1. the highest level of development of the patient in each line (range 1 to 30, with higher scores representing a higher level of development); 2. the lowest level of development of the patient in each line (range 1 to 30, with lower scores representing a lower level of development); 3. the range in level of development (range 0 to 29, with higher scores reflecting more distance between the highest and lowest level of development); and 4. the overall score of each line. For the overall score the scores at each developmental level were weighted and a weighted mean was calculated (see appendix C, cf. Perry, 1990). The theoretical range for this score varies from 1 to 10, with higher scores representing higher levels of development. The agreement on these four scores for each developmental line between the two raters was computed using ICC (raters fixed).

Results

Reliability estimates of individual cells Of the 90 cells that can be assessed, 78 have at least one observation. The other 12 cells are empty. The empty cells are all on the lowest two levels (6 cells on the level 'lack of structure' and 2 cells on the level of 'fragmentation') and highest level (4 cells on the level of 'maturity'). The mean number of observations in each cell is 32 (range 1 to 99). The mean percentage observed agreement is 94% (range 75% to 99%, median 95%). The

mean percentage expected agreement between the two raters is 91% (range 71% to 99%, median 92%).

Table 3: Weighted kappa's for Individual Cells

	Soc Att	Obj Rel	Self	No	Ne	Cogn	Def Style	Coping Style	Misc
Mat	0.07	0.00	-	0.00	0.00	-	-	-	0.56
Gen	0.14	0.44	0.00	0.57	0.39	-0.01	0.48	0.52	0.44
Sol	0.35	0.42	0.24	0.48	0.57	0.41	0.38	0.39	0.46
Ind	0.38	0.18	0.25	0.40	0.33	0.36	0.46	0.35	0.30
Exp	0.07	0.50	0.40	0.23	0.52	0.36	0.25	-0.04	0.00
Res	0.23	0.13	0.37	0.23	0.00	0.46	0.36	0.26	-0.01
Symb	0.48	0.23	0.46	0.06	0.11	0.27	0.53	0.42	0.21
Narc	0.33	0.08	0.24	0.41	-0.02	-0.01	0.30	0.03	0.18
Fragm	-	0.00	0.07	0.42	-	-0.01	0.19	0.38	-0.02
Lack of Structure	-	-0.01	-	-	-	-	-0.01	-0.01	-

-: no observations in cell

Soc Att: Social attitude; Obj. Rel.: Object-relations; Self: Self image; No: Norms; Ne: Needs; Cogn: Cognitions; Def Style: Defense Style; Misc: Miscellaneous

Mat: Maturity; Gen: Generativity; Sol: Solidarity; Ind: Individuation; Exp: Expansion; Res: Resistance; Symb: Symbiosis; Narc: Narcissism; Fragm: Fragmentation

In Table 3 the kappa's for the individual cells are presented. The mean kappa for all cells with at least one observation is 0.26. The range is –0.04 to 0.57. Although theoretically kappa is independent of the number of observations and the percentage expected agreement, we found that both correlate significantly with kappa. The number of observations in a cell correlates positively with kappa ($r = .51$, $p < .01$), meaning that the higher the number of observations in a cell is, the higher kappa for that cell is. The percentage expected agreement correlates negatively with kappa ($r = -.46$, $p < .01$), meaning that higher percentages expected agreement are related to lower kappa's.

Reliability estimates of the developmental lines The reliabilities (ICC) for the four scores computed for each developmental line are presented in Table 4.

Table 4: ICC's for the Developmental Lines (highest level of development)

Developmental Line	ICC highest level of development	ICC lowest level of development	ICC range of development	ICC overall functioning
Social Attitude	0.46	0.48	0.52	0.61
Object-Relations	0.68	0.46	0.29	0.61
Self-Image	0.14	0.52	0.57	0.34
Norms	0.68	0.68	0.62	0.69
Needs	0.65	0.31	0.40	0.41
Cognitions	0.49	0.61	0.28	0.63
Defense Style	0.71	0.43	0.33	0.75
Coping Style	0.73	0.15	0.46	0.67
Miscellaneous	0.65	0.69	-0.05	0.74

** $p < 0.01$

The mean ICC for the highest levels of development is 0.58 (range 0.14 to 0.73). The mean ICC for the lowest levels in each line is 0.48 (range 0.15 to 0.69). The mean ICC for the range in scores of development is 0.38 (range –0.05 to 0.62). The mean ICC for the overall scores is 0.61 (range 0.34 to 0.75).

Discussion

The mean percentage observed agreement (94%) is high in this study. This means that in almost all cases the raters agreed on the observations. According to Zegers (1991) an acceptable percentage agreement is 70 to 80%. The individual cells of the DP meet this criterion. This implies that the DP can reliably be used, after raters have been trained in the interview and scoring.

The kappa's found for the individual cells of the DP in this study are relatively low (mean weighted kappa = 0.26) compared with the weighted kappa's found for the summary scores of each developmental level (Van et al., 2000). This means that the individual cells are less reliable to assess than the endscores of each level. However, this result may be influenced by the high percentage expected and observed agreement in the present study. We found that kappa is significantly related to both the number of observations in a cell and the percentage expected agreement. Both relationships may explain why the two lowest levels and the

highest level of the DP have low kappa's: the number of observations in these cells is low and because so few observations are made, the percentage expected agreement is high. Others have found similar results (Duivenvoorden, 1982; Greeven, 1997; Hux, Sanger, Reid & Maschka, 1997; Banerjee & Fielding, 1998; Carr, Kenney, Wilson-Barnett & Newham, 1999). This implies that for cells with few observations kappa is not the best measure of inter-rater agreement, or that the reliability of cells with few observations can not be measured accurately.
Concerning the aggregated scores for the developmental lines, the best results are obtained for the overall score. The results of the other scores computed for each line (highest level, lowest level and range in development) are all less positive. Because the overall score is based on those aspects that are clinically most relevant (highest level, lowest level and the range in development), this appears to be the most promising scoring method for research purposes. From a clinical point of view, one could argue that important information is lost in the overall score, because the typical strengths and weaknesses of an individual at each developmental line can not be observed. However, the advantages of the overall score are manifold. First, it may give a first impression of the level of functioning of an individual on each developmental line. Second, the overall scores for the separate developmental lines can be presented in a profile showing the relative strength or weakness of each developmental line compared with the other lines of that same individual. Third, this score can easily be handled statistically. One may consider summarizing the level of functioning in one overall score on the basis of the endscores for all different developmental levels together. However, we expect that presenting scores for the separate developmental lines provides more information and allows for more precise predictions than presenting one score for the complete interview.
The finding that individual cells are relatively difficult to score reliably, while an overall score is more reliable, is consistent with results found in studies on assessment of defense mechanisms. For instance, Perry & Cooper (1989) found that clusters of defense mechanisms can be assessed reliably, whereas individual defense mechanisms are more difficult to assess reliably. Several factors may

have contributed to our finding. First, raters have to weigh the evidence in order to score 0, 1, 2 or 3. Differences between any of these scores are slight. More detailed instructions in the scoring manual could prevent disagreement between raters. Second, raters may differ in allocating statements to developmental lines. For example a statement like 'I do what I do, because I think it is worthwhile and it fits me', may be read as an indication of a individual self-image (63), of individual norms (64), or of identity (65). All three possibilities are located at the level of individuation. A score in any one of these cells contributes to the endscore of individuation. When rater A reads the statement as reflecting the self-image, and rater B reads the statement as reflecting the norms a patient uses, the inter-rater reliability of the individual cells drops. One could argue that such a statement reflects an indication of all three developmental lines, and that thus in all three lines a score can be given (cf. Pine, 1990). However, this may lead to an inflation of the score of a particular level and thus to a distortion of the personality profile of a patient. Third, this result may confirm the finding of Zimmerman (1994) that replication studies may fail to reach the high reliabilities reported by the constructors of a test. One of the raters in the present study was involved in the construction of the interview, whereas the other had no experience with the interview beforehand.

These three points presented imply that an aggregate score is needed for a reliable scoring. One can choose either the level scores (end scores) as was done in the study of Van et al. (2000), or the scores of the individual developmental lines, as was done in this study. The assumption of the DP is that the cells of one level represent different manifestations of the central theme of that level (Abraham, 1997a). The end score reflects the relative importance of a specific theme (e.g. narcissism) in the functioning of an individual. In psychodynamic theory, there is ample room for the influence of several developmental lines on behavior (cf. Freud, 1963; Pine, 1990). In normal development, the level of development of different lines is roughly equal. Differences in developmental level between lines may be pathogenic (Freud, 1963). Thus, for a study into the relative importance of a developmental line for the development of psychological distress,

scores for the separate developmental lines provide more information than the end scores.

Conclusion

Based on the percentage agreement for the individual cells, and the moderate to good ICC's for the overall scores for each developmental line, we conclude the DP can be scored reliably. It is a valuable enlargement of the personality assessment instruments.

Although the reliability of the DP is sufficient, further refinement of the DP will improve the reliability. These refinements should focus on the following points. First, the instructions for scoring 0, 1, 2, or 3 should be made more specific, so that scoring becomes less subjective. Second, attention should be paid to the indications for allocating statements to developmental lines. This also increases the objectivity of scoring the interview. Particular attention should be paid to the cells in the lines of self image and needs, because these have an ICC below the mean. Until these refinements are made, we suggest that for research purposes a consensus score be used.

Appendix A: the interview for scoring the Developmental Profile

A. Symptoms / problems

1 Can you tell me briefly why you are here / what your symptoms/problems are? How long have you had these symptoms/problems? What made you decide to come here now?

2 How do your symptoms/problems affect your daily life? What do you not do now that you used to do? How long has this been the case?

3 How do you react to your symptoms/problems? What do you usually do to lessen their effect or to make the situation as bearable as possible?

4 Do you talk to anyone about your symptoms/problems? (if so)With whom? Does it help? (if not) Why not?

5 Is there anyone who supports you, helps you to cope with your symptoms or make the situation as bearable as possible? (if so) Has this actually helped? Who is this person? What does he or she do? How important is this to you? (if not very important) Why not?

6 Have you sought treatment for your symptoms during the past year? (if so) What kind of treatment was this? How often does it take place? For how long? Did you feel as if you were understood? Did the treatment help? (if so) What exactly do you feel was helpful? (if not) Why not? (in the case of symptoms which have continued for some time without therapy) Why did you wait until now to seek treatment?

7 You have previously (in the past 10 years) undergone psychotherapeutic / psychiatric treatment. When? What were your complaints? What type of treatment was this? How often dit it take place? For how long? Did you feel as if you were understood? Did the treatment help? (if so) What exactly do you feel was helpful? (if not) Why not?

B. Life style

1. Do you live alone? (if not) Have you ever lived alone (in the last 10 years)? (if not) Why not? (if so or if living alone now) What do you do about meals, housework, laundry? Are you often home alone? Do you feel at home in your room / flat / house? (if not) Why not?
2. (if not living alone) Do you ever spend an extended period of time at home alone? (if so) How often? Do you enjoy this?
3. Have you ever gone on holiday or for some other reason spent a week or longer away from home? (if so) When (in the last ten years)? For how long? Did you enjoy yourself?
4. Do you have any activities outside the home in addition to work? (if so) What kind of activity is this? How often? Is this alone or with others?

5. Did you fulfil your military service? (if not) Why not? (if so) How did you experience this period?

C. Schooling

1. What schooling or training have you had (after elementary school)? How long did this last? Did you complete this schooling or training? (if not) Why not?
2. (if the patient has not been in school for the past 10 years, go on to question D1) Why are you following this course? What will it help you to achieve?
3. Are you satisfied with the results? Why?
4. How do you react when something happens which you do not agree with? Could you give me an example? Are you satisfied with your reaction? (if not) Why not?
5. (only if the schooling or training is important) Does this course or training / schooling suit you? Why?

D. Work

1. (if not employed, the last job held during the past 10 years; if not employed during the past 10 years, go on to question D7) What type of work do you do? (if applicable) What does this entail? How long have you done this work? Do you work on your own or under direct supervision? Do you supervise others?
2. Why do you do this work? Is it important to you? Why?
3. Are you satisfied with your work situation? Why?
4. (if in salaried employment) Is your employer/boss satisfied with your work? And your colleagues? (if dissatisfied) How do you feel about this?
5. Are you satisfied with the way that you do your work? Why?
6. How do you react when something happens which you do not agree with? Could you give me an example? Are you satisfied with your reaction? (if not) Why not?
7. (only if the work is important) Does the work you do (did) suit you? Why?
8. Have you (during the last 10 years) done other work? When? For how long? Was your employer satisfied with your work? Why did you change jobs/switch to another type of work? (where there are gaps in the patient's work history) What did you do during this period? (if no longer employed) How long has it been since you last worked? Why are you no longer working? How do you feel about this?

E. Partner

1. Do you have a partner? (if no partner, last relationship with a partner in the last 10 years; if no partner in the last 10 years, go on to question E13). How long have you been living together?
2. Can you describe your partner?
3. What do you consider good in this relationship? What is less good or even bad? And how does your partner feel about the relationship? Has your relationship changed since the beginning? (if so) How?

4. How important are you to him/her? How important is he/she to you? What role does he/she play in your life?
5. Are you satisfied with the present arrangement as regards housework, money matters, the upbringing of the children? (if not) Why not? And your partner? (if not) Why not? How do you feel about this?
6. Do you ever have disagreements? (if not) Why do you think this is? (if so) Could you give me an example? What happens after that? How do you feel about your partner's reaction? Are you satisfied with your own reaction?
7. Do you talk to your partner about what interests you / what you consider important? And does he/she do the same with you? Are you satisfied with this situation? (if not) Why not? And your partner? (if not satisfied) Why not? How do you feel about this?
8. What leisure activities do you engage in together? Are you satisfied with this situation? (if not) Why not? And your partner? (if partner not satisfied) Why not? How do you feel about this?
9. How often do you have sex? Are you satisfied with the way this happens? (if not) Why? Do you have an orgasm? How important is sex to you? How does your partner feel about this? (if partner not satisfied) Why not? How do you feel about this?
10. Have you ever felt you wanted to have sex with another man/woman (same sex as partner)? Has this ever happened? (if so) How did you experience this? And your partner? How do you feel about this?
11. Have you ever felt you wanted to have sexual contact with someone of the same sex? Has this ever happened? How did you experience this? And your partner? Do you feel that this suits you?
12. Have you previously (in the last 10 years) had other partners? When? For how long? (with regard to the longest relationship)Why did you break up? Who took the initiative? How did you feel about this?
13. Does living together with the present partner or living without a partner suit you? Is this what you want? Why?

F. Children

1. Do you have children? (if no children, go on to question F4) (if so) What are their ages and sex?
2. Were the children planned? How important is having a child to you? What do you do with/for them?
3. Are you satisfied with the way in which you fulfil your role as mother/father? Why?
4. (if no children and under age of 30 years of age, go on to question F5) (if no children and over 30 years of age) You don't have any children. Is that by

choice? Why? (if there are children) Is the role of mother/father something that suits you? Why or why not?

5. Are there other people, animals or particular events in society for which you feel responsible? (if so) How do you express this?

G. Other relationships

1. Are you in touch with your parents? How often do you talk to them? What does this mean to you? And to them?
2. Do you have brothers/sisters? How often do you talk to them? What is your relationship with them? What does this mean to you? And to them?
3. Are there other people who are in some way or other important to you? (if more than three) Who are the most important of these (a, b, c)
4. (a) (note name) How long have you known each other? How often do you talk to each other? Why is he/she important to you? Are you important to him/her? Why?
5. How do you react when something happens that you do not agree with? Are you satisfied with your reaction? (if not) Why not?
6. (the same for b and c)
7. (if no sexual contacts with a regular partner) What about sexual contacts? (if not) Do you ever masturbate? (if not) Do you ever have sexual fantasies or desires?

H. Religious, political, and other socially oriented activities

1. Do religious, political or other socially oriented activities play a role in your life? (if so) How long has this been the case? How much time do you spend on such activities?
2. Why do you take part in these activities? Are they important to you? Why? (if not important) Then why do you take part in them?
3. Do these activities suit you? Why?

I. Sport and hobbies

1. Do sport and hobbies play a role in your life? (if so) How long has this been the case? How much time do you spend on such activities?
2. Why do you take part in these activities? Are they important to you? Why? (if not) Then why do you take part in them?
3. Do these activities suit you? Why?

J. Distressing events/situations

1. Have you ever experienced events or situations which you found difficult or distressing? (if so) Which of these events did you find the most difficult or the most distressing? (=a) And the next most distressing? (=b).

2. (a) When was this? What exactly happened? How did you experience this? What did it mean to you? (where applicable) Why?
3. How did you react to what happened? What did you do to cope with the situation?
4. Have you ever talked to anyone about it? (if so) With whom? Did that help? Did anyone give you support, to help make the situation as bearable as possible, to change the situation to solve the problem?
5. (the same for b)

K. Special events/themes

1. Have you ever been involved with the police or done anything that could have gotten you into trouble with the law? (if so) When was this? What exactly happened?
2. Why did you do it?
3. Were you found out? (if so) How? Were you punished? (if so) How do you feel about this?
4. How did you react? (directly, to deal with the consequences; indirectly, to avoid a repetition?)
5. Looking back on what happened, how do you feel now?
6. Has anything else happened that has significantly affected your life? (if so) When was this? What exactly happened? How did you experience this? What did it mean for you (where applicable) Why? How did you react?
7. (if aged 50 or over) Do you ever think about the end of your life? (if so) Has that led to changes in your life? (if so) How? / What has changed?

L. Needs

1. Most people have needs, something they feel is necessary for them. Do you have such needs? What do you consider most important (a), slightly less important (b)?
2. (a) What does this involve exactly? Why is this important to you? Could you give me an example of this? To what extend has this need been satisfied? How do you experience this? (if not satisfied) How do you react to this?
3. (the same for b)

M. Anxiety

1. Most people are at some time anxious or afraid. Is this true of you? (where applicable) Could you mention some events or situations (a, b) in which you are generally anxious or afraid?
2. (a) What exactly happens? What are you anxious about or afraid of? (where applicable) Why? How intense is the sensation? How long does it last? How often does this occur? What do you do?

3. (the same for b)

N. Anger

1. Most people get angry once in a while. Is this true of you? (where applicable) Could you give me a number of events or situations (a, b) in which you became angry?
2. (a) What exactly happened? Why are you angry in such situations? At whom? How angry? For how long? How often? What do you do? How do you experience that?
3. (the same for b)

O. Guilt and shame

1. Most people feel guilty or ashamed at some time. Is this true of you? (where applicable) Could you give me a few examples (a, b)?
2. What exactly happened? (if very important) Why do you feel guilty? Is the opinion of others important? (if important) More important than your own opinion? How do you react? (directly, to remedy the situation; indirectly, to avoid a repetition?)
3. (the same for b)

P. Inferiority

1. At some time or other most people feel inferior, even totally worthless. Does that ever happen to you? (where applicable – otherwise go on to question P4) Could you mention two activities or events (a, b) which tend to diminish your self-esteem?
2. (a) What exactly happened? Why did that diminish your self-esteem? Is the opinion of others important? (if important) More important than your own opinion? How do you react? (directly, to remedy the situation; indirectly, to avoid a repetition?)
3. (the same for b)
4. Which activities or events tend to enhance or strengthen your self-esteem? (where applicable) Could you give two examples (a, b)?
5. (a) What exactly happened? Why does that enhance your self-esteem? Is the opinion of others important? (if important) More important than your own opinion?
6. (the same for b)

Q. Conclusion

1. On the basis of what you have told me, I would like to ask you the following> (missing, vague, contradictory information)
2. Could you give me a brief description of yourself?
3. What do you feel is the cause of your symptoms/problems?

4. What kind of help do you expect? How do you think you could best be helped? Why? What results do you expect from a treatment?
5. How do you feel about these talks?
6. Are there other topics, which should be, discussed here/Is there anything else, which you would like to bring up?

Appendix B: example of the scoring protocol

Oppressor (42) (object relationships)
Operational definition: The 'patient' experiences the other as someone who manipulates him.

The characteristic feature here is a lack of inner freedom. Feeling oppressed presupposes 'submission', accepting an underdog position, even if the patient opposes his oppressor. Often this results in a 'helpless rage'. Fate or God may also be experienced as Oppressors. If the patient allows himself to be abused by his Oppressor, then Self-Punishment (49) is also present. Being oppressed is not the same thing as being coerced. A person may be forced to do something by powers beyond his control without feeling oppressed. Nor can being oppressed be equated with a lack of Assertiveness (68), where one's own attitude is the main feature rather than the influence exercised by the other. An individual who is not able to stand up for himself does not necessarily see the other person as an Oppressor.

Examples:
Get married and lose my freedom? No way! / I had to end our relationship. My parents didn't think he was the right man for me. / My wife never lets me finish a sentence. Or she'll take over the story I was telling. It really makes me wild. / I wanted to become a doctor, but my father forced me to go into a technical field. / I feel like a marionette: when he pulls the strings, I jump. / We got married because my parents-in-law had their minds set on it.

Appendix C: procedure for computing overall scores for developmental lines.

Each developmental line can be scored on ten developmental levels, ranging from lack of structure (very immature or maladaptive) to maturity (very mature or adaptive). At each level, the scoring range is 0 to 3. The scores at each level are weighted, from 1 for lack of structure, to 10 for maturity. The weighted scores are then summed, and divided by the sum of the raw scores plus the number of cells with a missing value (provided that at least 8 out of the 10 cells are scored). This results in a score with a theoretical range of 1 to 10, reflecting both the variance and strength of the scoring of a developmental line. Higher scores reflect the relative strength of more mature levels over less mature levels, lower scores reflect the relative strength of less mature levels over more mature levels of development.
For example: an individual with scores of 0, 0, 0, 1, 0, 2, 3, 1, 1, 0 respectively on the developmental line of social attitude, would obtain a score of (0 + 0 + 0 + 4 + 0 + 12 + 21 + 8 + 9 + 0) / (0 + 0 + 0 + 1 + 0 + 2 + 3 + 1 + 1 + 0 + 0) = 54 / 8 = 6.75. This result reflects a relatively mature or adaptive development of social attitude.
Another individual, with scores of 0, 1, 2, 1, 0, 2, 1, 0, 0, 0 respectively would obtain a score of (0 + 2 + 6 + 4 + 0 + 12 + 7 + 0 + 0 + 0) / (0 + 1 + 2 + 1 + 0 + 2 + 1 + 0 + 0 + 0 + 0) = 31 / 7 = 4.43. This reflects a more immature or maladaptive development of social attitude.

Chapter 4:
The relationship between personality and psychological distress during diagnostic work-up in patients suspected of lung cancer or esophageal cancer

Chapter four

This chapter is based on the following manuscripts:

A. van 't Spijker, H.J. Duivenvoorden, H.L. Van, R.E. Abraham & R.W. Trijsburg

The inter-rater reliability and clinical validity of the Developmental Profile in patients suspected of lung cancer or esophageal cancer

A. van 't Spijker, R.W. Trijsburg, H.L. Van, Th.A.W. Splinter, R.E. Abraham & H.J. Duivenvoorden

Personality and psychological distress during diagnostic work-up in patients suspected of lung cancer or esophageal cancer; a clinical exploration.

Abstract

The aim of the present study is to describe the developmental profile of patients suspected of lung cancer or esophageal cancer, the level of psychological distress in these patients and the relationship between these two.
127 patients suspected of lung cancer or esophageal cancer were interviewed during their hospital admission for diagnostic work-up. After the interview they filled in self-reporting questionnaires on psychological distress.
Results show that the level of development of the personality is in the neurotic/mature range. During diagnostic work-up patients report more distress than the normal population, but less than psychiatric patients. The level of development of social attitude, coping style and object-relations is related to psychological distress. Screening patients on these personality variables may help identify patients at risk for psychological distress. Based on these findings, an intervention aiming at strengthening the coping style, involving the patient in the diagnostic and treatment process can be developed.

Introduction

Psychological distress is common following the diagnosis and treatment of cancer (Van 't Spijker, Trijsburg & Duivenvoorden 1997). Cancer patients report levels of distress lower than psychiatric patients, but higher than the normal population. Several variables are related to the level of psychological distress in patients with cancer. These can be grouped in medical, social and psychological variables. With regard to medical variables, tumor location appears to be related to psychological distress. For instance, patients with breast cancer report significantly less psychological distress and a lower prevalence of psychiatric disorders than all other cancer patients. Other medical variables, such as treatment modality, and stage of the disease are inconsistently related with the prevalence of psychiatric disorders or psychological distress (Van 't Spijker, Trijsburg & Duivenvoorden 1997). With regard to social variables, such as marital status, social support and work situation the findings are inconsistent. With regard to psychological variables, two clusters of coping styles were identified. Cancer patients with a confronting coping style, optimism, or a fighting spirit generally report less distress. Cancer patients with a passive coping style, such as passive acceptance, helplessness, anxious preoccupation, avoidance, the feeling of loss of control, and asking 'why me', generally report more distress. Other research has focused on the relationship between defense style and psychological distress following cancer. In a group of patients with bladder cancer Mansson, Christensson, Johnson & Colleen (1998) found that patients using primitive psychological defense strategies (projection and regression) had a higher long-term risk of depression and/or anxiety. Defense style and other psychodynamic personality characteristics, e.g. object relations (i.e. the meaning or role the patient ascribes to his significant others or to people in general, Abraham 1997a), self-representation, and cognitive or reflective functioning (Fonagy & Target 1996) are rarely studied in patients with cancer. Research has shown that these personality characteristics are related to psychological distress in the normal population. For instance, Vaillant (1990) found that the defense style as

measured during late adolescence is related to adaptation 40 years later. Some forms of self-representation are found to be related to a vulnerability to emotional distress (Strauman, 1994). According to Blatt (1990) the level of development of both self-definition and interpersonal relatedness is related to specific forms of depression. The relationship between personality development and psychological distress was not studied in patients with cancer thus far. Although the relationship between personality characteristics and psychological distress is only small to moderate, personality can have a significant role in the mediation of the impact of stressful situations on psychological well-being. It could be valuable to find out whether these personality characteristics can be used as a predictor for psychological distress during diagnosis or later in the process of treatment of cancer. We therefore decided to study the relationship between personality characteristics and psychological distress in patients suspected of lung cancer or esophageal cancer. Theoretically, coping style and defense style are the most relevant to study, because these two reflect the person's habitual active behavioral (coping) and cognitive and affective (defense) reaction patterns to external and internal stress. We therefore focus specifically on coping style and defense style.

We use a multidimensional, developmentally oriented instrument for personality assessment. The developmental approach is less sensitive for situational influences in assessment. The multidimensional approach makes it possible to study the relative influence of different personality characteristics.

The research questions for the present study are: first, what is the personality profile of patients with cancer; second, what is their level of psychological distress during the diagnostic phase; and third, what is the relationship between personality and psychological distress at that time?

We hypothesized that a negative relationship exists between the level of development of personality and psychological distress (indicating that more mature personality development is predictive of less distress). We expect that this relationship is small to moderate ($0.20 < r < 0.40$). This hypothesis is based on results of previous studies using different scoring methods for the assessment of

personality characteristics and psychological distress (cf. Perry & Cooper, 1989) and results of other authors (Vaillant, 1990), showing that more mature personality development is related to less distress in normal adults.

Method

Patients

Participants in this study were 127 consecutive patients admitted to the department of Pulmonology or the department of Surgery of the University Hospital Rotterdam 'Dijkzigt'. Patients admitted to the department of Pulmonology were suspected of lung cancer. Patients admitted to the department of Surgery were referred to the University Hospital by community hospitals for surgical treatment of esophageal cancer. Patients were included when they were between 18 and 75 years of age, spoke sufficiently Dutch, and had no severe psychiatric disorder, to be judged by the treating physician.

Procedure

After admission to the hospital, informed consent was obtained. After patients had given informed consent, the interview took place on which the Developmental Profile (DP, see below) can be scored. Self-reporting questionnaires were given to the patient, with the instruction to fill them in the same day. In the present study consensus ratings (AvtS and HLV) are used for the DP. The questionnaires were collected on the day after the interview.

Instruments

The Developmental Profile The DP (Abraham, 1993, 1997a, b; Van, van Foeken, Ingenhoven, Tremonti, Pieper-de Vries, de Groot, van 't Spijker, Spinhoven & Abraham, in press) is obtained by a semi-structured, psychodynamically oriented interview, constructed for the assessment of eight developmental lines and one line of miscellaneous aspects of personality development. Each developmental line is divided in ten levels of development. Combination of the developmental levels with the developmental lines results in a matrix of 90 cells, each representing a specific level of a specific developmental line. For each of the cells

a definition and examples of statements fitting the cell are provided in a scoring manual. For each level an end-score can be computed, so that the final matrix consists of 100 cells (90 cells for each level of each developmental line and 10 cells for the end-score of each level). Topics of the interview are lifestyle, school and work; partner, children and other relations; religious, political and other social activities; sports and hobbies; the patient's reactions to stressful events, and finally his needs and situations in which anxiety, anger, guilt, shame, or insufficiency is experienced. The interview is carried out according to the so-called 'a-b-c-model', meaning that information is elicited about a) the affective significance, b) the actual behavior and c) the cognitive meaning of a situation. The answers of the subject are tape-recorded or noted on the interview protocol. The tape recordings are typed out verbatim. The reliability of the end-scores of the DP is satisfactory (mean Cohen's Kappa (squared weighted) 0.70, range 0.53 to 0.84; Van, Ingenhoven, van Foeken, van 't Spijker, Spinhoven & Abraham, 2000). Concerning the validity of the DP, it was found that mean end-scores differ significantly between psychiatric patients and somatically ill patients and between psychiatric patients and normal controls (Van et al., 2000). An overall score for each developmental line, analogous to the Overall Defensive Functioning Score (Perry 1990) can be computed. The reliability of these overall scores is reasonable to good (mean ICC 0.61, range 0.34 to 0.75; chapter 3). The possible range for the overall score is 1 to 10. Roughly, scores between 1 and 4 reflect immature or maladaptive functioning, scores 5 and 6 reflect neurotic functioning and scores 7 to 10 reflect mature or adaptive functioning.

SCL-90 The SCL-90 (Dutch version: Arindell & Ettema, 1986) consists of eight scales and a score for general psychological distress. The scales reflect clinically relevant aspects of psychopathology, i.e. agoraphobia, anxiety, depression, somatic complaints, insufficiency, interpersonal sensitivity, hostility, and sleep problems. The internal consistency (coefficient alpha) of the scales is satisfactory (range in median alpha's over 12 groups: .73 to .97). The factorial structure of the SCL-90 is invariant over different groups. The SCL-90 has proven external

validity (e.g. significant positive correlations between the scales of the SCL-90 and the Dutch Personality Questionnaire (NPV)) (Arindell & Ettema, 1986).

The Profile of Mood States (POMS) The Poms is a 32 item self-reporting questionnaire. Patients are asked to endorse 32 mood representing adjectives on a 5-point (0 to 4) Likert scale. The POMS consists of 5 scales: depression, tension/anxiety, vigor, fatigue and anger. Internal consistency of the individual scales is good (coefficient Alpha, range 0.82 – 0.91) (Wald & Mellenbergh 1990). Norms are available from a population of a Dutch general practitioner (both with and without known illnesses). For the depression, tension/anxiety, fatigue and anger scales, higher scores reflect more distress, whereas for the vigor scale higher scores reflect better functioning.

The General Health Questionnaire 28 (GHQ-28) The GHQ-28 is a 28 item self-reporting questionnaire, for the assessment of anxiety, depression, somatic complaints and social functioning. A score of 5 or higher on the GHQ is indicative for a probable psychiatric disorder. The individual scales as well as the cut-off score for a probable psychiatric disorder have proven external validity (Goldberg & Hillier 1979; Koeter, van den Brink & Ormel 1989). Higher scores reflect more psychological distress.

Statistical analysis

Descriptive statistics were used for the DP and distress scores (mean, standard deviation, minimum, maximum). The relationship (Pearson Product-Moment correlation) between the personality profile and psychological distress was studied using the overall scores of each developmental line. The scale scores for the psychological distress scores were transformed, to approximate a normal distribution (square root transformation). Because we expected a negative relationship between personality and psychological distress (indicating that more mature personality development is related to less psychological distress), we used one-sided testing. After estimation of the correlation coefficients, we performed regression analyses of distress scores on personality development (criterion for entry $p < 0.05$, for removal $p > 0.10$). As the meta-analysis showed

that social support and coping style are related to psychological distress and other authors have shown that defense style is related to psychological distress (e.g. Vaillant, 1990; Perry & Cooper, 1989), we started using the developmental lines of object relations, defense style and coping style. Thereafter, we performed regression analyses of distress on all developmental lines.

Results

General results Two interviews could not be scored due to problems in recording. Three interviews could not be used because two patients suffered from dementia, and one patient spoke insufficiently Dutch. Eight patients stopped during the interview, because they felt the questions were too difficult, too intrusive to answer or due to a negative attitude towards the interview(er).

Developmental Profile In Table 1 the mean scores for all patients complying with the interview are presented.

Table 1: Mean Scores for the Developmental Profile Interview ($83 \leq n \leq 110$)

Developmental line	Mean	Standard Deviation	Minimum	Maximum
Social Attitude	7.1	0.9	4.3	8.3
Object Relations	6.8	1.4	1.0	8.8
Self Image	5.7	1.2	2.0	8.0
Norms	6.0	1.4	2.0	8.7
Needs	7.0	0.7	3.0	8.0
Cognitions	6.4	1.2	2.0	8.7
Defense Style	5.7	1.1	2.9	8.8
Coping Style	5.8	1.3	2.6	9.0
Miscellaneous	6.6	2.3	2.0	10.0

N.B. the possible range for the overall score is 1 to 10. Roughly, scores between 1 and 4 reflect immature or maladaptive functioning, scores 5 and 6 reflect neurotic functioning and scores between 7 and 10 reflect mature or adaptive functioning.

The modal patient in this study can be characterized as follows: He is a Caucasian male about 60 years of age, with approximately 10 years of education. He is able to hold a position and can live in harmony with his partner. He respects

that people may have different views on the same situation. For his self-esteem, he compares himself to others. He tends to use individualized norms and values. He feels that his work, his partner and his social position suit him. He can reflect on his own position and behavior. He tends to use repression, denial or reaction-formation as defense mechanisms. He copes with difficult situations by pretending he can handle these or by assertive behavior. He is able to keep his self-respect. Generally speaking, he functions at a normal level (i.e. scores varying between the neurotic and mature level).

We found no differences in the personality profile of patients suspected of lung cancer compared with patients suspected of esophageal cancer.

After the interview 31 (27%) patients refused further participation. The two main reasons patients gave for this refusal were having to much on their mind to fill in questionnaires, and the idea of having told enough during the interview. We compared the overall scores of the patients refusing to participate after the interview with those who complied. We found a small but significant difference for the line of needs, with the patients refusing participation having a less mature development than the complying patients (mean 1=6.7 SD=0.9, vs mean 2=7.0 SD=0.6, t=–2.2, p 0.03, two-sided testing). A trend for a less mature development for norms for refusing patients was found (mean 1=5.6 SD=1.6, vs mean 2=6.1 SD=1.4, t=–1.7, p 0.10, two-sided testing). There were no differences regarding demographic variables.

Psychological distress In Table 2 the mean scores on the psychological distress questionnaires are presented. *POMS* Compared with patients from a population of a Dutch general practitioner (both with and without known illnesses), the patients in this study report similar levels of anger and vigor, but significantly more depression, anxiety and fatigue. *GHQ* The patients in this study report a mean total score that would indicate the probability of a psychiatric disorder. 57.7% of the patients in this study score at or above the suggested cut-off score for a probable psychiatric disorder. The patients score significantly lower than psychiatric patients (Koeter & Ormel, 1991).

Table 2: Mean scores for the self-report questionnaires ($79 \leq n \leq 83$)

Scale	Mean	Standard Deviation	Minimum	Maximum
POMS				
Anger	3.4	4.7	0	23
Depression	4.3	5.7	0	27
Tension / Anxiety	5.7	5.2	0	23
Vigor	11.5	5.3	0	20
Fatigue	5.0	6.5	0	24
GHQ				
Somatic Complaints	2.0	1.8	0	7
Anxiety	2.1	2.0	0	7
Social Functioning	1.6	1.9	0	7
Depression	0.6	1.3	0	6
Total Score	6.4	5.5	0	22
SCL-90				
Agoraphobia	8.0	2.4	7	23
Anxiety	15.2	5.9	10	41
Depression	24.9	8.5	16	63
Somatic complaints	18.2	6.0	12	37
Insufficiency	14.5	5.6	9	37
Sensitivity	24.1	6.2	17	41
Hostility	7.1	1.5	6	13
Sleep problems	6.1	3.0	3	15
Total Score	129.6	33.6	92	265

SCL-90 The patients in this study report for all scales distress levels that are elevated compared with the normal population, but lower than psychiatric patients (Arindell & Ettema, 1986).

In conclusion, the patients in this study reported elevated levels of psychological distress compared with the normal population, but less distress than psychiatric patients.

Relationship between personality profile and psychological distress In Table 3 to 5 the correlations between the personality variables on the one hand and psychological distress measures on the other hand are presented.

Table 3: Correlations between personality and psychological distress (SCL-90)

	Ago	Anx	Depr	Host	Ins	Sens	Sleep	Som	Total
Social attitude	-.03	.06	.01	-.35**	-.15	-.10	.04	-.19*	-.08
Object-relations	-.25*	-.16	-.09	-.41**	-.29**	-.20*	-.03	-.28**	-.24*
Self-image	-.11	-.01	.01	-.29**	-.05	-.22*	-.01	-.10	-.09
Norms	-.01	.00	.05	-.44**	-.02	-.11	-.04	-.07	-.05
Needs	-.04	.06	-.01	-.22*	-.09	-.19*	-.06	-.21*	-.11
Cognitions	-.09	-.05	-.03	-.25*	-.21*	.02	.03	-.18	-.09
Defense style	-.02	.00	.04	-.31**	-.13	-.10	-.09	-.18	-.09
Coping style	-.29**	-.17	-.18	-.41**	-.33**	-.25*	-.04	-.33**	-.30**
Miscellaneous	-.06	.03	.05	-.32**	-.08	-.10	-.02	-.04	-.04

ago: agoraphobia; anx: anxiety; depr: depression; host: hostility; ins: insufficiency; sens: sensitivity; sleep: sleep problems; som: somatic complaints; total: psychoneuroticism

* : correlation is significant at the 0.05 level (1-tailed).

** : correlation is significant at the 0.01 level (1-tailed).

Table 4: Correlations between personality and psychological distress (GHQ)

	Anxiety	Somatic complaints	Social functioning	Depression
Social attitude	,16	-,28**	-,22*	,03
Object-relations	,01	-,32**	-,31**	,03
Self-image	-,10	-,22*	-,23*	-,02
Norms	,01	-,04	-,12	,10
Needs	,04	-,16	-,04	,03
Cognitions	,10	-,14	-,14	,01
Defense style	,15	-,14	-,13	-,01
Coping style	,08	-,21*	-,30**	-,01
Miscellaneous	,09	-,13	-,28*	-,08

* : correlation is significant at the 0.05 level (1-tailed).

** : correlation is significant at the 0.01 level (1-tailed).

We found low negative correlations between developmental lines (especially social attitude, object relations and coping style) and psychological distress measures (range –0.23 to –0.44), except for the vigor scale of the POMS, which correlated positively with two developmental lines. The hostility scale of the SCL-

90 correlated significantly and negatively with all developmental lines.

Table 5: Correlations between personality and psychological distress (POMS)

	Anger	Depression	Vigor	Tiredness	Tension
Social attitude	-,20*	,04	,17	-,19*	,03
Object-relations	-,21*	-,18	,19*	-,19*	-,28**
Self-image	-,10	-,02	,14	-,05	-,11
Norms	-,27*	-,10	,13	-,06	-,21*
Needs	-,13	-,05	,07	-,10	-,09
Cognitions	,02	,05	,04	-,11	,04
Defense style	-,21*	,03	,17	-,16	,02
Coping style	-,33**	-,16	,34*	-,37**	-,19*
Miscellaneous	-,16*	,05	,32*	-,12	,01

* : correlation is significant at the 0.05 level (1-tailed).
** : correlation is significant at the 0.01 level (1-tailed).

This implies that more mature levels of personality development are related to less psychological distress. Our hypothesis is thus confirmed.

Prediction of distress by personality

First of all, using the lines of object-relations, defense style and coping style, it appears that the combination of coping style and defense style predicts depression (SCL-90). The combination of less mature coping style and more mature defense style is predictive of more depression. The combination of more mature levels of object-relations and more mature levels of coping style is related to less hostility (SCL-90). Furthermore the combination of less mature object relations and more mature defense style is predictive of more tension (POMS).
In Tables 6 to 8 the results of the regression analyses of distress on all developmental lines are presented.
The regression analyses yield that in combination some developmental lines are predictive of psychological distress. In these combinations, each developmental line has a unique contribution in the prediction, independent from the contribution of other developmental lines.

Table 6: Regression analyses (standardized beta's) of SCL-90 on personality development

	Ago	Anx	Depr	Host	Ins	Sens	Sleep	Som	Total
Social attitude	.38	.54	.28						
Object-relations		-.49			-.47				
Self-image	-.35								
Norms					.36				
Needs									
Cognitions									
Defense style									
Coping style	-.29		-.32						
Miscellaneous									

ago: agoraphobia; anx: anxiety; depr: depression; host: hostility; ins: insufficiency; sens: sensitivity; sleep: sleep problems; som: somatic complaints; total: psychoneuroticism

Table 7: Regression analyses (standardized beta's) of GHQ on personality development

	Anxiety	Depression	Somatic complaints	Social functioning
Social attitude	.53			
Object-relations			-.42	
Self-image	-.43			
Norms			.36	
Needs				
Cognitions				
Defense style				
Coping style				
Miscellaneous				

Table 8: Regression analyses (standardized beta's) of POMS on personality development

	Anger	Depression	Vigor	Tiredness	Tension
Social attitude		.35			.43
Object-relations					-.44
Self-image				.29	
Norms					-.36
Needs					-.29
Cognitions	.32				
Defense style					.37
Coping style	-.47	-.36		-.54	
Miscellaneous					

The combination of mature social attitude, immature self-image and immature coping style is predictive of more agoraphobia (SCL-90). The combination of mature social attitude and immature object relations is predictive of more anxiety (SCL-90). The combination of mature social attitude and immature coping style is predictive of more depression (SCL-90).

The combination of mature social attitude and immature self image is predictive of more anxiety (GHQ). The combination of immature object relations and mature norms is predictive of more somatic complaints (GHQ). The combination of mature cognitions and immature coping style is predictive of more anger (POMS). The combination of mature social attitude and immature coping style is predictive of more depression (POMS). The combination of mature self-image and immature coping style is predictive of more tiredness (POMS). Finally, the combination of mature social attitude and mature defense, immature object relations, immature norms and immature needs is predictive of more tension (POMS).

Thus, while in the correlation matrices a negative relationship between personality and psychological distress appears to exist, in regression analyses more complex interactions appear.

Discussion

Approximately 30% of the patients refused further participation during or after the interview. This is a point of concern. Some of the patients indicated that they felt the interview was too intrusive or it was held at an inappropriate moment. These patients appeared to be too much concerned with their physical situation than to be interested in filling in questionnaires. This means that the generalizability of the findings of this study is limited.

The first research question concerns the personality profile of patients with cancer. It appears that the general level of personality development in this population falls within the neurotic/mature range. Because the interview focuses on the last ten years, it is not plausible that less distressing circumstances would have lead to more mature scores. However, no norms are available to compare

these patients with. Therefore, we can not preclude that the scores are influenced by the situation in which the interview was held.

The second research question concerns the level of psychological distress. We found that the patients in this study report higher scores than patients of a general practice. This is in line with the findings of our meta-analysis (Van 't Spijker, Trijsburg & Duivenvoorden, 1997), which showed that cancer patients experience more distress than the normal population. The level of distress reported on the GHQ is indicative of a probable psychiatric disorder. However, this score includes somatic items, which may be the result of the illness of the patients rather than the indication of a psychiatric disturbance. The conclusion is that the level of psychological distress in this group is elevated compared with the normal population, but below that of psychiatric patients.

The third research question concerns the relationship between the level of personality development and psychological distress. First, we discuss the correlational analyses and next the regression analyses. The results confirm our hypothesis, that a negative relationship exists between personality and psychological distress (indicating that more mature personality development is predictive of less distress). It appears that the coping style of the patients is related to the level of psychological distress. An active coping style is related to less psychological distress than a passive coping style. This is in line with earlier findings (Van 't Spijker, Trijsburg & Duivenvoorden, 1997). Furthermore, it appears that the level of development of object-relations is related to psychological distress. More mature levels of object-relations (i.e. the meaning or role the patient ascribes to his significant others or to people in general, Abraham 1997a) are related to less psychological distress. This finding may shed light on the inconsistent findings in studies on the relationship of social support to psychological distress (Van 't Spijker, Trijsburg & Duivenvoorden, 1997). In fact, immature levels of object-relational development reflect the perception of others as need-supplying objects, as if they are parents providing the necessary shelter from the outer world, or as if they are oppressing the needs of the individual. In

these cases the object is not called upon in his role of a supportive equal. Patients with a more mature level of development of object-relations can benefit more from social support because they perceive others more as equal or as a partner. It may thus be that the level of development of object-relations mediates the relationship between social support and distress. Further research may clarify this point.

The relative weakness of the relationship between psychological distress on the one hand and personality development on the other hand (range –0.23 to –0.44) confirms our hypothesis. Two explanations may be given for these relatively weak relationships. One is that the relationship between a stable trait measure (personality development) and a situation specific state measure (psychological distress at any given moment) is an imperfect one, because of the fluctuations of states over time. The other explanation is that personality development and psychological distress were assessed with different methods. The level of personality development was assessed by a semi-structured interview, while psychological distress was assessed by a self-reporting questionnaire. Other research, for instance on the assessment of defense mechanisms, has shown that differences in instruments result in low correlations between variables (Perry & Hoglend, 1998).

The relationship between the DP and the SCL-90 provides some evidence for the construct validity of the instrument. Several authors have showed that a combination of high scores on hostility, sensitivity and insufficiency scales can be used as an indicator of a severe personality disorder (Starcevic, Bogojevic & Marinkovic, 2000; Karterud, Fiis, Irion, Mehlum, Vaglum & Vaglum, 1995). The relationship between these scales and the DP implies that the DP measures concepts that are relevant for the diagnosis of severe personality disorders.

The regression analyses yielded that there is a complex interaction between personality development and psychological distress. A more mature development of social attitude is, in combination with the development of other lines, consistently related to more distress. This means that more independent patients, who at the same time have lower development of other lines, report more

distress. A more mature development of object relations is, in combination with the development of other lines, consistently related to less distress. A combination of mature object relations and immature norms is related to more somatic complaints (GHQ) and to more insufficiency (SCL-90). Other combinations with object relations are described above. This means that patients who perceive others as partner report less distress. A mature development of coping style is, in combination with the development of social attitude, self image, norms and cognitions, consistently related to less distress: patients with an active coping style report less distress. Concerning object relations and coping style, these results are consistent with the results of the correlational analyses. Concerning social attitude, these results are the opposite of what is found in the correlational analyses. Concerning self-image and norms, the results are inconsistent. How are these results to be interpreted? The consistent results found for object relations and coping style are in accordance with the findings of our meta-analysis (Van 't Spijker, Trijsburg & Duivenvoorden, 1997). Mature object relations and mature coping styles protect patients from experiencing high levels of distress. More mature levels of coping style represent coping mechanisms that provide a feeling of control, which in turn diminishes psychological distress. More mature levels of object relations represent a way of relating with others in which the other can be truly supportive. These results imply that patients with more mature levels of object relations and coping style are helped best when the doctor tries to support them in making their own decisions, rather than forcing a decision. For social attitude, the opposite is true. A more mature development of social attitude is predictive of more distress. More mature levels of social attitude are characterized by being independent from others and feeling responsible for them. The positive relationship between this developmental line and psychological distress can be explained by the psychodynamic concept of 'regression in the service of the ego'. This concept refers to the process by which individuals in stressful situations use strategies that have been effective earlier during development. Regression in the service of

the ego is a form of flexibility that is needed in stressful situations. When patients are inflexible and not capable of this form of regression, they cannot be dependent on others in situations in which they are dependent, for instance the diagnostic (and treatment) phase in the illness process. Less mature levels of development of social attitude are characterized by being more dependent on others, and thus for patients with less mature levels of development of social attitude the dependence in the hospital situation is less distressing. When this explanation is true, we would expect that after the diagnostic and treatment phase, patients with more mature levels of development of social attitude would report a decrease in psychological distress.

An unexpected finding is that defensive functioning plays only a minor role during the diagnostic phase. Defensive functioning is negatively correlated with hostility (SCL-90) and anger (POMS). In combination with coping style, defensive functioning is positively related to depression (SCL-90). In combination with social attitude, object relations, norms and needs, defensive functioning is positively related to tension (POMS). Other lines, especially object relations and coping style are more consistently related to psychological distress. Defensive functioning concerns the way in which the ego consciously or unconsciously wards off intrapsychic conflict and threats from the outside world. It is thereby the most important factor for the handling of internal or external stress. Apparently, during the diagnostic process, the attitude of turning towards others (object relations) or turning towards the situation (coping style) plays a defensive role. In contrast with several authors, who have indicated that denial and other immature defense mechanisms can have beneficial effects in the short run (Lazarus, 1983; Watson, Greer, Blake & Shrapnell, 1984; Kreitler, 1999), it appears that these defense mechanisms do not play an important part at all initially.

The inconsistent results regarding the lines of self-image, and norms can be seen as confirmation of the assumption of Anna Freud (1963), that differences between developmental lines in the level of development are pathogenic. Further research is needed to clarify the complex relationships between developmental lines and psychological distress.

The results of this study are to be interpreted with caution, because the number of patients in this study is relatively low for the number of analyses performed. This implies that the regression analyses can yield only preliminary results. A replication study is needed to corroborate the findings of this study. Corroboration from a prospective study may also strengthen the conclusions based on the findings of this study.

Conclusive remarks

The following conclusions can be drawn from this study. First of all, patients suspected of cancer have more psychological distress than the normal population, but less distress than psychiatric patients. This means that adequate screening is in place, to detect the patient who is at risk for developing severe distress. This study shows that risk factors for more psychological distress during the diagnostic phase are less mature levels of object relations and coping style, and, in combination with other developmental lines, more mature levels of social attitude. These results have implications for the diagnostic and treatment process. Stimulation of an active attitude of patients, and involving them in these processes may alleviate distress by giving patients a feeling of control. Furthermore, this study shows that distress is in a complex way related to or predicted by personality. This has implications for personality assessment. What is called for is a multidimensional, multilevel assessment of personality. Single trait assessment, such as neuroticism, is not enough to understand the relationship between personality and distress. Careful screening can help not only in assessing the risk for developing severe distress, it can also help in finding treatment targets. In general it can be concluded that improving the object relational functioning, strengthening the coping style, providing opportunities to keep some autonomy may help the patient in overcoming and preventing severe distress. More individual targets, for instance working through a past life event, can be formulated based on the information obtained in the interview on which the DP is scored. Screening patients for their risk of developing severe

psychological distress is a time consuming, and thus an expensive process. However, because this instrument can be used in treatment planning as well as for screening, it may prove to be well worthwhile.

Chapter 5:

Personality development as predictor of psychological distress in short term follow up of patients suspected of lung cancer or esophageal cancer: a clinical exploration

Chapter five

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Personality development as predictor of psychological distress in short term follow up of patients suspected of lung cancer or esophageal cancer: a clinical exploration

Abstract

The aim of the present study is to describe the relationship between the developmental profile of 52 cancer patients and the level of psychological distress three months after the diagnostic work-up. The patients were interviewed during their hospital admission for diagnostic work-up and completed self-reporting questionnaires on psychological distress. Three months later they filled in the same questionnaires.

Results show that, whereas during the diagnostic phase social attitude, object relations and coping style are related to distress, at three months the level of development of defensive functioning is negatively related to psychological distress. Patients with more mature defensive functioning during the diagnostic phase report less distress three months later. In combination with less mature defensive functioning, more mature development of other developmental lines is predictive of more distress.

Screening patients on these personality variables may help identify patients at risk for psychological distress. Based on these findings, an intervention aiming at strengthening the defensive functioning can be developed.

Introduction

Many cancer patients report psychological distress, which may occur at any moment during the course of the disease. A meta-analysis of the available literature showed that depression is more prevalent in cancer patients than in the normal population, and that cancer patients report elevated levels of psychological distress compared with the normal population (Van 't Spijker, Trijsburg & Duivenvoorden 1997). Several medical, social and psychological factors seem to be related to the level of psychological distress in cancer patients. However, the meta-analyses mostly showed inconsistent results. Only tumor location and coping style show consistent results. Patients with breast cancer report significantly less psychological distress and a lower prevalence of psychiatric disorders than all other cancer patients. A confronting coping style is related to less distress, while a passive coping style is related to more distress. Others have focused on the relationship between defense style and psychological distress following cancer. In a group of patients with bladder cancer, Mansson, Christensson, Johnson & Colleen (1998) found that patients using immature psychological defense strategies (projection and regression) had a higher long-term risk of depression and anxiety.

In a previous study, we found that the level of personality development is related to psychological distress in the diagnostic phase (chapter 4). The level of development of object relations (i.e. the meaning that a patient attributes to a relationship, or the role the patient ascribes to significant others) appears to be negatively related to psychological distress. That means that patients who perceive others as need-supplying objects, as if they are parents providing the necessary shelter from the outer world, or as if they are oppressing the needs of the individual report more distress. Also, the level of development of coping style is negatively related to psychological distress. Thus, patients with more constructive ways of coping (e.g. affiliation) report less psychological distress than patients with more passive-aggressive ways of coping (e.g. giving up). These results imply that in order to identify patients at risk for psychological distress in the diagnostic phase, it can be worthwhile to assess the level of

personality development of patients. However, the relationship between personality development and psychological distress after the diagnosis is unclear. In the present study we report on the relationship between personality variables measured during diagnosis and psychological distress after three months.

Research questions The research questions for this study are: 1) what is the course of psychological distress after diagnosis, and 2), what is the relationship between personality development measured during the diagnostic phase and psychological distress 3 months after diagnosis?

Because of the positive findings with regard to the level of development of social attitude, object relations, defense style and coping style in our previous study, we focus specifically on these variables. Exploratory, we study the relationship of other personality variables and psychological distress.

Based on our previous study, we expect to find low to moderate negative relationships between personality development and distress ($0.20 < r < 0.40$). Furthermore, we expect that combinations of personality characteristics are predictive of distress.

Method

Patients

Participants in this study were 127 consecutive patients admitted to the department of Pulmonology or the department of Surgery of the University Hospital Rotterdam 'Dijkzigt'. Patients admitted to the department of Pulmonology were suspected of lung cancer. Patients admitted to the department of Surgery were referred to the University Hospital by community hospitals for further diagnosis and treatment of esophageal cancer. Patients were included when they were between 18 and 75 years of age, spoke sufficiently Dutch according to the doctor and had no severe psychiatric disorder, also according to the treating doctor. Informed consent was asked after admission to the hospital. After patients had given informed consent, patients were interviewed using the Developmental Profile (DP) and self-report questionnaires on psychological distress were given to the patient, with the instruction to complete them the same day. In the present

study consensus ratings (AvtS and HLV) are used for the DP. The interviews of 13 patients could not be used for various reasons (problems in recording (2), patients suffering from dementia (2), insufficiently fluent in Dutch (1), refusing participation during the interview (8)), so that 114 interviews were available for analyses. Of the 114 patients available for analyses, 31 (27%) refused to fill in the baseline questionnaires, so that of 83 patients baseline measures were complete. Three months after the interview, questionnaires were send to the patient, who was asked to fill in the questionnaires within a week. When the patient did not reply, a telephone call was made to encourage the patient to fill in the questionnaires.

Instruments

The Developmental Profile (DP) The DP (Abraham 1993, 1997a, b; Van, van Foeken, Ingenhoven, Tremonti, Pieper-de Vries, de Groot, van 't Spijker, Spinhoven & Abraham, in press) is obtained by a semi-structured, psychodynamically oriented interview, constructed for the assessment of ten levels of development of the personality, each divided into eight developmental lines and one line of miscellaneous aspects of personality development. Combining the developmental levels with the developmental lines results in a matrix of 90 cells, each representing a specific level of a specific developmental line. For each of the cells a definition and examples of statements fitting the cell are provided in a scoring manual. For each level an end-score can be computed, so that the final matrix consists of 100 cells (90 cells for each level of each developmental line and 10 cells for the end-score of each level). Topics of the interview are lifestyle, schooling and work; partner, children and other relations; religious, political and other social activities; sport and hobbies; the way the patient reacts to stressful events, and finally his needs and situations in which anxiety, anger, guilt, shame, or feelings of insufficiency have been experienced. The interview is carried out according to the so-called 'a-b-c-model', meaning that information is elicited about a) the affective significance, b) the actual behavior and c) the cognitive meaning of a certain situation. The answers of the subject are tape-recorded or noted on the interview protocol. The tape-recordings are

typed out verbatim. Reliability figures for the end-scores of the DP are satisfactory (mean weighted Cohen's Kappa 0.70, range 0.53 to 0.84; Van, Ingenhoven, van Foeken, van 't Spijker, Spinhoven & Abraham, 2000). Concerning the validity of the DP, it was found that mean end scores differ significantly between psychiatric patients and somatically ill patients and between psychiatric patients and normal controls (Van et al., 2000). For research purposes an overall score, analogous to the Overall Defensive Functioning Score (Perry, 1990) for each line can be computed. The overall scores are based on the range and strength of scores on a developmental line. The reliability of these overall scores is reasonable to good (mean ICC 0.61, range 0.34 to 0.75; chapter 3). An indication for the clinical validity of this score is found in the negative relationship between this score and the level of psychological distress reported on the SCL-90. The possible range for the overall score is 1 to 10. Roughly, scores between 1 and 4 reflect immature or maladaptive functioning, scores 5 and 6 reflect neurotic functioning and scores between 7 and 10 reflect mature or adaptive functioning.

The Profile of Mood States (POMS) The Poms is a 32 item self-reporting questionnaire. Patients are asked to endorse 32 mood representing adjectives on a 5-point (0 to 4) Likert scale. The POMS consists of 5 scales: depression, tension/anxiety, vigor, fatigue and anger. Internal consistency of the individual scales is good (coefficient Alpha, range 0.82 – 0.91) (Wald & Mellenbergh 1990). Norms are available from a population of a Dutch general practitioner (both with and without known illnesses). For the depression, tension/anxiety, fatigue and anger scales, higher scores reflect more distress, whereas for the vigor scale higher scores reflect better functioning.

The General Health Questionnaire 28 (GHQ-28) The GHQ-28 is a 28 item self-reporting questionnaire, for the assessment of anxiety, depression, somatic complaints and social functioning. A score of 5 or higher on the GHQ is indicative for a probable psychiatric disorder. The individual scales as well as the cut-off score for a probable psychiatric disorder have proven external validity (Goldberg

& Hillier 1979; Koeter, van den Brink & Ormel 1989). Higher scores reflect more psychological distress.

Statistical Analysis

First, we compared biographical and baseline data of drop-outs and patients completing the second measurement, using Student's t-test (two tailed). Next, we described psychological distress at three months, using descriptive statistics (mean, standard deviation). Further, we compared psychological distress data at three months and at baseline using a paired t-test (two tailed).

Next, we studied the relationship between the level of personality development and psychological distress (Pearson Product-Moment Correlation), both without and with controlling for the level of psychological distress at baseline. Scale scores were transformed (square root transformation) to obtain a more adequate approximation of a normal distribution. Because we expect negative correlations, we tested 1-tailed. After this, we performed regression analyses of psychological distress on personality development.

Results

Description of the group Three months after the initial interview, 52 patients filled in the follow-up questionnaires. Biographical data of these patients are presented in Table 1.

Analyses of drop outs First, we compared personality development and psychological distress scores (POMS and GHQ) of the patients with (n=52) and without (n=28) a follow-up measurement. It appeared that patients without a follow-up measurement had significantly higher scores at baseline for cognitions (respectively 6.9 vs. 6.3; t=2.5; df=64; p=0.01) and a trend for higher scores for object-relations (resp. 7.2 vs. 6.6; t=1.8; df=78; p=0.07). Furthermore, it appeared that patients without a follow-up were significantly more tired (POMS) at baseline than patients who completed the follow-up (respectively 7.2 and 3.7; t=2.1; df=42; p=0.04). No other differences were found.

Table 1: Biographical data of participants (n=52)

Age in years (Mean (S.D.))	44 (9.3)
Sex (% male)	88
Tumor location:	
Esophageal	28
Lung	12
Other	12
Treatment:	
no therapy	10
operation	19
chemotherapy	9
radiotherapy	5
combination therapy	9
Personality development:	
Social Attitude	7.1
Object-relations	6.6
Self-representation	5.8
Norms	6.2
Needs	7.1
Cognitions	6.3
Defense Style	5.7
Coping Style	5.9
Miscellaneous	6.5

Description of psychological distress at baseline and at follow-up Table 2 shows the scores of the patients on the self-reporting questionnaires.

Compared with the scores before diagnosis, patients report almost the same level of psychological distress. Three months after diagnosis, tiredness (POMS) is significantly increased, whereas social functioning (GHQ) and vigor (POMS) are significantly decreased. The patients in this study report equal levels of anger and vigor, but significantly more depression, tension and fatigue than patients of a general practitioner. Thus, these patients are more depressed, tensed and tired than the normal population. Anxiety is significantly decreased (GHQ). 54% of the patients have a score on the GHQ above the suggested cut-off score for a probable psychiatric disorder.

Table 2: Psychological distress during diagnosis and three months follow-up

	Diagnosis		Three Months Follow-up	
	Mean	S.D	Mean	S.D.
POMS				
Depression	3.9	4.8	4.0	5.5
Anger	2.7	3.6	3.6	4.9
Tiredness	3.9**	5.3	7.1	6.7
Vigour	11.8**	5.0	9.4	4.8
Tension	5.5	5.2	4.4	4.3
GHQ				
Somatic complaints	1.9	1.9	2.2	2.0
Anxiety	2.0*	2.0	1.2	1.9
Social functioning	1.3**	1.7	2.4	2.6
Depression	0.5	1.2	0.5	1.5
Total score	5.8	5.3	6.4	6.8

*: $p < 0.05$;
**: $p < 0.01$

Except for tiredness, vigor (both POMS), and social functioning (GHQ), the majority of the patients (61.5% to 88.7%) report equal or lower levels of distress at three months compared with the diagnostic period.
There were no significant differences concerning the level of psychological distress between patients receiving no treatment and patients receiving some kind of treatment.
Relationship between the level of personality development and psychological distress When we correlate personality development with psychological distress three months after diagnosis, we find no significant correlations (data not presented). However, we do find significant correlations between the maturity of defensive functioning and psychological distress at three months, when we control for the baseline level of psychological distress (Table 3). This means that more mature defensive functioning is predictive of changes in distress, towards less anger, less tiredness, more vigor, less tension and less somatic complaints. Except for a significant negative correlation between the level of development of norms and tension, no correlations between psychological distress and other developmental lines are found.

Table 3: Pearson correlations between level of personality development and psychological distress at three months follow-up, controlling for baseline level of psychological distress

	Soc att	Obj rel	Self	No	Ne	Cogn	Def style	Cop style	Misc.
POMS									
Depr	.13	-.03	-.08	-.09	-.02	.08	-.31	.09	-.02
Anger	-.07	-.14	-.12	-.10	-.01	.00	-.36*	-.10	-.27
Tir	-.01	-.13	-.18	.04	-.19	-.21	-.47**	.13	-.23
Vigor	-.09	.15	.14	.03	-.07	.09	.40*	.03	.21
Tens	-.05	-.27	-.25	-.33*	-.26	.15	-.44**	-.08	-.16
GHQ									
Som compl	-.15	-.24	-.24	.04	-.17	-.29	-.40*	-.24	-.31
Anxiety	-.02	-.15	-.13	.01	.10	-.04	-.15	.03	-.25
Soc funct	.18	-.18	-.06	.03	.28	-.23	-.20	-.07	-.12
Depr	.08	.14	.10	.15	.22	-.01	-.04	.02	-.31
Tot	-.03	-.22	-.18	.03	.04	-.29	-.32	-.16	-.28

*: Correlation is significant at the .05 level (1-tailed).
** : Correlation is significant at the 0.01 level (1-tailed)
Soc att: Social attitude; Obj rel: Object relations; Self: Self-image; No: Norms; Ne: Needs; Cogn: Cognitions; Def style: Defense style; Cop style: Coping style; Misc: Miscellaneous Depr: Depression; Tir: Tiredness; Tens: Tension; Som compl: Somatic complaints; Soc Funct: Social functioning; Tot: Total score

Regression analyses The regression analyses of psychological distress on personality development using the lines of object-relations and coping style yielded no significant results (data not presented). We continued with the other lines (social attitude, self-image, norms, needs, cognitions, defense style and miscellaneous). The regression analyses yield that combinations of developmental lines are predictive of psychological distress. In these combinations, each developmental line has a unique contribution in the prediction, independent from the contribution of other developmental lines. The results of these analyses are shown in Table 4 for the POMS and Table 5 for the GHQ.

Table 4: Regression analyses (standardized beta's) of POMS on personality development

	Anger	Depression	Tiredness	Vigor	Tension
Anger	.39				
Depression		-.03			
Tiredness			.21		
Vigor				.43	
Tension					-.20
Social attitude		.50		-.45	
Object-relations					
Self-image					
Norms					
Needs					
Cognitions					.51
Defense style	-.33	-.61	-.70	.62	-.69
Coping style			.50		
Miscellaneous					
% explained variance	.26	.15	.31	.36	.32

Table 5: Regression analyses (standardized beta's) of GHQ on personality development

	Anxiety	Depression	Somatic complaints	Social functioning
Anxiety				
Depression		.16		
Social functioning				-.10
Somatic complaints			.22	
Social attitude				
Object-relations				
Self-image				
Norms			.37	
Needs		.54		.55
Cognitions				
Defense style			-.62	-.54
Coping style				
Miscellaneous		-.61		
% explained variance		29	30	16

For the POMS, it appears that defense style consistently is related negatively to psychological distress at three months, in combination with other developmental lines. This means that patients with more mature levels of defense style, in

combination with less mature levels of development of social attitude report less depression and more vigor. Patients with more mature levels of defense style, in combination with less mature levels of coping style report less tiredness. Patients with more mature levels of defense style, in combination with less mature levels of cognitions report less tension. For the GHQ, a combination of less mature development of needs and more mature development in the line of miscellaneous aspects is predictive of less depression. More mature development of defense style, in combination with less mature development of needs is predictive of less problems in social functioning. More mature development of defense style, in combination with less mature development of norms, is predictive of less somatic complaints.

For both the POMS and the GHQ, the percentage explained variance are moderate (range .15 to .36).

In conclusion, a mature level of defensive functioning is, in combination with less mature development of social attitude, norms, needs, cognitions, or coping style predictive of less distress.

Discussion

Differences between participants and drop-outs Drop-outs were significantly more tired at baseline than patients completing the second measurement. This may partly explain why these patients refused further participation. It is consistent with the reason many patients gave for declining further participation, namely that they were too ill or too tired to fill in the questionnaires.

Patients who dropped out of the study had more mature levels of cognition and object relations. This means that they are more capable of self reflection and perceive others more as a partner. It might be that after the diagnosis, these patients turn more inwardly and more to those who stand immediately next to them.

Course of psychological distress Between the diagnostic phase and three months later, a significant increase in tiredness and decrease of vigor (POMS) and social functioning (GHQ) was found. Also a significant decrease in anxiety (GHQ) was

found. However, no significant changes were found for depression, anger, tension (POMS) nor for somatic complaints, depression and the total score (GHQ). The high percentage of patients scoring above the suggested cut-off score for a probable psychiatric disorder is probably an overestimation of the real percentage of patients having severe psychological distress, because of the inclusion of somatic items. Endorsement of these items may reflect the influence of the illness or treatment, rather than psychological distress.
The impact of treatment or the progression of the illness process probably explains the increase in tiredness and decrease of vigor and social functioning. The decrease of anxiety on the GHQ is consistent with the results of the meta-analysis showing that anxiety decreases significantly from diagnosis to follow-up (Van 't Spijker, Trijsburg & Duivenvoorden 1997). No decrease was found for depression. This is also consistent with the results of the meta-analysis. The question is why anxiety would decrease after the diagnostic phase, whereas depression remains the same? Both anxiety and depression are known to increase at transitional points of the illness (Massie 1989a, 1989b). According to Massie, anxiety is related to the uncertainty of the situation at several moments during diagnosis and treatment. Anxiety is a preparatory affect: it prepares to fight or flight. Depression is more a reactive affect, induced by mourning the loss of something important. During the diagnostic phase, anxiety increases because of uncertainty about the future. Depression may increase because of the mourning of health, safety, future and such illusions as the idea that the world is safe and that people get what they deserve (Janoff Bulman, 1992). After the diagnostic phase, in most cases treatment is started. Although this may lead to new uncertainty about treatment outcome, it may also induce a feeling of control. Feelings of control reduce uncertainty, which leads to a reduction of anxiety. However, mourning about what was lost, goes on. Depressive feelings may furthermore be reinforced by the side-effects of treatment, such as tiredness, lack of energy and restricted social functioning. At the same time these side effects may decrease anxiety, because they may indicate to the patient that he gets effective treatment.

Relationship between personality development and psychological distress When we controlled for the level of psychological distress at baseline, we did find a significant negative relationship between defense style and several measures of psychological distress at three months. Thus, more mature defensive functioning at diagnosis is predictive of less distress at three months. Except for a negative relationship between norms and tension (POMS), the other lines yielded no significant relationship between level of personality development at diagnosis and distress at three months. During the diagnostic phase, object relations (the way in which important others are perceived) and coping style (active problem solving) were negatively related to distress, while defensive functioning appeared to play only a minor role (chapter 4). At three months, defensive functioning is negatively related to distress, while no relationship is found between object relations or coping style and distress. The results concerning defense style are consistent with the results of Mansson et al. (1998), who report that patients using projection and regression (primitive defense mechanisms) have a higher long-term risk of depression and anxiety. The question is why these three developmental lines play a different role during the diagnostic phase and three months afterwards. An explanation could be that the diagnostic phase is characterized by uncertainty. The resulting anxiety can be warded off by trying to control the situation (coping style), or by seeking support from others (object relations). Apart from other functions, these strategies serve a defensive function. After the diagnostic phase, patients are thrown back on their own resources. Outward oriented defensive mechanisms become less effective in defending against anxiety. It becomes more important how patients handle their situation internally. Are they capable of self-control, sublimation, enduring ambivalence? If so, they will experience less distress. If not, they will experience more distress.

The development of defensive functioning is characterized by decreasing distortion in the perception of external and internal reality. Whereas during the diagnostic phase denial is more or less possible, it is more difficult to deny the illness when one has undergone surgery or is still receiving chemotherapy or radiotherapy. Patients who still have to distort this reality experience more

distress, because internal perception and external reality get more apart. This is congruent with the hypothesis of Lazarus (1983) and the results of Watson, Greer, Blake & Shrapnell (1984), that initially denial may be beneficial and only later in the course of the disease may become maladaptive.

The results of the regression analyses confirm that more mature defensive functioning is predictive of less distress. More mature levels of defense style, in combination with less mature levels of development of other lines (social attitude, norms, needs, cognitions, and coping style) are related to less distress. Why is more mature development of these lines in this situation predictive of more distress? As an example we take the line of needs. Less mature levels of development of this line reflect a primarily self-oriented attitude, in which others serve as need supplying objects. More mature levels of development reflect an attitude in which others are not judged on their need-supplying behavior. In situations in which patients are more dependent on others than usual, the former attitude may help patients in taking a more passive and accepting stance. In combination with more mature defensive functioning, (e.g. self-control, sublimation, the ability to endure ambivalence) this decreases psychological distress.

The results of our study may be influenced by whether or not patients received treatment. However, the fact that we did not find significant differences concerning the level of psychological distress between patients receiving no treatment and patients receiving some kind of treatment, makes this not plausible.

Some methodological caveats limit the generalizability of our results. First, the number of patients differs between the regression analyses, due to missing values for some patients. Second, the number of patients in this study is low for the number of analyses performed. Both points implicate that a replication study is needed to corroborate the results we found.

Conclusive remarks

Level of psychological distress Three months after the diagnosis, psychological distress in the group of cancer patients on the whole is at almost the same level as before diagnosis, although the majority of patients report less distress. Tiredness increases, vigor and social functioning decrease. Compared with the population of a general practitioner, the patients in this study report similar levels of anger and vigor, but significantly more depression, tension and fatigue. The results of this study are consistent with the results of the meta-analysis of the available literature, showing that cancer patients experience more distress than the normal population, but less than psychiatric patients do. On itself this is not a remarkable finding, but concern is in place, because longer distress may have detrimental effects on physical functioning, and thus on the effects of treatment (Sapolsky, 1994). When possible, prevention of longer during distress is thus warranted.

Personality development and psychological distress A negative relationship is found between defense style and distress at three months. This is both found in the correlational and in the regression analyses. This is unlike the results we found in the diagnostic phase, when the development of social attitude, object relations and coping style were the most important in predicting distress. This result can probably be explained by the fact that during the diagnostic phase an active attitude towards the situation can lead to a feeling of control, which may reduce distress. Three months later the situation forces patients to focus more on the internal handling of stress. These results suggest that screening patients during the diagnostic phase may be relevant in order to identify patients who are at risk of developing psychological distress three months after the diagnosis. Furthermore, the results of the DP may be used to plan an effective treatment for those patients who need it. Because of the time frame in which an intervention should take place, a structured format, focusing on coping and defense style of patients, is the best. For the short term, helping patients in actively controlling the situation may help patients best, while for the long term strengthening their defense style may help them most. Several authors have described short-term

cognitive and existential formats for such interventions (e.g. Bottomley, Hunton, Roberts & Jones, 1996; Kissane, Bloch, Miach, Smith, Seddon & Keks, 1997; Antoni, Lehman, Klibourn, Boyers, Culver, Alferi, Yount, McGregor, Arena, Harris, Price & Carver, 2001). These interventions consist of psycho-education, relaxation, emotional expression and support. The DP could function as a screener for such an intervention.

Chapter 6:

Prediction of psychological distress six months after diagnosis: a clinical exploration

Chapter six

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Prediction of psychological distress six months after diagnosis: a clinical exploration

Abstract

The aim of the present study is to describe the relationship between personality characteristics and psychological distress in patients with lung cancer or esophageal cancer, six months after diagnosis.

Patients were interviewed using the Developmental Profile, an instrument for psychodynamic personality assessment, during the diagnostic process and followed for six months. At six months, 43 patients filled in the Profile of Mood States and the General Health Questionnaire.

Results show that psychological distress does not change significantly between the diagnostic phase and six months later. Coping style, measured during the diagnostic phase is positively related to psychological distress. Further analyses showed that in combination with norms and coping style, the defense style of patients is negatively related to psychological distress, meaning that patients with more mature defense styles report less distress.

We conclude that defense style and coping style are the most relevant for screening patients with an increased risk for elevated levels of psychological distress.

Introduction

Cancer diagnosis and treatment have a marked influence on the psychological functioning of patients. Cancer often destroys the illusions patients have about the safety of their life and the world around them (Janoff Bulman, 1992). The loss of these illusions and the stress of coping with the consequences of the disease and treatment often result in psychological distress. A meta-analysis of the literature showed that cancer patients report more distress than the normal population, but less than psychiatric patients (Van 't Spijker, Trijsburg & Duivenvoorden, 1997). Earlier studies showed that the level of psychological distress following during the diagnostic process and later on is related to the level of development of personality. In the diagnostic phase coping style (action as a reaction to internal or external stress; Abraham, 1997a) and object-relations (the meaning or role the patient ascribes to his significant others or to people in general, Abraham; 1997a) are negatively related to psychological distress. Patients with more mature levels of development of coping style and object-relations report less distress than patients with more immature levels of development (chapter 4). Later on in the illness process (three months after the diagnostic process), defense style is more important than coping style and object relations. More mature levels of development of defense style (thoughts and feelings as a reaction to internal or external stress; Abraham, 1997a) are related to lower reported psychological distress (chapter 5).

These results reflect the changes in the situation the patients are in. During the diagnostic phase, patients have to cope with uncertainty about the future. Eliciting support from others and an active stance towards the situation may give the patients a feeling of control, which in turn decreases distress. Following the diagnosis, patients have to adapt to a changed life perspective. They are thrown back on their own resources. The focus is now more on their intra-psychic functioning.

The situation the patients are in continues to change. This change may influence the relationship between personality development and psychological distress. Therefore, we studied this relationship at six months after diagnosis.

The research questions for the present study are: 1) what is the course of psychological distress in the mid-long term, and 2) what is the relationship between personality development measured during the diagnostic phase and psychological distress at six months?
Based on the results of our previous studies, we hypothesize that a negative relationship exists between the level of personality development and psychological distress at six months when we correlate individual developmental lines with psychological distress. We further hypothesize that in combination with other developmental lines, defense style is negatively related to psychological distress.

Method

Patients

Participants in this study were 127 consecutive patients admitted to the department of Pulmonology or the department of Surgery of the University Hospital Rotterdam 'Dijkzigt'. Patients admitted to the department of Pulmonology were suspected of lung cancer. Patients admitted to the department of Surgery were referred to the University Hospital by community hospitals for surgical treatment of esophageal cancer. Patients were included when they were between 18 and 75 years of age, spoke sufficiently Dutch, and had no severe psychiatric disorder, to be judged by the physician treating the patient.

Procedure

After admission to the hospital, informed consent was asked. After patients had given informed consent, the Developmental Profile (DP, see below) interview took place, and self-reporting questionnaires were given to the patient, with the instruction to fill them in the same day. In the present study consensus ratings (AvtS and HLV) are used for the DP. The questionnaires were collected the day after the interview.

Instruments

The Developmental Profile The DP (Abraham 1993, 1997a, b; Van, van Foeken, Ingenhoven, Tremonti, Pieper-de Vries, de Groot, van 't Spijker, Spinhoven &

Abraham, in press) is obtained by a semi-structured, psychodynamically oriented interview, constructed for the assessment of eight developmental lines and one line of miscellaneous aspects of personality development. Each developmental line is divided in ten levels of development. Combining the developmental lines with the developmental levels results in a matrix of 90 cells, each representing a specific level of a specific developmental line. For each of the cells a definition and examples of statements fitting the cell are provided in a scoring manual. For each level an end-score can be computed, so that the final matrix consists of 100 cells (90 cells for each level of each developmental line and 10 cells for the end-score of each level). Topics of the interview are lifestyle, schooling and work; partner, children and other relations; religious, political and other social activities; sports and hobbies; reactions to stressful events, and finally his needs and the situations in which anxiety, anger, guilt, shame, or feelings of insufficiency was experienced. The interview is carried out according to the so-called 'a-b-c-model', meaning that information is elicited about a) the affective significance, b) the actual behavior and c) the cognitive meaning of a situation. The interview is tape-recorded or noted on the interview protocol. The tape recordings are typed out verbatim. The reliability for the end-scores of the DP is satisfactory (mean Cohen's Kappa (weighted) 0.70, range 0.53 – 0.84; Van, Ingenhoven, van Foeken, van 't Spijker, Spinhoven & Abraham, 2000). Concerning the validity of the DP, it was found that the end-scores differ significantly between psychiatric patients and somatically ill patients and between psychiatric patients and normal controls (Van et al., 2000). An overall score, analogous to the Overall Defensive Functioning Score (Perry 1990) can be computed for each line. The inter-rater reliability of the overall score is reasonable to good (mean ICC 0.61, range 0.34 – 0.75; chapter 3). Clinical validity of the overall scores is found in the relationship between the overall scores and scales of the SCL-90 (cf. Starcevic, Bogojevic & Marinkovic, 2000; Karterud, Fiis, Irion, Mehlum, Vaglum & Vaglum, 1995). The possible range for the overall scores for each developmental line is 1 to 10. Roughly, scores between 1 and 4 reflect immature functioning, scores 5 and 6 reflect neurotic functioning and scores 7 to 10 reflect mature functioning.

The Profile of Mood States (POMS) The Poms is a 32 item self-reporting questionnaire. Patients are asked to endorse 32 mood representing adjectives on a 5-point (0 to 4) Likert scale. The POMS consists of 5 scales: depression, tension/anxiety, vigor, fatigue and anger. Internal consistency of the individual scales is good (coefficient Alpha, range 0.82 – 0.91) (Wald & Mellenbergh 1990). Norms are available from a population of a general practitioner (both with and without known illnesses). For the depression, tension/anxiety, fatigue and anger scales, higher scores reflect more distress, whereas for the vigor scale higher scores reflect better functioning.

The General Health Questionnaire 28 (GHQ-28) The GHQ-28 is a 28 item self-reporting questionnaire, for the assessment of anxiety, depression, somatic complaints and social functioning. A score of 5 or higher on the GHQ is indicative for a probable psychiatric disorder. The individual scales as well as the cut-off score for a probable psychiatric disorder have proven external validity (Goldberg & Hillier 1979; Koeter, van den Brink & Ormel 1989). Higher scores reflect more psychological distress.

Statistical analysis

Descriptive statistics were used for the DP and distress scores (mean, standard deviation). The relationship (Pearson Product-Moment correlation) between the personality profile and psychological distress was studied using the overall scores of each developmental line. Because we expect a negative relationship between personality and psychopathology (indicating that more mature personality development is related to less psychopathology), we tested one-tailed. The scale scores for the psychological distress scores were transformed, to approximate a normal distribution (square root transformation). After the estimation of the correlation coefficients, regression analyses were performed of distress scores on personality development.

Results

Description of the sample

The interviews of 13 patients could not be used for various reasons (problems in recording (2), patients suffering from dementia (2), insufficiently fluent in Dutch (1), refusing participation during the interview (8)), so that 114 interviews were available for analyses. Of the 114 patients available for analyses, 31 (27%) refused to fill in the baseline questionnaires, so that of 83 patients baseline measures were complete. Three months after the initial interview, 52 (63%) patients filled in the follow-up questionnaires. 43 (83%) filled in the questionnaires at six months after diagnosis. Reasons for not participation further in the study were mainly feeling too tired or too ill to participate, or refusal to participate further. Biographical data of the patients are presented in Table 1.

Table 1: Background of the sample

Age in years (mean (S.D.; range)	62 (9.2; 45 – 78)
Sex (% male)	84
Tumor location	
Oesophagus	24
Lung	12
Other	7
Treatment	
No therapy	6
Operation	15
Chemotherapy	9
Radiotherapy	4
Combination therapy	7
Personality development	
Social attitude	7.1
Object-relations	6.8
Self-image	5.8
Norms	6.1
Needs	7.1
Cognitions	6.6
Defense style	5.7
Coping style	6.1
Miscellaneous	6.6

First, we compared personality development and baseline psychological distress of the patients who did and who did not participate at six months after diagnosis. The only significant difference between these groups is a lower development of needs for the patients who did not participate at six months (mean score of patients who did not participate = 6,85; mean score of patients who did participate = 7,13; t = -2,29, df = 107, p = 0.02). No significant differences are found regarding other personality variables, or regarding psychological distress. *Course of psychological distress* Table 2 shows the scores of the patients at baseline, 3 months and 6 months after diagnosis.

Table 2: Mean psychological distress scores (S.D.) at baseline, 3, and 6 months after diagnosis

	Diagnosis	3 months	6 months
Poms			
Depression	4.4 (5.8)	4.1 (5.9)	4.1 (4.8)
Anger	3.1 (4.2)	3.5 (4.7)	3.4 (5.0)
Tiredness	5.0 (6.3)[a]	6.8 (6.8)	8.1 (7.3)[b]
Vigor	12.0 (5.0)[a]	9.1 (5.3)	9.7 (4.4)[b]
Tension	5.5 (5.4)	4.8 (4.5)	4.6 (4.4)
GHQ			
Somatic complaints	2.1 (1.9)	2.4 (2.2)	2.2 (2.1)
Anxiety	2.2 (2.1)	1.3 (2.1)	1.3 (1.8)
Social functioning	1.7 (1.3)	2.7 (2.8)	1.9 (2.2)
Depression	0.7 (1.3)	0.5 (1.5)	0.5 (1.0)
Total score	6.7 (5.7)	6.9 (7.4)	5.9 (6.1)

Scores with different superscripts differ at $p < 0.05$

It appears that the level of psychological distress does not change significantly from baseline to 6 months after diagnosis, except for tiredness and vigor, which respectively increases and decreases significantly over time. Compared with the population of a general practitioner, the patients in this study report similar levels of anger and vigor, but significantly more depression, tension and tiredness. The total score of the GHQ is above the cut-off score for a probable psychiatric

disorder. However, because this score includes somatic items, it is probably inflated.

At six months patients receiving treatment report significantly more anger (POMS) (3.9, vs. 1.0, $t = -2.7$, $df = 27.1$, $p = 0.01$), tiredness (POMS) (8.8 vs. 1.8, $t = -4.3$, $df = 22.4$, $p < 0.001$), somatic complaints (GHQ) (0.6 vs. 2.4, $t = -3.4$, $df = 10.8$, $p = .006$), and depression (GHQ) (0.6 vs. 0.0, $t = -3.0$, $df = 35$, $p = .005$) than patients receiving no treatment. This is unlike what we found at three months (chapter 5),

Relationship between personality development and psychological distress When we control for the baseline level of psychological distress, significant positive correlations are found between the level of development of coping style and scales of the GHQ (i.e. somatic complaints, $r = 0.34$, $p = 0.02$; anxiety, $r = 0.26$, $p = 0.05$; social functioning, $r = 0.33$, $p = 0.02$). This means that when the baseline level of distress is taken into account, a more mature level of coping style is related to more psychological distress at six months.

Table 3: Standardized Beta's of POMS at 6 months on personality development, controlling for POMS at diagnosis

	Depression	Anger	Tiredness
Depression	.08		
Anger		.24	
Tiredness			.34
Social attitude			
Self-image			
Norms	-.47	-.50	
Needs			
Cognitions			
Defense style		-.47	-.54
Coping style	.57	.90	.68
Miscellaneous			
% explained variance	13	47	16

In the regression analyses, we excluded the line of object-relations, because of problems with collinearity. The regression analyses yield that combinations of developmental lines are predictive of psychological distress. In these combinations, each developmental line has a unique contribution in the prediction, independent from the contribution of other developmental lines. The results of the regression analyses are shown in Table 3 for the POMS and Table 4 for the GHQ.

Table 4: Standardized Beta's of GHQ at 6 months on personality development, controlling for GHQ at diagnosis

	Anxiety	Depression
Anxiety	-.22	
Social functioning		
Depression		.20
Social attitude		
Self-image	-.61	
Norms		
Needs		
Cognitions		
Defense style		-.70
Coping style	.77	.54
Miscellaneous		.41
% explained variance	30	29

A combination of mature coping style and less mature self image is predictive of more depression (POMS) and more anxiety (GHQ). A combination of mature coping style, lower levels of defensive functioning and lower levels of norms are predictive of more anger (POMS). A combination of mature coping and lower levels of defensive functioning are predictive of more tiredness (POMS) and in combination with higher levels of the line of miscellaneous aspects of development, predictive of more depression (GHQ).

Discussion

Differences between patients who did not and who did participate at six months
We found significantly lower needs for patients who did not participate at six months. Lower levels of needs reflect a more self-oriented attitude. It could be that patients who did not participate at six months did not find any reason for them to participate further in this study. No differences were found regarding the level of psychological distress in both groups.

Course of psychological distress From the diagnostic phase to six months, the only significant change in psychological distress is an increase in tiredness and decrease in vigor. This may probably be explained as one of the consequences of the treatment or of progression of the illness. The decrease in anxiety of the GHQ from baseline to follow-up is nearly significant ($p = 0.06$). This confirms the results of the meta-analysis (Van 't Spijker, Trijsburg & Duivenvoorden, 1997), and the results we found at three months (chapter 5). It may be that the number of patients at six months is too small to make the difference that we found significant. This is plausible, because the difference we found at three months is smaller than the difference we find now.

The finding that patients at six months still report more depression and tension than patients of a general practitioner is clinically relevant, because the length of the psychological stress itself may be harmful. In a study on caregivers of Alzheimer patients, Kiecolt-Glaser, Glaser, Dyer, Shuttleworth, Ogrocki & Speicher (1987) found that chronically stressed caregivers had significantly lower immune functions. Animal research has shown that (prolonged) stress influences tumor growth (Sapolsky, 1994; Boermeester & Butzelaar, 1999). This suggests that treatment, or better, prevention of psychological stress in cancer patients may increase the effectiveness of medical treatment. Timely assessment of the risk of psychological distress may thus be worthwhile.

We found significant differences in reported anger, tiredness, somatic complaints and depression between patients receiving treatment or not receiving treatment. Patients receiving treatment report more anger, tiredness, somatic complaints, and depression. Concerning tiredness and somatic complaints, these differences

can at least in part be explained as consequences of the treatment. An operation, radiotherapy and chemotherapy can all induce tiredness and somatic complaints. Furthermore, for anger and depression, the differences may be statistically significant, but they are relatively small. It remains questionable whether they are clinically relevant.

Relationship between personality development and psychological distress When we controlled for the level of psychological distress in the diagnostic phase, we found a positive relationship between coping style and somatic complaints, anxiety and social functioning of the GHQ. This is exactly the opposite of what we found during the diagnostic phase (chapter 4) and what was found in the meta-analysis (Van 't Spijker, Trijsburg & Duivenvoorden, 1997). Three months after the diagnostic process, coping style is not related to psychological distress. Apparently, the function of coping style changes during the illness and treatment process. Initially, an active coping style is beneficial, three months later the coping style plays only a minor role and six months later an active coping style is related negatively to some scales of psychological distress. This is largely due to the medical situation. Initially, patients can get a feeling of control by actively trying to influence the situation. Later on, they have to accept their situation more. Keeping on fighting the situation does not help anymore.

The regression analyses yielded similar results. Unlike what we found in the diagnostic phase (chapter 4), the level of coping style is, in combination with other developmental lines, positively related to psychological distress. This means that a more mature coping style, in combination with other developmental lines, is related to more psychological distress. The level of development of defense style is, in combination with other lines, negatively related to psychological distress. Just as the function of coping style changes during the illness process, the function of defense style also changes during the treatment and illness process. Initially, defense style does not play an important role, while patients focus on the situation, rather than on their feelings. Denying the psychological meaning of the situation may initially decrease psychological stress (Lazarus, 1983; Watson, Greer, Blake & Shrapnell, 1984; Kreitler, 1999). Later

on, at three months, defense style is negatively related to distress. Patients are more and more confronted with the reality of the situation, e.g. by complying to treatment. Denial of the psychological meaning becomes more and more unreal, and the feelings provoked by the situation become harder to ignore. The function of defense style becomes more important. It could be that for successfully treated patients defense style becomes once more less important and coping style becomes more important, because then patients can again focus more on improving the situation rather than on their feelings. Further research is needed to clarify this point.

The finding that a more mature level of defense style is related to less psychological distress later on in the course of disease confirms the hypothesis of Lazarus (1983) and Watson et al. (1984) that denial is maladaptive in the long run. It is also in accordance with the results of Vaillant (1990), showing that more mature defense mechanisms, measured in adolescence, are predictive of less psychological distress later on in life.

The results of this study indicate that learning patients to focus on the intrapsychic handling of stress and to let go of situations may in the long run be more beneficial than to learn them how to active intervene in the situation. However, caution is required, as the number of analyses performed and the number of predictors used in this sample of patients can only yield preliminary results, which need to be corroborated by a replication study with more patients.

Conclusions

The level of psychological distress remains the same over six months after diagnosis. Tiredness increases and vigor decreases. As long term psychological distress may hinder the effectiveness of treatment, treatment or prevention of psychological distress is worthwhile. Personality factors can be used in screening patients for their long-term risk of psychological distress. To estimate the level of distress at six months, especially the level of coping style and defense style are relevant. Screening patients during diagnosis on these aspects gives valuable

information on the risk they have for psychological distress. Strengthening the defense style and at the same time learning patients to 'let go' helps them most.

Chapter 7:

General Discussion and Conclusions

Introduction

Cancer is often associated with severe psychological distress. However, the literature is equivocal about the prevalence and severity of psychological distress in cancer patients. The range in prevalence reported in studies is from 0 to 46% for depression and 1 to 49% for anxiety (chapter 1). Research on risk factors for developing severe psychological distress shows some consistent results. Regarding tumor site, it was found that breast cancer patients report consistently less distress than other patient groups. Age (younger patients report more distress), and sex (female patients groups report less anxiety and depression than mixed patient groups) are relevant demographic predictors of psychological distress. Regarding psychological variables, personality is relevant. Coping style is found to be related to psychological distress. Patients with an active coping style report less distress than patients with a passive coping style. However, for other medical, demographic and psychological variables, the results are inconsistent (chapter 1). Studying risk factors for psychological distress is both clinically and theoretically valuable. Clinically, it is valuable to know which patients are most at risk for developing psychological distress, because prolonged psychological stress is associated with poorer immune functioning. Prolonged stress may thus influence medical treatment outcome (Sapolsky, 1994). Early detection of patients at risk provides the opportunity of installing preventive treatment, which might thus increase the effectiveness of medical treatment. Theoretically, studying the relationship between personality development and distress in cancer patients gives insight in the processes involved in the development of psychological distress. This will further the knowledge of these psychological processes, relevant also to other fields of research.

In this final chapter, the results of this thesis are summarized and discussed, and conclusions are drawn. First, the answers to the two research questions are discussed, regarding theoretical background, methodological limitations, and clinical implications. Conclusions based on the discussion are drawn. Finally, recommendations for future research are given.

The research questions for this thesis are the following:

1. what is the prevalence and course of psychological distress in cancer patients?
2. what is the predictive usability of personality for psychological distress in this group?

Prevalence and course of psychological distress in patients with cancer

In 1983, Derogatis, Morrow, Fetting, Penman, Piasetsky, Schmale, Hendricks & Carnicke reported that 47% of the cancer patients suffer so severely from psychological distress that a psychiatric diagnosis is warranted. This publication has influenced the thinking about the prevalence of psychological distress in cancer patients (cf. Holland & Rowland, 1989). However, at the same time, Cassileth, Lusk, Strouse, Miller, Brown, Cross & Tenaglia (1984) reported that psychiatric disorders are not more common in cancer patients than in the normal population. Our meta-analysis of the available literature confirms Cassileth et al.'s (1984) conclusion that the prevalence of a psychiatric disorder is almost the same in cancer patients as in the normal population (chapter 1). It was found that cancer patients experience more psychological distress than the normal population, but less than psychiatric patients. Other recent studies have corroborated this conclusion (Aass, Fossa, Dahl & Moe, 1997; Pascoe, Edelman & Kidman, 2000; Uchitomi, Mikami, Kugaya, Akizuki, Nagai, Nishiwaki, Akechi & Okamura, 2000)

The results of the study reported in this thesis also corroborate this finding (chapter 4, 5, and 6). During the diagnostic process, patients report increased levels of psychological distress compared with the normal population, but less distress than psychiatric patients (chapter 4). The mean score on the GHQ-28 is above the suggested cut-off for a probable psychiatric diagnosis. This mean score is influenced by somatic items and items on social functioning, and may be elevated due to the illness rather than to a psychiatric disorder. According to Massie (1989a), depression in cancer patients is best evaluated by looking at dysphoric mood, feelings of hopelessness, guilt and worthlessness, and the presence of suicidal thoughts, while leaving out somatic criteria. Thus, the mean

score on the GHQ-28 is probably an overestimation of the probability of a psychiatric diagnosis in this group. However, one should be careful here. On the one hand, somatic symptoms may wrongly be taken for depression (Massie, 1989a). On the other hand, a depression can be missed because vegetative symptoms may be regarded as the result of the illness rather than the indication of a depression (cf McDaniel, Musselman, Perter, Reed & Nemeroff, 1995). This means that patients may suffer unnecessarily from distress.

The course of psychological distress is also equivocal. Many individual studies report a decrease in depression and general psychological distress. However, the meta-analysis failed to show that this is the case. Also in the study reported in this thesis, no decrease of psychological distress over time was found. Instead, we found an increase in tiredness after three months and a decrease of vigor and the level of social functioning. Anxiety and depression remain at the same level as during the diagnostic phase (chapters 5 and 6).

We found a significant difference in somatic complaints and tiredness, anger and depression between patients receiving no treatment and patients receiving treatment (chapter 6). Patients receiving treatment reported more tiredness and somatic complaints, and more anger and depression. The first two aspects can partly be explained as side effects of the treatment. The often invasive treatment of cancer is known to increase tiredness. The differences in anger and depression are statistically significant; but it is questionable whether they are clinically relevant. For instance, the difference in depression scores between the groups is only 0.5 (mean score 0.0 vs 0.5, on a scale with a range of 0 to 7).

In conclusion, it appears that cancer patients do not suffer more from psychiatric disorders than the normal population, but that they do experience more distress than the normal population. Psychological distress does not diminish within six months after the diagnosis.

Theoretical considerations

In DSM-IV (American Psychiatric Association, 1994), psychological traumata are characterized by a threat to physical integrity or the threat of death. The threat must be unexpected and unavoidable to be traumatic. Cancer is such a threat.

According to Janoff Bulman (1992), basic assumptions regarding the safety, controllability, and righteousness of the world are shattered in traumatic situations. As a consequence, patients have to adapt their assumptions. Adaptation involves a process in which phases with intrusive thoughts and ideas alternate with phases of denial and repression (Horowitz, 1990). It is a process that results in distress and emotional instability. The increased level of psychological distress in cancer patients during and after diagnosis is thus a normal reaction to the situation. According to Vaillant (2000), mature mental health involves affect recognition in stead of denial of affect. Thus, awareness of the potential life threatening aspects of the situation and recognition of the affective consequences may be a mark of mature mental health. Concerning mature mental health, a question arises about the equivocal position of denial that is found in the literature. Some authors have found that denial and other immature defense mechanisms are associated with more psychological distress (Mansson, Christensson, Johnson & Colleen, 1998). However, several others have reported that denial may be beneficial, at least in the short run (Watson, Greer, Blake & Shrapnell, 1984; Lazarus, 1983; Kreitler, 1999). An explanation may be found in the time frame used. In the early phase of the illness process patients can deny or minimize the impact of the illness more easily than later on in the illness process, when the progression of the illness leads for instance to increasing tiredness and decreasing vigor. The increasing impact of the illness becomes more difficult to negate, and the long duration of the illness or treatment can no longer be denied.

In conclusion, psychological distress is an adaptive reaction to a potential life-threatening situation such as a diagnosis of cancer. Elevated levels of distress are normal, but there is no reason to expect high levels of distress. While denying distress may be beneficial in the short term, it may be harmful in the long run. Careful diagnostic procedures are needed to prevent prolonged suffering for those patients that need professional help.

Clinical implications

The legitimacy of psychosocial oncology is not found in the number of patients who need help, but in the uniqueness of the situation of cancer patients. Because cancer patients are confronted with a life threatening disease, existential questions are important for them (Bloch & Kissane, 2000). Adjustment disorders are the most prevalent in cancer patients (Derogatis et al., 1983; Massie & Holland, 1989). Cancer patients have more in common with other somatically ill patients than with individuals seeking psychiatric help (Cassileth et al., 1984). Therefore, apart from the normal training in therapy, therapists should familiarize themselves with the specific problems of cancer patients before entering the field of psycho-oncology.

Several authors have argued that group interventions (e.g. self-help groups, psycho-educational interventions, supportive groups, existential groups) have particular advantages for somatically ill patients, including cancer patients (Bloch & Kissane, 2000; Spira, 1997). Group interventions for somatically ill patients provide patients with emotional support from others who have similar experiences. The positive experiences of others, may help patients in dealing with the fear of the future (Spira, 1997). Through universality, group therapy diminishes feelings of stigma. The support of others may decrease feelings of social isolation that many severely ill patients experience (Leszcz, 1998). Furthermore, group therapy is time- and cost-efficient. Fawzy, Fawzy, Arndt & Pasnau (1994) state that structured psychiatric interventions, including among other aspects psychosocial group support offer the greatest potential benefit for newly diagnosed patients. Several authors have described group interventions for cancer patients, mostly for breast cancer patients (e.g. Leszcz & Goodwin, 1998; Spira, 1997; Spiegel, Bloom, Kramer & Gottheil, 1989), but also for other types of cancer, e.g. malignant melanoma (Fawzy, Fawzy, Hyun & Wheeler, 1997), and head and neck cancer (Hammerlid, Persson, Sullivan & Westin, 1999).

In conclusion, many patients are capable of handling the distress on their own, or helped by their social network. For patients who need professional help, psychosocial interventions, particularly group interventions can provide support.

These interventions help them in dealing with the psychological reactions to the diagnosis, the illness and treatment process.

Methodological limitations

The process of adaptation (intrusion versus avoidance) has implications for measurement of psychological distress. Measuring distress using self-reporting questionnaires, means that one is dependent on the cognitive 'mode' that the patient is in when he fills in the questionnaires. Filling in the questionnaires during the 'intrusion-mode' may lead to an overestimation of distress, while filling in the questionnaires during the 'avoidance-mode' may lead to an underestimation of distress. Furthermore, Shedler, Mayman & Manis (1993) have shown that self-reporting questionnaires can be influenced by defensive maneuvers of patients. Low distress scores can reflect true absence of distress, but also the denial of distress. In the same vein, high distress scores can reflect high levels of distress, or be the result of 'faking bad' (cf. Zimmerman, 1994).

In conclusion, the data of this study must be interpreted cautiously. On the one hand, the inclusion of somatic items in for instance the GHQ-28 may lead to an overestimation of psychological distress, while on the other hand the use of self-reporting questionnaires may lead to an underestimation of psychological distress. On the level of the group, these two factors may equal each other out. On the level of the individual patient, it is more difficult to assess psychological distress based on self-reporting questionnaires. More sophisticated diagnostic procedures are required to assess the level of distress of the individual patient.

Prediction of distress by personality

Several personality factors are found to be related to psychological functioning. For instance, Vaillant (1990) reports that defense style as measured during late adolescence is related to overall social and psychological functioning 40 years later. The meta-analysis (chapter 1) showed that coping style is related to psychological distress in cancer patients. Fonagy & Target (1996) argue that the integration and differentiation of reality and fantasy has a major role in adaptation to trauma. According to Blatt (1990) the level of development of both self-

definition and interpersonal relatedness is related to specific forms of depression. Several studies have found that neuroticism is predictive of psychological distress (Hunfeld 1995; Serlie, 1996; Duits 1998; De Jong, van Sonderen & Emmelkamp, 1999; Schroevers, Sanderman, van Sonderen & Ranchor, 2000). There is thus ample reason to study the relationship between personality development and psychological distress in cancer patients.

In this study we used the Developmental Profile (DP, Abraham, 1993, 1997a, b; Van, van Foeken, Ingenhoven, Tremonti, Pieper-de Vries, de Groot, van 't Spijker, Spinhoven & Abraham, in press). This instrument is based on psychodynamic theory. According to Straker (1998), the different schools in psychodynamic theory are particularly useful in psychosocial oncology. Ego psychology provides a point of view for understanding the emotional reactions of cancer patients and their defense style, object-relation theory offers a perspective on the doctor-patient interaction, and in general psychodynamic theory provides a point of view for planning an intervention. In chapter 3, we reported on the reliability and clinical validity of the DP. We found that the inter-rater agreement is high (mean percentage observed agreement: 94%). According to Zegers (1991) an acceptable percentage agreement is 70 to 80%. The ICC's for the overall score of the developmental lines are sufficient (mean ICC 0.61).

In chapters 4 to 6, we found that the level of development of several developmental lines is related to the level of psychological distress. The relationship between personality development and psychological distress changes during the process of adaptation to cancer.

During the diagnostic process, the level of development of the lines of social attitude, object relations, self image, norms, defense style and coping style is negatively related to psychological distress. This means that patients with more mature levels of development of these lines report less distress. After the diagnostic process, at three months, defense style plays the most important role. It is negatively related to distress, meaning that patients with more mature development of defense style (e.g. humor, sublimation) report less distress at three months. Defense style appears to play a minor role during the diagnostic

phase, whereas later it becomes more important for understanding the psychological reaction of the patient. At six months, the picture changes again. Now, coping style is positively related to distress. This means that a more mature development of coping style is related to more distress.
The regression analyses showed a complex interaction between developmental lines and distress. Higher levels of development of some lines are in combination with lower levels of development of other lines related to more distress. During the diagnostic process, a more mature development of social attitude is related to more distress. At three months, higher defensive functioning and lower levels of social attitude, cognitions, and coping style are negatively related to distress. At six months higher levels of development of coping style, lower defensive functioning, self-image, norms, and miscellaneous aspects of development, are predictive of more distress.
In the following sections, these findings are discussed. First, the instrument for assessing personality development, then the above mentioned findings.

Theoretical considerations

The Developmental Profile

The Developmental Profile (DP) is a psychodynamically oriented instrument for the assessment of the level of development of personality. According to Wallerstein, psychodynamic theory is currently in a state of 'pluralism of theoretical perspectives' (1992, p. 27). Pine (1990) distinguishes four psychologies in the psychodynamic field: drive theory, ego-psychology, object-relations theory and self-psychology. Currently, there is no instrument for personality assessment that represents all four theoretical perspectives (chapter 2). The DP (Abraham 1993, 1997a, b; Van et al., in press) provides information relevant for three of the four psychodynamic points of view: ego-psychology, object-relations theory and self-psychology. The advantage of the instrument is that clinicians from different schools can use the instrument. Furthermore, the DP can lead to an integration of different points of view in the thinking of practitioners from different schools.

The levels of development described in the DP (see Table 2, chapter 3) are based on Kernberg's (1981) psychotic and borderline levels, Kohut's (1971) level of pathological narcissism, the three psycho-sexual stages of Freud (1953/1905, 1961/1923a) and Erikson's (1950) model of adult development (Van et al., in press). The hierarchy in the developmental levels is associated primarily with the significance of the described behavior for the (dys)functioning of an adult. There is no a-priori relationship between the different developmental lines. The lower six levels of development represent immature levels of development, while the highest four levels represent mature adult functioning. Mature development is assumed to result in functioning suited to the age of the interviewee.

Current views of personality development, state that development is a discontinuous process, characterized by forward spurts and backward slides (Tyson & Tyson 1990; Settlage, Curtis, Lozoff, Lozoff, Silberschatz & Simburg, 1987). During development, earlier modes of functioning, with their characterizing issues, conflicts, defenses and forms of adaptation must be 'reworked' when a forward move is made. This does not lead to an outgrowth of former conflicts, but a 'growing around' old conflicts (Tyson & Tyson, 1990, p. 29). Regression, that is, a retreat to earlier modes of functioning, is a normal psychological function, that can be used when the individual is under stress. When it is adaptively used, it is called 'regression in the service of the ego'. The DP corresponds with these current views on development, because it allows for scoring patients on different levels at the same time.

The DP not only yields information on immature levels of development, but also on mature levels of development. Apart from clinical work, for which such a differentiation is worthwhile (for instance for the evaluation of therapeutic effectiveness), it makes the instrument useable for non-psychiatric populations. Because psychiatric levels of personality development are not to be expected in a group of cancer patients a priori, the instrument is suitable for use in the population of this study.

Another advantage of the DP is that is allows for a dimensional approach of assessing personality development. Personality is often assessed categorically,

meaning that something is present or not (e.g. Kernberg's Borderline Personality Organization). Categorical classifications are more easily understood and are more in agreement with the medical health-illness model (e.g. the ICD-10 classification system). However, a dimensional approach, meaning that something is present at a certain level) of personality (and personality disorders) has proven to be more valid empirically (Livesley 1998). The DP thus approaches reality more than other instruments which allow only for categorical classifications of personality.

Reliability estimates and construct validity

The mean weighted Kappa (0.26) of the individual cells of the DP is small, but the ICC for the developmental lines is moderate to good (chapter 3). This result is not unexpected, for four reasons. First, statements can be scored in different cells, depending on the interpretation of the rater. Raters may vary in the line they place a statement in, but agree on the level at which to place a statement (see chapter 3 for an example). Second, the individual cells of the DP can be seen as individual items of a scale. Both the developmental levels and the developmental lines can be seen as scales of several items reflecting different levels of functioning for one concept (e.g. ten levels of functioning of social attitude), or reflecting different aspects of functioning at a certain developmental level (e.g. nine behavioral patterns reflecting the narcissistic functioning of the patient in different aspects of life). Individual items usually have lower reliabilities than the scales they are part of. Thus, both the end scores for the developmental levels (Van, Ingenhoven, van Foeken, van 't Spijker, Spinhoven & Abraham, 2000) as well as the overall scores for the developmental lines (chapter 3) are more reliable than the individual cells. The moderate to good ICC's for the developmental lines imply that the lines can be seen as internally consistent concepts, reflecting different aspects of personality development. Third, this finding is consistent with findings from other instruments. For example, Perry & Cooper (1989), studying the reliability of the Defense Mechanisms Rating Scale, found that individual defense mechanisms are difficult to score reliably, while clusters of defense mechanisms can be scored more reliably. Finally, the

percentage observed agreement in the individual cells is already very high (mean percentage observed agreement: 94%). This means that in almost all cases the two raters agreed on the presence or absence of certain behavior. It is known from other research that in cases of high observed agreemtent, kappa is relatively low (Hux, Sanger, Reid & Maschka, 1997; Banerjee & Fielding, 1998; Carr, Kenney, Wilson-Barnett & Newham, 1999).
Evidence for the construct validity of the DP is found in the relationship between the developmental lines of the DP and scales of the SCL-90 (chapter 4). All significant correlations are negative, meaning that more mature levels of development are related to less distress. Some authors have argued that the combination of hostility, insufficiency and sensitivity indicates the presence of a personality disorder (Starcevic, Bogojevic & Marinkovic, 2000; Karterud, Fiis, Irion, Mehlum, Vaglum & Vaglum, 1995). Most correlations between the developmental lines of the DP and the SCL-90 are with these scales. This provides evidence that the DP has construct validity, meaning that it measures what it is intended to measure. The moderate strength of the relationship that is found in this study (0.19 to 0.44) is to be expected for two reasons. First, two different ways of measuring are used (interview versus self report questionnaire). Second, two different types of measurement are used, a state measurement of distress versus a trait measurement of personality. Others have found similar results when studying the relationship between defense and distress, using an interview based score for defense and a self reporting based score for distress (Perry & Hoglend, 1999). Bond (1992) found correlations ranging from 0.23 and 0.36 between an observer based and a self-reporting assessment of psychological defense mechanisms. In a study on the relationship between defense mechanisms and adjustment in normal adolescents, significant relationships ranging from 0.24 to 0.30 were found between the DSQ (a self report questionnaire on defense mechanisms) and the GAF (an observer based rating of global functioning) (Erickson, Feldman & Steiner 1996).
In conclusion, the face validity of the DP is satisfactory. It is an instrument that corresponds to the modern psychoanalytic points of view. It can not only be used

for the assessment of immature behavior patterns, also for the assessment of mature behavior patterns. Thereby, the usability of the instrument in non-clinical samples is increased. The reliability of the ICC's for the individual developmental lines is satisfactory. The DP provides information that can be used for screening patients, and it also provides information that can guide treatment planning for the individual patient (Abraham, 1997; Trimboli & Farr, 2000). The DP is thus a promising instrument for research.

Relationship between personality and psychological distress

The results of the meta-analysis (Chapter 1) showed a consistent pattern of two different coping styles related to psychological well-being and psychological distress. Active coping styles, such as confrontation, assertiveness, affiliation are in general related to less psychological distress, while a passive coping style, such as ignoring the situation, giving up, or asking 'why me', is in general related to more psychological distress. The results of this thesis are thus partially in agreement with results of other studies. While during the diagnostic phase we found that mature development of coping style is related to less distress, at three months coping style appears to play a minor role. A more mature development of coping style is then related to more distress. At six months, more mature development of coping style is once again related to more distress. An active, outward oriented problem solving attitude appears to be beneficial only during the diagnostic phase, while it later on is more harmful then helpful. For defense style an opposite pattern emerges. During the diagnostic phase it appears to play only a minor role, while at three and at six months a more mature defensive functioning is beneficial. Why do we see these opposite patterns for coping style and defense style? According to Vaillant (2000), seeking social support and conscious cognitive strategies (or coping mechanisms) are superior to 'involuntary mental mechanisms that distort our perception of internal and external reality to reduces subjective distress' (or defense mechanisms, p. 89). However, in three ways these latter are superior to the former two: 'they are independent of education and social privilege, they can regulate people's perceptions of those internal and external realities that they are powerless to

change, and the adaptive defenses can turn lead into gold' (idem). This statement of Vaillant may shed some light on the result that during the diagnostic phase coping style has a negative relationship with psychological distress. The diagnostic phase is characterized by uncertainty. Patients may deal with this uncertainty by actively trying to influence the situation. When conscious coping mechanisms enable a patient to deal with a bad situation, defense mechanisms may have little or no influence on psychological distress. The conscious coping mechanisms 'take over' the defensive function. However, when conscious coping mechanisms fail, unconscious defense mechanisms are used. Use of mechanisms that change the patient's perception of the external reality, may decrease the experienced or reported psychological distress. However, use of the so-called 'adaptive' mechanisms, leaves the external reality intact. Turning lead into gold does not mean that no distress is experienced, because 'mature mental health (...) involves affect recognition' (Vaillant, 2000, p. 90). Thus, the patient does not deny reality, nor the distressing effect of reality, but he is able to acknowledge the distress and do something constructive with it (e.g. control himself in expressing his emotions, so that others are not overwhelmed by intolerable affect, but are able to help him).

Interestingly, there was a small, but statistically significant difference in level of personality development of needs and norms between the patients that refused to fill in the questionnaires after the interview and those filled in the questionnaires. Patients refusing participation had lower levels of norms and needs. Lower levels of norms and needs reflect a more egotistic attitude towards others. Patients with more mature levels of norms and needs are more able to see what their behavior means for others, besides their own perspective. It could thus be that those patients that could not see any benefit for themselves in the study dropped out. Later, at three months we found that patients who dropped out of the study had higher levels of development of cognitions and object relations. Higher levels of development of cognitions indicate more self-reflection, while higher levels of development of object relations reflect being able to see others as mate. It could be that at this moment in the illness process, patients have to focus more on

themselves, and are less willing to participate in a study that yields them no benefit. Still later, at six months, patients who still participated in the study had higher levels of development of needs, compared with the patients who dropped out of the study. Once again, it could be that their attitude of willing to help others made them stay in the study.

In conclusion, coping style, defense style and social attitude are the most important lines in the process of adaptation (see Figure 1). During the diagnostic phase, the level of development of object relations and coping style is related to less distress; at three months, during the treatment phase the level of development of defensive functioning is related to less distress; at six months, after treatment or near the end of treatment, the level of development of norms and defense style is related to less distress.

Figure 1: Overview of personality factors related to psychological distress at different moments in the illness process

	diagnosis	3-months	6-months
related to more psychological distress	• more mature social attitude	• more mature social attitude • more mature needs	• more mature coping style
related to less psychological distress	• more mature object relations • more mature coping style	• more mature defense style	• more mature norms • more mature defense style

Clinical implications

From a clinical point of view, the findings of this study are valuable. It appears that personality can serve as a predictor of psychological distress in cancer patients. Screening patients on their level of development of personality may thus be worthwhile to identify those patients who are at risk of experiencing psychological distress. The use of the DP not only provides information on the risk of patients for experiencing distress, it can also help in planning the treatment for patients at risk. The results of this study imply that a multidimensional,

multilevel personality assessment is needed to understand the relationship between personality and distress, and to predict who will suffer most from psychological distress. Single trait measures, such as neuroticism may be less adequate.

We found that the more mature levels of development of object-relations and coping style are related to less psychological distress during the diagnostic process. For clinical practice this implies that strengthening these two functions may decrease psychological distress initially. However, the opposite role of coping style later on in the illness process implies that this is not enough. Intervention programs should consist of a combination of coping skills training (e.g. learning patients to exert influence on the situation when possible), and strengthening their defensive functioning so that they learn to deal internally with the situation. In the long run, this may be more beneficial than strengthening their coping style alone.

Reviews of intervention studies in cancer patients have shown that they are effective (Andersen, 1992; Trijsburg, van Knippenberg & Rijpma, 1992; Fawzy, Fawzy, Arndt & Pasnau, 1994; Meyer & Mark, 1995). As stated above, group interventions are particularly useful for somatic patients, including cancer patients. Many authors have described group intervention formats for therapy with cancer patients (Spiegel, Bloom, Kramer & Gottheil, 1989; Bottomley, Hunton, Roberts & Jones, 1996; Fawzy, Fawzy, Hyun & Wheeler, 1997; Kissane, Bloch, Miach, Smith, Seddon & Keks, 1997; Spira, 1997; Leszcz & Goodwin, 1998; Hammerlid, Persson, Sullivan & Westin, 1999; Antoni, Lehman, Klibourn, Boyers, Culver, Alferi, Yount, McGregor, Arena, Harris, Price & Carver, 2001). For newly diagnosed patients a brief therapy format is the best fit (Andersen, 1992). Although existential group interventions for cancer patients are described (e.g. Spiegel et al., 1989; Kissane et al., 1997), most group interventions are short term (8 to 10 sessions), focus on present-day issues, and have limited goals. They provide a mixture of psycho-eduction, relaxation-training, emotional support, sharing experiences, dealing with anxieties, and training of coping skills. The format is structured, which is essential according to Andersen (1992).

Because of the combination of coping skills training with relaxation training and learning to deal with anxieties these interventions link up with the needs of patients during different phases of the illness and treatment for active coping skills training and learning to be more passive and strengthening their defense style.

In this study, we used an overall score for each developmental line (see appendix C, chapter 3). In this overall score the range in scoring on a line and the strength of scores at different levels are integrated. The overall score for each developmental line serves well in a research project, in which it can be used more easily in statistical procedures than the traditional way of scoring the interview. In the traditional way of scoring, no overall score for a line is computed, but the scores of the individual cells are used to identify relative strengths and weaknesses of a patient. Information regarding the range in scores on one line, and situations in which behavior of particular levels of development is used, is very valuable for clinical practice. It guides the treatment goals and processes. This information is less visible in the overall score. Therefore, the overall score should be used only to get an impression of the overall level of development. In treatment planning, a more detailed scoring, which is available from the scoring sheet, may give additional information.

In conclusion, personality assessment can be used in treatment planning. The results of this study can be used to construct a standardized intervention program, aimed at learning patients to use flexible coping and defense strategies: outward oriented to influence the situation when possible, and inward oriented to learn to deal with the situation psychologically.

Methodological limitations

The drop out rate of approximately 30% direct after the interview is one of the main methodological limitations of this study. As already stated in Chapter 4, this result limits the generalizability of this study. Also the drop out after the first measurement limits the generalizability of this study. One of the conclusions based on these results is that the DP, at least in it's current form, is too much for the patients during the diagnostic process. A shortening of the interview,

focussing on the most salient developmental lines or developmental levels could possibly solve this problem.

Lung cancer is associated with tobacco use, while esophageal cancer is associated with tobacco and alcohol use. In terms of DSM-IV, tobacco and/or alcohol are both potential abuse substances and can both lead to dependence. There is a discussion on whether or not tobacco and/or alcohol use may be related to a dependent personality (Bornstein, 1992). If this is so, the results of this study may not be generalizable to other populations. Other populations may represent different personality patterns, which may be related differently to psychological distress. A cautious interpretation of the results is in place.

In conclusion the results of this study must be interpreted cautiously, because of the large number of drop-outs and the potential bias in patient population. Replication studies in different populations are needed to test the generalizability of the results of this thesis.

Directions for further research

The results of this study lead to recommendations for future research. These can also be classified in theoretical, methodological and clinical recommendations.

Theoretical recommendations

This study provides insight in the process of adaptation to cancer. From a theoretical point of view, it is relevant to test the results of this study in other populations. This might reveal differences between populations in the process of adaptation to severe stress. For instance, it would yield valuable information regarding this process, to test the results of this study in a population in which severe, but not life-threatening stress situation exists. In this way it could become clear whether the life threatening aspects of cancer lead to a specific process of adaptation. It could be that in less threatening situations, denial of the psychological implications of the situation is less predictive of distress. Furthermore, it is valuable to test the results of this study in stressful situations that are more controllable than cancer. It could be that in such situations coping style plays a different role. Because of the changes in function of defense style

and coping style over time, it is interesting to study the function of these personality aspects in patients with a more favorable medical prognosis. It could be that the effects of more active coping styles become more positive again and defense style becomes less influential, after patients are effectively treated for cancer.

Finally, it is valuable to test the results of this study in a situation in which a stressor is less chronic. Research has showed that chronic stress may lead to immunological exhaustion of patients (Sapolsky, 1994). It would be interesting to see whether less chronic stress also leads to psychological exhaustion, and the effects hereof on the process of adaptation.

Methodological recommendations

Some patients indicated that they experienced the interview as intrusive. For future projects, the DP can be shortened, focussing on the developmental lines of social attitude, object relations, coping style and defense style. Limiting the interview to social functioning, relationships with important others (partner, parents, children, friends), reactions in stressful situations, and the handling of emotions (anger, anxiety, guilt, shame) will yield the relevant information. In this way the most important areas are covered and at the same time, the interview becomes less time consuming and less intrusive. However, because these aspects make patients aware of their ways of handling stress and their expectations from important others, asking them about these aspects still is confronting. Further research should test whether such a shortened version of the interview improves the adherence of patients.

Recommendations for clinical practice

We passed the stage of studying how many cancer patients suffer from psychological distress or from how much psychological distress cancer patients suffer. Cancer leads to an emotional reaction, and it is more valuable to determine which patients will eventually need professional help then to determine whether or not a psychological response occurs. The shortened version of the DP can be used as a screener for inclusion for an intervention. The effectiveness of an intervention and screening needs to be studied in a clinical trial.

Such an intervention can be based on the results of this study. This intervention should consist of the following components. Psycho-education helps patients gain a sense of control by providing information on what to expect, regarding the illness and treatment, and regarding the process of adaptation to cancer. Training of active coping skills is needed to support patients during the early phases of illness and treatment. For instance, role playing difficult situations with family members or physicians extends the behavioral repertoire of patients. These, and other behavioral coping skills are helpful in the beginning of the intervention. Strengthening the defensive functioning of patients is needed to support patients in the process of internally dealing with the situation. Cognitive techniques for dealing with emotions (e.g. 'the hook', Powell, 1996) can be used here. Furthermore, relaxation training and sharing ways for dealing with anxieties and worries are supportive. Patients can help each other with dealing with these emotions by sharing what has helped them. In this way patients learn to be more passive, and adaptive ego-functions are strengthened. Challenging maladaptive patterns of thinking (predicting the future, thinking for others, paying attention only to negative experiences, feeling responsible for the well-being of others) helps patients to cope with adverse emotions. These techniques can be used later in the intervention program. An intervention should be planned early in the illness and treatment process, in order to prevent prolonged suffering from psychological distress. Therapists should be aware of the need for flexibility in the psychological treatment of cancer patients (Postone, 1998; Straker, 1998). Because of the changes in the nature of the illness process (diagnosis, therapy, remission, recurrence, terminal illness) the needs and (physical) possibilities of patients change, and therapists should be willing to follow the needs of patients.

Summary/
Samenvatting

This thesis deals with two questions: 1) what is the prevalence and course of psychological distress in cancer patients, and 2) what is the predictive usefulness of personality for psychological distress in this group?

The literature on the prevalence, severity and course of psychological distress in cancer patients is unequivocal. Percentages of depressed and/or anxious patients vary widely, between 0% and 49%. An influential study from 1983 reported that for 47% of the cancer patients a psychiatric diagnosis was warranted, mostly adjustment disorder with depressed and/or anxious mood. In chapter 1, the literature between 1980 and 1994 on the prevalence, severity and course of psychological distress in cancer patients is reviewed. Also, factors related to psychological distress are studied. We conclude that psychiatric disorders are not more prevalent in cancer patients than in the normal population, except depression. Studies published before 1988 report higher percentages of psychiatric disorders than studies published between 1988 and 1994. Thus, it seems that the prevalence of psychiatric disorders in cancer patients has diminished over the years. Furthermore, we conclude that cancer patients report more psychological distress than the normal population, but less than psychiatric patients do. Medical, demographic and psychological variables are inconsistently related to psychological distress, except for treatment modality (patients receiving breast conserving therapy reporting less distress than patients receiving mastectomy), employment status (employed patients reporting more distress than unemployed patients) and coping style (patients with an active coping style reporting less distress than patients with a passive coping style). Most studies reported that psychological distress decreases over time, but the meta-analysis failed to corroborate this result.

In chapter 2, currently available instruments for psychodynamic personality assessment are reviewed. The focus of the review is on the representation of concepts from different psychodynamic schools, the usefulness of the instruments for clinical practice and scientific research, and the validity and reliability of the instruments. The changes in psychodynamic theory over the years are reflected in the instruments. More recently constructed instruments place less emphasis on drive development and more on the development of object-relations, and self-representation. Both standardized interviews and transcripts of psychotherapy sessions can be used for the scoring of the instruments. The overview of the instruments yields that psychodynamic personality assessment is time consuming. Most instruments take a couple of hours to complete. This investment is worthwhile, because these instruments provide a multi-trait, multilevel assessment of the individual, which can be used in treatment planning and therapy evaluation. Also, the

different factors assessed in these instruments can be used in prediction studies into the relationship between personality and psychological distress and in psychotherapy effectiveness studies. For clinical usefulness, instruments must yield clinically relevant material. To be useful in scientific research, instruments have to be reliable and valid, and yield sufficiently subtle assessments. Some instruments are particularly useful for clinical practice and less suitable for use in scientific research. Others can be used both in clinical practice and in scientific research (e.g. R.E. Abraham's Developmental Profile (DP)). The DP represents concepts from three out of the four mainstream psychodynamic theories. The reliability of the scores of the different levels of development is sufficient.

In chapter 3, the results of a study into the reliability of the individual cells and overall scores of the separate developmental lines of the DP are presented. First, the theoretical background of the DP is described. The DP was held by 127 patients suspected of lung cancer or esophageal cancer, admitted for diagnostic work-up in the University Hospital Rotterdam 'Dijkzigt'. After a training of the author of this thesis, the interviews were scored independently by two judges. The mean percentage observed agreement of the individual cells is 94%, ample above the norm of 70% that is used as the lower limit for reliability based on percentage observed agreement. The mean squared weighted Kappa for the individual cells is 0.26, which is low. However, it appears that the level of Kappa is negatively related to the level of expected agreement, and positively related to the number of observations in a cell. The reliability of the overall scores for the separate developmental lines (ICC's) is sufficient. The mean ICC for the overall scores is 0.61. We conclude that the DP can be reliably scored. However, further refinements of the DP will increase the reliability. These refinements should focus on the scoring manual, in which more clear indications should be given for the level of scoring of the individual cells, and for the allocation of statements of patients to developmental lines.

In chapter 4, the results of a study into the relationship between personality characteristics and psychological distress during the diagnostic phase are described. After the DP was held with the 127 patients, described in chapter 3, they were asked to fill in three self-reporting questionnaires on psychological distress: the SCL-90, the GHQ-28, and the POMS. A large percentage (27%) of the patients refused to fill in the questionnaires. The two main reasons given for refusal were that patients had other things on their mind, or that they felt that they had told enough during the interview. The results of the questionnaires show that the patients in this study report more distress than the normal population, but less than psychiatric patients do. This is in agreement with the results of our meta-analysis. The elevated level of psychological distress in cancer patients

compared with the normal population implies that screening patients on their risk for psychological distress is in place. The results of the study into the relationship between personality characteristics and psychological distress may help in finding risk factors for elevated levels of psychological distress. We found that the individual developmental lines all showed a negative relationship with psychological distress. This means that a more mature development of the individual developmental lines is related to less psychological distress. However, when we use several developmental lines together as predictor of psychological distress, a more complex picture emerges. Consistent with the correlation of individual developmental lines with psychological distress, mature development of object-relations and coping style is related to less distress, but in combination with other lines, social attitude is positively related to psychological distress. We propose as an explanation that independent patients, who have difficulty giving up their independence (i.e. lacking the capacity of 'regression in the service of the ego') experience more distress in the hospital situation than patients who can be dependent on others. Another remarkable finding in this chapter is that defense style plays no important role during the diagnostic phase. In psychodynamic theory, defense is the way of handling internal and external stress. Apparently, coping style and object-relations serve a defensive function during the diagnostic phase. The complex relationships between combinations of personality characteristics and psychological distress may be a confirmation of the statement of Anna Freud, that differences in level of development between developmental lines are pathogenic. Risk factors for more psychological distress are lower levels of object relations and coping style, and, in combination with other personality characteristics, higher levels of social attitude.

In chapter 5, we present the results of the study into the short-term course of psychological distress, and the predictive value of personality characteristics. Three months after diagnosis, 52 patients filled in the GHQ-28 and the POMS. Patients who did not participate at three months were more tired at baseline. This is consistent with the reasons patients gave for not wanting to participate further, namely that they were too tired or felt too ill. We found that the level of psychological distress does not change significantly over time, except for an increase in tiredness, and a decrease of social functioning and vigor and a decrease of anxiety. This implies that at three months after diagnosis, cancer patients again report more distress than the normal population, but less than psychiatric patients. The increase in tiredness and decrease of vigor and social functioning can probably be explained as side effects of the treatment or illness process. The decrease in anxiety that we found is consistent with the results of the meta-analysis, in which a decrease of anxiety

from baseline to follow-up was found. Depression did not decrease, which is also concordant with the results of the meta-analysis. We suggest that the different psychological functions of anxiety and depression are related to the differences in the course of both emotional states. Anxiety is a preparatory affect, while depression is more a reactive affect, induced by mourning the loss of something important. After the hearing of the diagnosis, some certainty about what will happen in terms of treatment is regained, which leads to a feeling of control, which in turn decreases anxiety. However, mourning what was lost, e.g. lost health, and lost social functioning, goes on. Depressive symptoms can furthermore be increased by one of the side effects of treatment: reduced energy. Concerning the relationship between personality characteristics and psychological distress, we found no relationship between the separate developmental lines and distress scores, except for defense style, which is negatively related to distress. The regression analyses yield that the combination of high defense style with low social attitude, or norms, or needs, or cognitions, or coping style is related to less psychological distress. We suggest that lower levels of, for example, needs, reflect a more dependent attitude, which in combination with more mature defense style, can be helpful in reducing psychological distress during the illness and treatment, when patients are more dependent on others. We conclude that concern about the consistently higher levels of psychological distress is in place, because long term stress can itself have detrimental effects on patient's immune system.

The longer-term psychological consequences of a cancer diagnosis and the predictive value of personality characteristics for these longer term consequences are described in chapter 6. Patients were once more asked to fill in the GHQ-28 and the POMS, six months after diagnosis. 43 patients filled in these questionnaires. We find no significant differences in baseline level of psychological distress between patients who filled in the questionnaires after six months, and those who refused participation. Once again, we find no significant changes in psychological distress from diagnosis to six months later, except for tiredness, which increases, and vigor, which decreases over time. At six months we find that coping style at baseline is positively related to somatic complaints, anxiety, and social functioning of the GHQ-28. Thus, patients who have a mature coping style during the diagnostic phase, report more distress six months later. The regression analyses yield that a more mature coping style, in combination with less mature self image, or norms, or defense style is related to more psychological distress. The function of coping style and defense style change over time. Whereas a mature coping style is initially related to less distress, later on it is related to more distress. For defense, we first find that it plays no important role,

and later that a more mature defense style is related to less psychological distress. These changes in function are largely due to the medical situation. Initially, patients may have a feeling of control when they actively try to improve the situation. Later on, they learn that they have to accept the situation, and be more passive. Because they are thrown back on their own resources, defense style becomes more important. It could be that after successful treatment, the function of coping style and defense style change again, so that an mature coping style is than related to less distress, and defense style becomes less important again. Further research is needed to clarify this point.

A general discussion of the results of this thesis, with theoretical, clinical, and methodological implications, and recommendations for future projects, is presented in chapter 7. First, the main results of the previous chapters are reviewed. Concerning the first research question of this thesis, we conclude that cancer patients do not suffer more from psychiatric disorders than the normal population, but that they do experience more distress. This distress does not diminish within six months after the diagnosis. This conclusion is drawn, even though we find a mean score on the GHQ-28 above the suggested cut-off score. However, because this score is partly based on somatic symptoms, which can be due to the illness and it's treatment, it is probably an overestimation of the prevalence of psychiatric disorders in this group. Based on the literature on psychological adaptation to stressful events, we state that the elevated levels of distress are a normal reaction, the consequence of the process of adaptation and reflecting mature mental health. The legitimacy of psychosocial oncology is not found in the number of patients receiving psychological help, but in the specific situation of cancer patients. Because of the nature of the disease, cancer patients face existential questions. For clinical practice, this means that therapists should have acquainted themselves with the specific situation of medically ill patients in general and of cancer patients in particular, before entering the field of psychosocial oncology. Based on the literature, group interventions have particular advantages in psychosocial oncology. In this study we have used self-report questionnaires. The process of psychological adaptation involves periods of rumination about the situation and periods of avoiding thinking about the situation. This may have implications for the way the questionnaires are filled in. Furthermore, from the literature, it is known that low distress scores on self-report questionnaires do not always reflect the absence of psychological distress, but that they can be the result of the process of denial. Thus, the results of this study should be interpreted cautiously.

Concerning the second research question of this thesis, we conclude that the relationship between personality characteristics and psychological distress changes over time. During

the diagnostic process, a more mature development of social attitude is, in combination with the level of development of other lines, related to more distress, while higher levels of object relations and coping style are related to less distress. Defense style plays no important role. At three months, higher defensive functioning in combination with lower levels of other developmental lines (social attitude, cognitions, and coping style) is negatively related to distress. At six months higher levels of development of coping style are, in combination with lower defensive functioning, lower levels of self-image, norms, and miscellaneous aspects of development, predictive of more distress. We argue that the theory of Vaillant helps in understanding the change in function over time of coping and defense. According to this theory, coping and seeking social support are superior to other, unconscious problem solving mechanisms. However, in three ways are the latter superior to the former: 1) they are independent of education and social privilege, 2) they can regulate people's perceptions of those internal and external realities that they are powerless to change, and 3) the mature defenses can turn lead into gold. The second and third points apply in the situation of cancer patients. At first, patients can have the feeling they can influence the situation. Later on in the illness process, this becomes less possible, and then defenses come to play a more important part. For clinical practice, the results of this thesis imply that screening patients for personality development can be helpful in identifying those patients who are the most in need of psychological help. It is also shown that personality assessment needs to be multi-trait and multilevel. Furthermore, the personality profile of patients at risk can be used to construct an intervention tailored to the needs of these patients. Patients should be trained to learn whether they can try to influence a situation, or whether they are better off, accepting the situation. Short term structured group interventions, consisting of psycho-eduction, relaxation-training, emotional support, sharing experiences, dealing with anxieties, and training of coping skills are probably the most effective.

The generalizability of the results of this study is limited because of the number of patients refusing to fill in the questionnaires at baseline, and because of the potential bias in the study population. For the future, we suggest that the relationship between personality characteristics and psychological distress be studied in other populations as well, in order to find out whether there are population specific processes of adaptation to stressful situations. A shortened version of the DP should be used, in order to make the interview less intrusive. The interview should be focused on the lines of object relations, defense style and coping style. An intervention study, testing the effectiveness of a structured intervention with the above-mentioned aspects should be carried out, with the shortened

version of the DP as a screener for the risk of experiencing elevated levels of psychological distress. At risk patients can be identified and included in the intervention.

In dit proefschrift worden twee vragen behandeld: 1) in hoeverre hebben patiënten met kanker last van psychische problemen en 2) wat is de voorspellende waarde van persoonlijkheid voor psychische problemen in deze groep?
De literatuur over het voorkomen, de ernst en het beloop van psychische problemen bij patiënten met kanker is niet eenduidig. Gerapporteerde percentages van patiënten met een depressie of angststoornis variëren tussen de 0% en 49%. In een belangrijke studie uit 1983 werd gerapporteerd dat 47% van de patiënten met kanker voldeden aan de criteria voor een psychiatrische diagnose, in de meeste gevallen een aanpassingsstoornis met depressieve of angstige klachten. In hoofdstuk 1 wordt de literatuur van 1980 tot 1994 over het voorkomen, de ernst en het beloop van psychische problemen samengevat. Factoren die van invloed zijn op psychische problemen worden beschreven. We concluderen dat psychiatrische stoornissen niet meer voorkomen bij patiënten met kanker dan in de normale bevolking, behalve depressie. Studies die werden gepubliceerd voor 1988 rapporteren hogere percentages psychiatrische diagnoses dan studies die tussen 1988 en 1994 werden gepubliceerd. Het lijkt er dus op dat de prevalentie van psychiatrische stoornissen in patiënten met kanker in de loop van de jaren is afgenomen. Verder concluderen we dat patiënten met kanker meer psychische problemen rapporteren dan de normale bevolking, maar minder dan psychiatrische patiënten. Er is geen consistent verband gevonden tussen medische, demografische en psychologische factoren aan de ene kant en psychische problemen aan de andere kant, met uitzondering van de wijze van behandelen (borstkankerpatiënten die een borstsparende operatie ondergingen rapporteren minder psychische problemen dan patiënten die een volledige borstamputatie ondergingen), wel of geen baan hebben (patiënten met een betaalde baan rapporteren meer psychische problemen dan patiënten zonder een betaalde baan) en wijze van omgaan met problemen (patiënten die een actieve wijze hanteren van problemen oplossen rapporteren minder problemen dan patiënten die een passieve manier van problemen oplossen hanteren). De meeste studies rapporteren dat psychische problemen in de loop van de tijd afnemen, maar onze meta-analyse kon dit niet bevestigen.
In hoofdstuk 2 wordt een overzicht geboden van de instrumenten die op dit moment beschikbaar zijn voor een psychodynamische beoordeling van de persoonlijkheid. De nadruk ligt op de representatie van concepten uit verschillende psychodynamische scholen, de bruikbaarheid van instrumenten voor klinisch werk en wetenschappelijk onderzoek, en de validiteit en betrouwbaarheid van de instrumenten. De veranderingen die de psychodynamische theorie in de loop der jaren heeft doorgemaakt zijn terug te

vinden in de instrumenten. Instrumenten die kortgeleden zijn geconstrueerd leggen minder nadruk op de ontwikkeling van de driften en meer op de ontwikkeling van object-relaties en zelfrepresentatie. Zowel gestandaardiseerde interviews als transcripten van psychotherapiezittingen kunnen worden gebruikt voor het scoren van de instrumenten. Het overzicht van de instrumenten laat zien dat psychodynamische persoonlijkheidsbeoordeling tijdrovend is. Voor het scoren van de meeste instrumenten is een aantal uren nodig. Deze tijdsinvestering is de moeite waard omdat de instrumenten een beoordeling opleveren van verschillende aspecten van de persoonlijkheid op verschillende niveaus van ontwikkeling. Deze beoordeling kan worden gebruikt voor het plannen van een behandeling en in de evaluatie van het effect van de behandeling. De verschillende aspecten die worden beoordeeld met behulp van deze instrumenten kunnen ook worden gebruikt in voorspellende studies naar de relatie tussen persoonlijkheid en psychische problemen en in studies naar de effectiviteit van verschillende vormen van psychotherapie. De meeste instrumenten leveren klinisch relevant materiaal op. Om bruikbaar te zijn in wetenschappelijk onderzoek moeten de instrumenten valide en betrouwbaar zijn, en een voldoende genuanceerde beoordeling opleveren. Sommige instrumenten zijn voornamelijk bruikbaar in de klinische praktijk en minder geschikt voor wetenschappelijk onderzoek. Anderen zijn zowel voor de klinische praktijk en voor wetenschappelijk onderzoek geschikt (bv. het Ontwikkelingsprofiel van R.E. Abraham (OP)). In het OP zijn concepten van drie van de vier psychodynamische hoofdstromingen gerepresenteerd. De betrouwbaarheid van de beoordelingen van de verschillende ontwikkelingsniveaus is voldoende.

In hoofdstuk 3 worden de resultaten gepresenteerd van een studie naar de betrouwbaarheid van de afzonderlijke cellen en van de 'overall scores' van de verschillende ontwikkelingslijnen van het OP. Eerst wordt de theoretische achtergrond van het OP beschreven. Het OP werd afgenomen bij 127 patiënten die werden onderzocht op longkanker of slokdarmkanker in het Academisch Ziekenhuis Rotterdam 'Dijkzigt'. Nadat de auteur van dit proefschrift was getraind in het scoren van de interviews werden deze interviews gescoord door twee onafhankelijke beoordelaars. Het gemiddelde percentage overeenkomst in de beoordeling van de individuele cellen is 94%. Dat is ruim boven de norm van 70% die wordt gebruikt als benedengrens voor betrouwbaarheid wanneer gebruik wordt gemaakt van het percentage geobserveerde overeenkomst. De gemiddelde gewogen Kappa voor de cellen is 0.26. Dat is laag. Het blijkt echter dat de Kappa negatief samenhangt met het percentage verwachte overeenkomst. De Kappa's hangen positief samen met het aantal observaties in de cel. De betrouwbaarheid van de 'overall scores'

voor de afzonderlijke ontwikkelingslijnen is voldoende (Intraclass Correlation Coefficient, ICC). De gemiddelde ICC is 0.61. We concluderen dat het OP betrouwbaar gescoord kan worden. Verdere verfijningen in het instrument zullen de betrouwbaarheid waarschijnlijk positief beïnvloeden. Aandacht moet besteed worden aan de scoringshandleiding. De criteria voor het toekennen van een bepaalde score aan een cel kunnen verder worden verduidelijkt. Ook de criteria voor het scoren van een bepaalde uitspraak in een bepaalde ontwikkelingslijn kunnen verder worden verduidelijkt.
In hoofdstuk 4 worden de resultaten beschreven van een studie naar de relatie tussen persoonlijkheidskenmerken en psychische problemen gedurende de diagnostische fase. Nadat het interview was gehouden met de 127 patiënten die zijn beschreven in hoofdstuk 3, werd aan hen gevraagd drie vragenlijsten voor het meten van psychologisch welbevinden in te vullen, te weten de SCL-90, de GHQ-28 en de POMS. Een relatief hoog percentage (27%) van de patiënten weigerde de vragenlijsten in te vullen. De twee belangrijkste redenen om te weigeren waren dat de patiënt andere dingen aan zijn hoofd had, of dat de patiënt het gevoel had al genoeg te hebben verteld in het interview. De resultaten van dit onderzoek laten zien dat de patiënten in dit onderzoek meer psychische problemen rapporteren dan de normale bevolking, maar minder dan psychiatrische patiënten. Dit is in overeenstemming met de resultaten van onze meta-analyse. Het verhoogde niveau van psychische problemen betekent dat het goed is te beoordelen of individuele patiënten een verhoogd risico hebben op het ontwikkelen van psychische problemen. De resultaten van het onderzoek naar de relatie tussen persoonlijkheidskenmerken en psychische problemen kunnen helpen bij het vinden van risicofactoren voor verhoogde niveaus van psychische problemen. We vonden dat het niveau van ontwikkeling van de verschillende ontwikkelingslijnen negatief samenhing met psychische problemen. Dat betekent dat een meer rijpe ontwikkeling samenhangt met minder psychische problemen. Wanneer we echter een combinatie van verschillende ontwikkelingslijnen gebruiken als voorspeller van psychische problemen ontstaat een meer complex beeld. In overeenstemming met de resultaten van de samenhang tussen individuele ontwikkelingslijnen en psychische problemen hangen object-relaties en coping stijl negatief samen met psychische problemen. In combinatie met andere ontwikkelingslijnen hangt sociale attitude echter een negatief samen met psychische problemen. We suggereren als verklaring dat onafhankelijke patiënten, die moeite hebben met het opgeven van hun onafhankelijkheid (die geen gebruik kunnen maken van 'regressie in dienst van het Ik') meer psychische problemen ervaren in een ziekenhuissituatie dan patiënten die zich meer afhankelijk kunnen opstellen van anderen.

Een andere opmerkelijke bevinding in dit hoofdstuk is dat afweer geen rol van betekenis speelt in de diagnostische fase. In de psychodynamische theorie is afweer de manier waarop intrapsychisch wordt omgegaan met interne en externe stressoren. Klaarblijkelijk hebben coping stijl en de ontwikkeling van de object-relaties een afweerfunctie in de diagnostische fase. De complexe relaties tussen combinaties van verschillende persoonlijkheidskenmerken en psychische problemen kunnen als een bevestiging worden opgevat van de theorie van Anna Freud. Zij stelde dat verschillen in de niveaus van ontwikkeling van verschillende ontwikkelingslijnen pathogeen zijn. Risicofactoren voor meer psychische problemen zijn lagere ontwikkelingsniveaus van object-relaties en coping stijl, en in combinatie met het ontwikkelingsniveau van andere lijnen, een hogere ontwikkeling van sociale attitude.

In hoofdstuk 5 presenteren we de resultaten van een studie naar korte termijn beloop van psychische problemen en de voorspellende waarde van persoonlijkheidskenmerken. Na drie maanden vulden 52 patiënten de GHQ-28 en de POMS in. Patiënten die niet langer participeerden na drie maanden waren meer vermoeid tijdens de diagnostische fase. Dit is constistent met de reden die de meeste patiënten gaven voor het weigeren de vragenlijsten in te vullen, namelijk dat ze te ziek of te moe waren. We vonden dat het niveau van psychische problemen niet significant verandert in drie maanden, behalve een significante toename in vermoeidheid, en een afname van sociaal functioneren en energie en een afname van angst. Dat betekent dat na drie maanden patiënten met kanker opnieuw meer psychische problemen rapporteren dan de normale bevolking, maar minder dan psychiatrische patiënten. De toename van vermoeidheid en de afname van energie en sociaal functioneren kunnen waarschijnlijk worden verklaard als bijwerkingen van de behandeling of de ziekte. De afname van angst die we vonden is in overeenstemming met de resultaten van de meta-analyse, waarin we een afname van angst vonden tussen de eerste meting en de follow-up. Depressie nam niet af. Ook dit is in overeenstemming met de resultaten van de meta-analyse. Wij denken dat het verschil in psychologische functie van angst en depressie samenhangt met het verschil in het beloop van beide. Bij angst gaat het om het voorbereiden op wat komen gaat, terwijl het bij depressie meer gaat om het reageren op wat er is gebeurd. Depressie is meer een rouwreactie op het verlies van iets belangrijks. Nadat de diagnose is gehoord ontstaat een bepaalde zekerheid als een behandeling wordt ingezet. Deze zekerheid leidt tot een gevoel van controle, wat op zijn beurt weer leidt tot een afname van de angst. Rouw om wat verloren is, bijvoorbeeld de gezondheid en om verminderd sociaal functioneren, blijft echter bestaan. Depressieve klachten kunnen bovendien optreden als bijwerking van de behandeling wegens

energieverlies. In deze studie na drie maanden vonden we geen verband tussen de afzonderlijke ontwikkelingslijnen en psychische problemen, behalve de lijn van de afweer, die negatief blijkt samen te hangen met psychische problemen. Uit de regressieanalyses blijkt dat de combinatie van hoger ontwikkelde afweer en lager ontwikkelde sociale attitude, normen, behoeften, cognities of coping stijl samenhangt met minder psychische problemen. Naar onze mening representeren lagere niveaus van ontwikkeling van bijvoorbeeld normen een meer afhankelijke houding, die in combinatie met meer rijpe afweer, kan helpen bij het verminderen van psychische problemen tijdens de ziekte en behandeling, wanneer patiënten meer afhankelijk zijn van anderen. We concluderen dat de blijvend verhoogde scores van psychische problemen aandacht behoeven, omdat langdurige stress op zichzelf negatieve effecten kan hebben op het immuunsysteem van patiënten.

De psychologische gevolgen van de diagnose kanker op de langere termijn en de voorspellende waarde van persoonlijkheidskenmerken voor deze psychologische gevolgen worden beschreven in hoofdstuk 6. Aan de patiënten werd na zes maanden opnieuw gevraagd de GHQ-28 en de POMS in te vullen. 43 patiënten vulden de vragenlijsten in. We vonden geen significant verschil tussen de scores op deze lijsten tijdens de diagnostische fase tussen patiënten die na zes maanden wel en patiënten die na zes maanden niet de vragenlijsten invulden. Opnieuw vonden we geen significante verandering in psychische problemen tussen de diagnostische fase en na zes maanden, behalve voor vermoeidheid, die toeneemt en voor energie, die afneemt. Na zes maanden blijkt dat de coping stijl zoals die is beoordeeld tijdens de diagnostische fase positief samenhangt met somatische klachten, angst en sociaal functioneren op de GHQ-28. Patiënten met een hoger ontwikkelde coping stijl tijdens de diagnostische fase rapporteren meer problemen na zes maanden. Uit de regressieanalyses blijkt dat een hoger ontwikkelde coping stijl, in combinatie met een lagere ontwikkeling van zelfrepresentatie, normen, of afweerstijl samengaat met meer psychische problemen. De functies van coping stijl en afweerstijl veranderen in de loop van de tijd. In het begin hangt een hogere ontwikkeling van de coping stijl samen met minder psychische problemen, terwijl het later samenhangt met meer psychische problemen. Voor afweer vinden we eerst dat het geen rol van betekenis speelt, terwijl het later blijkt samen te hangen met minder psychische problemen. De veranderingen in functies van deze twee persoonlijkheidskenmerken hangen voor een groot deel samen met de medische situatie. Aanvankelijk kunnen patiënten een gevoel van controle hebben wanneer ze actief proberen de situatie te veranderen. Later blijkt dat ze de situatie moeten leren accepteren, en meer afwachten.

Omdat ze op zichzelf worden teruggeworpen, wordt de afweerstijl meer belangrijk. Het zou zo kunnen zijn dat na een succesvolle behandeling de functies van afweer en coping opnieuw veranderen, waarbij een hoger ontwikkelde copingstijl samenhangt met minder psychische problemen en de afweerstijl minder belangrijk wordt. Meer onderzoek is nodig om dit uit te zoeken.

Een algemene discussie van de resultaten van dit proefschrift, met theoretische, klinische en methodologische implicaties en suggesties voor verder onderzoek is te vinden in hoofdstuk 7. Allereerst worden de belangrijkste conclusies van de voorgaande hoofdstukken samengevat. We concluderen met betrekking tot de eerste onderzoeksvraag van dit proefschrift dat bij patiënten met kanker niet meer psychiatrische stoornissen voorkomen dan bij de algemene bevolking, maar dat ze wel meer psychische problemen ervaren. Deze problemen nemen niet af binnen zes maanden na de diagnose. Deze conclusie trekken we, ook al vinden we een gemiddelde score op de GHQ-28 die boven de grens ligt die aangeeft dat er vermoedelijk een psychiatrische stoornis te vinden is. De GHQ-28 bevat echter vragen over het somatisch functioneren, die meer te maken kunnen hebben met de ziekte en behandeling. Dit gemiddelde is dus waarschijnlijk een overschatting van het werkelijke voorkomen van psychiatrische stoornissen in deze groep. Gebaseerd op de literatuur over psychologische reacties op stressvolle gebeurtenissen concluderen we dat het meer voorkomen van psychische problemen in deze groep te verwachten is. Het is het gevolg van het proces van aanpassing en is het resultaat van normaal psychisch functioneren. De legitimiteit van de psychosociale oncologie ligt niet in het aantal patiënten met psychische problemen, maar in de specifieke situatie van patiënten met kanker. Patiënten met kanker hebben, door het karakter van hun ziekte, te maken met existentiële vragen. Dat betekent voor de klinische praktijk dat therapeuten moeten weten wat de situatie van somatisch zieken is, en meer in het bijzonder wat de situatie van patiënten met kanker is, voor ze het veld van de psychosociale oncologie betreden. Gebaseerd op de literatuur stellen we dat groepsinterventies bijzonder waardevol zijn in de psychosociale oncologie. In deze studie hebben we zelf-invul vragenlijsten gebruikt. In het psychologische verwerkingsproces gaat het afwisselend om piekeren over de situatie en proberen de situatie te ontlopen. Dat kan de resultaten van de vragenlijsten beïnvloeden. Vanuit de literatuur is bekend dat lage scores voor psychische problemen niet altijd betekenen dat die problemen er niet zijn, maar dat ze het resultaat kunnen zijn van het proces van ontkenning. Daarom moeten de resultaten van dit onderzoek behoedzaam worden geïnterpreteerd. Met betrekking tot de tweede onderzoeksvraag concluderen we dat de relatie tussen persoonlijkheidskenmerken en

psychische problemen in de tijd verandert. Tijdens het diagnostisch proces gaat een hogere ontwikkeling van sociale attitude, in combinatie met het ontwikkelingsniveau van andere lijnen, samen met meer problemen. Hogere ontwikkelingsniveaus van object-relaties en coping stijl hangen samen met minder problemen. De afweer speelt geen rol van betekenis. Na drie maanden is een hogere ontwikkeling van de afweer, samen met een lagere ontwikkeling van andere lijnen (met name sociale attitude, cognities en coping stijl) negatief gerelateerd aan psychische problemen. Na zes maanden is een hogere ontwikkeling van de coping stijl, samen met een lagere ontwikkeling van de afweer, het zelfbeeld, de normen en overige aspecten van de ontwikkeling voorspellend voor meer psychische problemen. De theorie van Vaillant kan deze verandering in functie helpen verklaren. Volgens Vaillant zijn coping en het zoeken van sociale steun superieur aan andere, onbewuste manieren van omgaan met problemen. Deze laatste, de onbewuste manieren van omgaan met problemen, oftewel de afweermechanismen, zijn echter in drie opzichten beter dan de eerste: ze zijn onafhankelijk van opleiding en sociale positie, ze kunnen de perceptie beïnvloeden van onveranderlijke situaties binnen en buiten de persoon en de adaptieve afweermechanismen kunnen lood in goud veranderen. De twee laatste punten zijn van toepassing voor patiënten met kanker. In het begin kunnen patiënten het gevoel hebben dat ze de situatie kunnen beïnvloeden. Later in het proces wordt dit minder goed mogelijk. Op dat moment gaat afweer een belangrijke rol spelen.
Voor de klinische praktijk betekenen de resultaten van dit onderzoek dat het beoordelen van de persoonlijkheidsontwikkeling van patiënten relevant is om die patiënten op te sporen die het meest behoefte hebben aan psychische hulpverlening. Het is ook duidelijk geworden dat persoonlijkheidsbeoordeling op verschillende dimensies moet plaatsvinden op verschillende niveaus van ontwikkeling. Het persoonlijkheidsprofiel van de opgespoorde patiënten kan gebruikt worden voor het opstellen van een aangepast behandelplan. Patiënten kunnen leren inschatten of de situatie beïnvloedbaar is en hoe ze kunnen werken aan het accepteren van de situatie. Kortdurende groepsgerichte interventies, die bestaan uit psycho-educatie, ontspanningsoefeningen, het bieden van emotionele steun, het delen van ervaringen, het leren omgaan met angsten, en het leren van copingmechanismen zijn waarschijnlijk het meest effectief.
De generaliseerbaarheid van de resultaten van dit onderzoek is beperkt vanwege het aantal patiënten dat verdere medewerking heeft geweigerd en vanwege de mogelijke selectie in de onderzoeksgroep. In de toekomst moet worden onderzocht hoe de relatie tussen persoonlijkheid en psychische problemen is in andere groepen. Op die manier kunnen factoren worden gevonden die specifiek zijn voor de groep die wordt onderzocht

en kunnen algemene factoren worden gevonden die in de verschillende groepen dezelfde rol spelen. Een verkorte versie van het ontwikkelingsprofiel kan worden gebruikt om de interviews minder belastend te maken. Die verkorte versie moet gericht zijn op het in kaart brengen van de ontwikkeling van de object-relaties, de afweer- en copingmechanismen. De verkorte versie van het ontwikkelingsprofiel kan worden gebruikt in een studie naar de effectiviteit van een behandeling die bestaat uit de onderdelen die hierboven zijn genoemd, om na te gaan welke patiënten het meest behoefte hebben aan een dergelijke behandeling.

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Curriculum Vitae

Adriaan van 't Spijker werd op 10 december 1966 geboren te Utrecht. In 1986 behaalde hij in Apeldoorn het Gymnasium-alpha diploma aan het Christelijk Lyceum. Van 1986 tot 1992 studeerde hij psychologie aan de Rijksuniversiteit Utrecht, waar hij het doctoraalexamen Klinische- en Gezondheidspsychologie behaalde. Van 1993 tot 1997 was hij als Assistent in Opleiding verbonden aan de afdeling Medische Psychologie en Psychotherapie van de Erasmus Universiteit Rotterdam. Van september 1996 tot september 1997 werkte hij part-time als gedragswetenschapper bij het Rotterdams Universitair Huisartsen Instituut. Vanaf 1997 volgde hij de opleiding tot psychotherapeut, met als hoofdrichtingen psychoanalytische psychotherapie en gedragstherapie. Vanaf september 1997 werkt hij part-time als wetenschappelijk docent bij de afdeling Medische Psychologie en Psychotherapie van de Erasmus Universiteit Rotterdam en part-time als psychotherapeut bij de afdeling psychiatrie van het Academisch Ziekenhuis Rotterdam 'Dijkzigt'.