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Narcissism Predicts Therapy Outcome in Psychosomatic Patients

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Abstract Narcissism can be seen along a continuum of adjustment with well-defended narcissism on the adjusted end, and poorly-defended narcissism on the maladjusted end. Poorly-defended narcissism is associated with negative emotions, and somatic preoccupations. The present study investigated whether aspects of poorly-defended narcissism can be changed during hospital treatment and if the change predicts therapy outcome. Data from 1442 psychosomatic in-patients (70% women, mean age 40.1 years) at admission and discharge were analyzed. Narcissism, mood and quality of life were assessed with standardized instruments. Patients with somatoform, anxiety, depressive or adjustment disorders differed significantly in narcissistic aspects. During inpatient treatment, narcissistic aspects decreased, and mood and quality of life increased. Changes in threatened self were associated with an improvement on all mood dimensions. Psychosomatic hospital treatment can help patients with poorly-defended narcissism to regulate aspects of threatened self with subsequent positive impact on mood and quality of life.

Keywords Narcissism · Mood · Psychotherapy · Follow-up · Quality of life

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Narcissism has long been seen on the same level with narcissistic personality disorder as a pathological aberration of mental health. Nowadays, narcissism is also seen as a normal personality variable (Emmons 1984; Ritter and Lammers 2007). It varies on a continuum from healthy people with narcissistic personality traits to the point of clinical characteristics (Ritter and Lammers 2007). Typically, narcissism is characterized as a pattern of grandiosity and self idealization while devaluing and vilifying others (Kernberg and Harmann 2006; Kernberg 1970; Kohut 1977, 1986) which is reflected in the DSM-IV (American Psychiatric Association 1994) criteria. However, clinical research assumes that there are "two faces" of narcissism (Wink 1991). One reflects "grandiosity-exhibitionism" that is related to extraversion, self-assurance, and aggression, and the other reflects "vulnerability-sensitivity" which is associated with introversion, defensiveness, anxiety, and vulnerability to life's traumas (Wink 1991). The two dimensions support the clinically based distinction between well-defended (grandiosity-exhibitionsim; overt) and poorly-defended (vulnerability-sensitivity; covert) narcissism (Kernberg 1986; Kohut 1977; Wink 1991). Well-defended narcissism can be seen as reflecting the traditional narcissism concept. The Psychodynamic Diagnostic Manual (PDM: PDM Task Force 2006) describes this subtype as arrogant/entitled (P104.1). In contrast, poorly-defended narcissism is characterized by a sense of negative emotionality, or ineffective emotion regulation by defensive, insecure and socially reticent individuals with feelings of inferiority (Akhtar and Thompson 1992; Hendin and Cheek 1997; Kernberg 1986; Sedikides et al. 2004; Wink 1991), i.e., being depressed/depleted (P104.2) in terms of the PDM. The above mentioned aspects can be summarized in terms of a threatened self. Furthermore, persons with poorly-defended narcissism are concerned about their

appearance (Graham 1987) and show somatic preoccupation (Rose 2002), which can be seen in terms of a hypochondriac self. A statistically significant link exists between somatization disorder and narcissistic personality disorder with an effect size of r=0.21 (Bornstein and Gold 2008) which is a medium effect size (Cohen 1988). With regard to the percentage of somatization disorder patients receiving comorbid narcissistic personality disorder diagnoses, the overall base rate is 3.2 % (Bornstein and Gold 2008). Altogether, poorly-defended narcissistic people appear to show a more pervasive profile of poor adjustment than those manifesting the well-defended pattern (Hickman et al. 1996).

Recommendations for psychotherapeutic intervention for patients suffering from narcissism are primarily based on clinical experience and theoretical formulations (Levy and Clarkin 2005). A self-psychological approach to treat narcissism is offered by Kohut (e.g. 1968) as well as Ornstein and Ornstein (1974). However, randomized controlled treatment studies on patients with distinct narcissism are lacking (Groopman and Cooper 2001; Oldham 1988; Levy and Clarkin 2005). One exception is a study by Teusch et al. (2001), who examined the effects of client-centered psychotherapy (CCT) for personality disorders, also in combination with medical treatment. In narcissists, CCT alone was superior by reducing depression compared to CCT along with medication treatment. The authors assumed that the CCT group might experience more autonomy and self-efficacy. In a single-case study (Callaghan et al. 2003) of histrionic and narcissistic personality disorder, the patient was treated with functional analytic psychotherapy (Kohlenberg and Tsai 1991). Results indicate significant changes in narcissistic behaviors during psychotherapy, but external outcomes were lacking in this study. Some researchers investigate whether narcissism is a stable dimension or fluctuating in response to life events as well as type and duration of therapeutic involvement (Kernberg 1986; Kohut 1977; Ronningstam et al. 1995; Wink 1991).

In terms of self-regulation and adjustment, researchers (Lapsley and Aalsma 2006) suggest narcissism can be seen along a continuum of adjustment with the well-defended narcissism on the adjusted end, whereas most features of the poorly-defended narcissism may lie toward the maladjusted end. Consistent with this continuum approach, well-defended narcissism is more strongly related to psychological well-being (Lapsley and Aalsma 2006), whereas poorly-defended narcissism is correlated with a lack of self-confidence and with negative emotions like depression and anxiety (Rathvon and Holmstrom 1996), concerns with appearance, sensitivity to hurt (Cooper and Ronningstam 1992; Graham 1987), lower self-esteem, lower satisfaction with life (Gabbard 1989; Rose 2002) as well as with somatic preoccupations (Masterson 1993). Somatoform symptoms may therefore be seen as an expression of maladjustment which constricts everyday functioning. Treatments of somatoform symptoms involving active participation of patients, such as psychotherapy, seem to be more effective than those that involve passive physical measures (Henningsen et al. 2007). Results of a one year follow up study post therapy indicate that patients with somatization, who received psychotherapy or antidepressant medication had improved health status compared to those who received usual care (Creed et al. 2008). A meta-analytic study comprising 34 randomized controlled studies showed that cognitive behavioural therapy was effective in most studies (11 of 13) treating somatization, as were antidepressants in a small number (4 of 5) of studies (Kroenke 2007).

If poorly-defended narcissism is associated with the above mentioned psychological aspects of maladjustment, there is a need to examine which aspects of narcissism are related to these complaints and how. In this context, there is also need to examine whether narcissism can be affected by psychotherapy. The aim of the present study is to examine if poorly-defended narcissism a) can be altered during inpatient psychosomatic treatment, b) has an effect on different mood aspects during the treatment, and c) in the case of change in narcissism, does this change influence mood and quality of life. A decrease of poorly-defended narcissism from admission to discharge is hypothesized, and this change will have a positive effect on mood as well as quality of life.

Method

Sample and Participant Recruitment

The study sample includes data of 1442 consecutive inpatients, who were treated between 1993 and 2006 in the Clinic for Internal Medicine and Psychosomatics, Charité — University Medical Center, Berlin. Approval for the study was obtained by the institutional review board. Prior to inclusion into the study, all participants signed written informed consent. Inclusion criteria were full data sets at both measurement points (admission and discharge), based on the following questionnaires: Narcissism Inventory, Quality of Life (SF-36), and Berlin Mood Questionnaire. The patients' clinical primary diagnosis on admission was an ICD-10-F diagnosis (see Table 1). All data were collected computer-assisted, using personal digital assistants, one item per screen. Exclusion criteria were a) refusal to take part in the study, b) language problems, and c) less than 10 days of hospital treatment.

Table 1 Sociodemographic characteristics and primary, clinical diagnoses of the study population

N=1442	N	%
Age, years (M+/− SD)	40.09 +/− 13.39	
Male (range 18 – 78 years)	42.41 +/− 12.02	
Female (range 17 – 89 years)	39.09 +/− 14.54	
Sex		
Male	439	30.4
Female	1003	69.6
Marital status		
Single	596	41.5
Married	599	41.7
Divorced, separated	199	13.8
Widowed	43	3.0
Employment status		
Paid work (full- or part-time)	682	47.5
Houswife/-husband	54	3.8
Retired	245	17.1
Unemployed, student	454	31.6
ICD-10 Diagnosis		
F32 — F34 Depressive Disorder	258	17.9
F40/41 Anxiety Disorder	151	10.5
F43.2 Adjustment Disorder	184	12.6
F44 Conversion Disorder	37	2.6
F45 Somatoform Disorder	431	29.9
F50.0/1 Anorexia nervosa	57	4.0
F50.2/3 Bulimia nervosa	109	7.6
F50.8 Other Eating Disorder (Obesity, Binge eating)	90	6.3
F60 Personality Disorder	15	1.0
F10 — F19 Substance abuse	6	0.4
Others	14	1.0

The 1442 patients included 69.6% women. Patients' mean age was 40.1 years (*SD*=13.4). Men (age: *M*=42.4, SD=12.0) were slightly older than women (age: *M*=39.1, SD=14.5). Forty two percent were married, 47.5% were employed, almost a fifth (17.1%) were retired and one third (31.6%) were unemployed. Patients with an ICD-10 diagnosis of a somatoform disorder constituted the largest part of the study population (30%), followed by depressive disorder (18%), adjustment disorder (13%) and anxiety disorder (11%). All descriptive results are shown in Table 1.

Study Procedures

The psychotherapeutic and medical procedure for the study participants comprised weekly psychodynamic oriented individual as well as group therapy sessions, art therapy, music therapy, movement therapy, psychotherapeutic relaxation techniques, as well as educational training regarding stress management and nutrition. Furthermore, physiotherapeutic, sport therapeutic as well as balneological programs were offered optionally. Patients had a minimum of 100 min of individual therapy weekly, as well as 360 min of specific psychotherapeutic intervention, i.e., one or more of the above mentioned programs.

Measures

Narcissism Narcissism was measured upon t1 (admission) and t2 (discharge) using the NI-90, a 90-item questionnaire by Schoeneich et al. (Daig et al. 2007; Schoeneich et al. 2000). It is a short version of the Narcissism Inventory of Deneke and Hilgenstock (1989), a valid and reliable instrument used in several psychosomatic medicine settings in Germany (Fliege et al. 2003; Geiser and Lieberz 2000). The NI-90 covers different aspects of self-regulation with 18 subscales of 5 items each. From the subscales, four second-order dimensions of narcissistic self-regulation are extracted (threatened self, classic narcissistic self, idealistic self, hypochondriac self). In the present study, the two dimensions "threatened self" and "hypochondriac self" were used because they reflect poorly-defended narcissism as defined above. The dimension threatened self describes the self-organization on a continuum from a state of structural cohesiveness to stages of narcissistic decompensation. It comprises eight subscales: helpless self, loss of control over affects and impulses, derealization/depersonalization, basic potential of hope, worthless self, negative bodily self, social isolation, and withdrawal into feelings of harmony. The dimension hypochondriac self describes the

extent of hypochondriac fears and narcissistic gain from illness with two subscales (hypochondriac expression of fear and delegating responsibility to the ill body). Participants endorsed items on a five-point Likert-type scale ranging from "does not apply at all" to "applies exactly". Internal consistencies were acceptable with α_{t1}=.82 and α_{t2}=.84 for threatened self and α_{t1}=.70 and α_{t2}=.72 for hypochondriac self.

Quality of Life The SF-36 is a generic instrument for assessing health related quality of life (Ware and Gandek 1998; German version Bullinger and Kirchberger 1998). The eight multi-item scales are physical functioning, role limitations due to physical health, bodily pain, general health, vitality, social functioning, role limitations due to emotional problems, and mental health, plus a one item measure on reported health transition. High scores reflect a better health related quality of life. The construct validity has been confirmed in many studies (Anagnostopoulos et al. 2005; Güthlin and Walach 2007; Pinar 2005). Factor analytic studies have confirmed physical and mental health factors that account for 80–85% of the reliable variance in the eight scales in the U.S. general population (Ware et al. 1994), among Medical Outcome Study (MOS) patients (McHorney et al. 1993; Ware et al. 1994), in general populations in Sweden (Sullivan et al. 1995) and the UK (Ware et al. 1994).

Mood The Berlin Mood Questionnaire (BMQ; Hörhold and Klapp 1993) is based on the Multidimensional Mood Questionnaire by Hecheltjen and Mertesdorf (1973). It is an adaptation of the Mood Adjective Check List (MACL; Nowlis and Nowlis 1956). The questionnaire has six unipolar dimensions: anxious depressive mood (α=.91), lethargy (α=.89), fatigue (α=.83), anger (α=.85), involvement (α=.91) and elated mood (α=.93). Each dimension contains five items on a five-point rating-scale.

Statistical Analyses

Pearson correlation, regression analysis, one-way ANCOVA, repeated-measures ANOVA, cross-lagged models and path analyses testing relations among antecedents, proposed mediators, and outcomes on a manifest level were computed using SPSS 14.0 and AMOS 5.0 (Arbuckle 2003). Whenever changes were analyzed, the "residual z-change" approach was chosen by controlling first for the respective pervious assessment of the variable of interest while predicting the later outcome (Cohen and Cohen 1983). Preceding analyses, data were routinely screened for multivariate outliers by means of residual plots and $p<$ .001 criterion for Mahalonobis distance provided by SPSS Regression. Univariate post-hoc tests were conducted with Bonferroni correction. Effect-sizes were calculated with Cohen's d and the effect-size correlation, r_{Yl}, using the following formula: Cohen's $d=M_1 - M_2 / \sigma_{pooled}$ where $\sigma_{pooled}=\sqrt{[(s_1^2+s_2^2) / 2]}$ and $r_{Yl}=d / \sqrt{(d^2+4)}$. Cohen (1988) described effect sizes with d=0.2 to be small, with = 0.5 to be medium and with = 0.8 to be large. The effect-sizes for regression analysis were computed with $f^2= R^2 / 1-R^2$. Small effects are assumed at a level of f^2=.02, a middle effect at f^2=.15, and a large effect at f^2=.35 (Cohen 1988). Small effects for correlations are defined at a level of r=.10, a middle effect at r=.30, and a large effect at r=.50 (Cohen 1988).

Results

Differences in Narcissism Between the Four Main Diagnostic Groups

Calculated with oneway ANCOVA controlled for age and sex, patients with depressive, somatoform, anxiety or adjustment disorder differed significantly at admission in their threatened self ($F(3,1017)=23.29$, $p<.001$) and hypochondriac self ($F(3,1017)=18.03$, $p<.001$), as shown in Fig. 1. At discharge, the four diagnostic groups differed significantly in their narcissism as well: threatened self ($F(3,1015)=15.27$, $p<.001$), hypochondriac self ($F(3,1020)=15.61$, $p<.001$), also seen in Fig. 1.

Changes in Narcissism from Admission to Discharge

Analyzing the different diagnostic groups, an ANOVA with repeated measurements with time as the within factor (admission, discharge), gender (men, women) and diagnostic group (depressive, anxiety, somatoform, and adjustment disorder) as the between factors was used. For the threatened self, there was a within subject main effect for time (Wilkes Lambda $F(1,1013)=56.09$, $p<.001$, partial η^2=.05), and a between subject effect for the diagnostic groups ($F(1,1021)=17.34$, $p<.001$, partial η^2=.05), but no interactions. Patients with anxiety disorder had the highest scores on both measurement points. Setting a family-wise Type-I Error corrected significance level at $p<.01$, univariate post hoc tests showed improvements especially for the subscale "helpless self" ($F(1,1441)=140.55$; $p<$ .001, partial η^2=.09), i.e., patients rated themselves at discharge less helpless, fragile, and paralyzed by anxiety (see Fig. 1).

For the hypochondriac self, results showed a main effect for time as well (Wilks Lambda $F(1,1013)=132.75$, $p<$ .001, partial η^2=.12), and a between subject difference for the diagnostic groups ($F(3,1013)=14.80$, $p<.001$, partial η^2=.04), but no interactions were found. Patients showed a

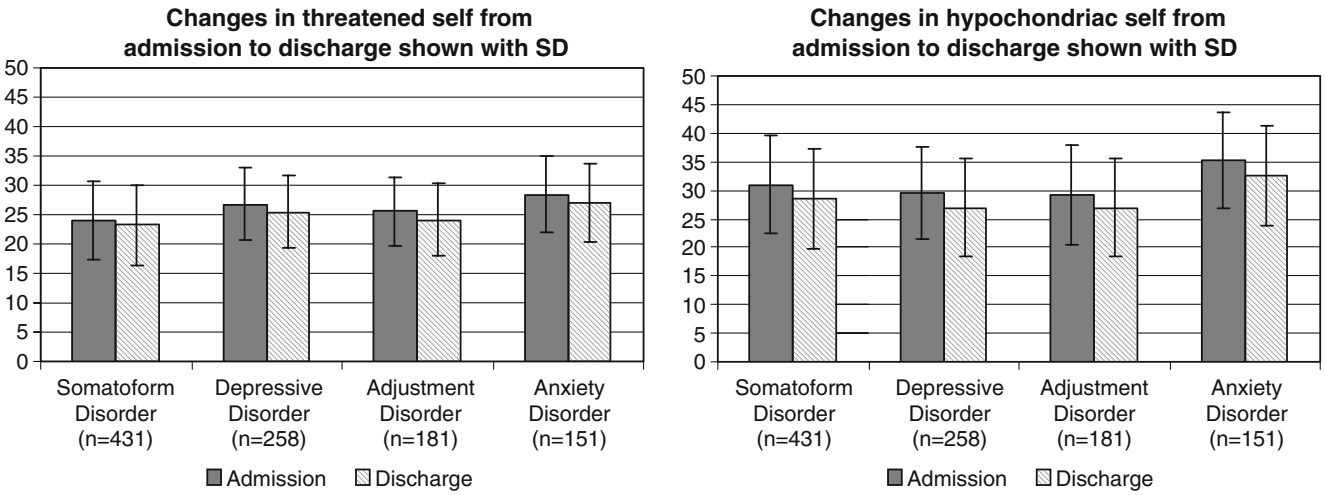

Fig. 1 Changes in threatened self (*left side*) and hypochondriac self (*right side*) from admission to discharge for the four largest diagnostic subgroups

decrease in hypochondriac self from admission to discharge (see Fig. 1). Again, patients with anxiety disorder had the highest scores on both measurement points. Univariate post-hoc tests with Bonferroni correction showed improvements on both sub-dimensions "hypochondriac expression of fear" ($F(1,1441)=203.58$; $p<.001$, partial $\eta^2= .12$), and "narcissistic gain / delegating responsibility to the ill body" ($F(1,1441)=145.35$; $p<.001$, partial $\eta^2=.09$), i.e., patients express on discharge less hypochondriac fears and narcissistic gain from illness.

Changes in Outcome Variables

Mood improved on different dimensions significantly during the hospital treatment (see Table 2): There was an increase in elated mood ($F(1, 991)=329.06$; $p<0.001$; partial $\eta^2=.25$) and a decrease in anxious depressive mood ($F(1, 991)=343.50$; $p<0.001$; partial $\eta^2=.24$) as well as in fatigue ($F(1, 991)=365.29$; $p<0.001$; partial $\eta^2=.27$). Reported quality of life increased significantly from admission to discharge (see Table 2), in particular health transition ($F(1, 440)=122.31$; $p<0.001$; partial $\eta^2=.22$), vitality ($F(1, 440)=112.55$; $p<0.001$; partial $\eta^2=.20$), general health ($F(1, 440)=76.27$; $p<0.001$; partial $\eta^2=.15$), and mental health ($F(1, 440)=59.72$; $p<0.001$; partial $\eta^2=.12$).

Associations Between Narcissism, Mood, and Quality of Life

Associations between narcissism were tested because they are important prerequisites for a path model to predict change. On baseline, threatened self correlated with negative mood dimensions between .40 to .51 and with aspects of quality of life between −.41 to −.54. Referring to the effect sizes for correlations, these results are medium ($r=.30$) to large ($r=.50$) effects. The associations were lower at discharge, reaching a medium effect size indicated by coefficients between .36 to .49 for threatened self and mood, and −.35 to −.36 for the association between threatened self and quality of life. Narcissistic aspects proved to be more stable over time than the outcome measures, reaching large effect sizes ($r=.50$) with correlations of .77 to .78 between the two measurement points, whereas mood dimensions and quality of life showed medium to large effect sizes with correlations of .41 to .59 between admission and discharge (see Fig. 2).

Narcissism as a Predictor for Therapy Outcome

Results of cross lagged path-models confirmed that threatened self predicts change in mood qualities as well as quality of life dimensions (see Fig. 2). Higher narcissism in the sense of threatened self at admission predicted higher values of anger ($r=.18$, $p<.001$) and anxious depressive mood ($r=.20$, $p<.001$) and lower values of mental health ($r=-.10$, $p<.01$), and social functioning ($r=-.13$, $p<.001$) at discharge.

Change in Narcissistic Dimension Predicts Change in Therapy Outcome

To follow up the latter results, additional analyses were conducted, testing whether a therapeutic outcome in terms of changes in mood and quality of life from admission to discharge would be promoted by a change in narcissistic regulation. A decrease in threatened self from admission to discharge was related to decreases of anger ($\beta=-.27$, $p<.001$, $f^2=.40$), anxious depressive mood ($\beta=-.36$, $p<.001$, $f^2=.61$) and fatigue ($\beta=-.27$, $p<.001$, $f^2=.64$), as well as

Table 2 Changes in outcome variables between hospital admission (T1), and discharge (T2)

	Admission		*Discharge*					
	M (t1)	*SD (t1)*	*M (t2)*	*SD (t2)*	*F*	*Eta²*	*Cohen's d*	*Effect Size r*
BMQ (n=992)								
Elated Mood	0.69	0.72	1.17	0.94	329.06***	0.25	0.57	0.28
Engagement	1.73	0.77	1.97	0.83	98.63***	0.09	0.30	0.15
Anger	0.87	0.8	0.72	0.77	37.33***	0.04	0.19	0.10
Anxious depressive mood	1.98	0.99	1.39	1.01	343.5***	0.24	0.59	0.28
Fatigue	1.89	1.02	1.32	1.00	365.29***	0.27	0.56	0.27
Lethargy	0.95	0.81	0.59	0.71	225.1***	0.19	0.47	0.23
SF-36 (n=441)								
Physical functioning	60.55	26.96	66.6	27.17	54.92***	0.11	0.22	0.11
Role limitations due to physical health	27.44	32.69	31.48	36.24	5.91*	0.01	0.12	0.06
Bodily pain	38.17	26.13	44.47	26.75	35.8***	0.08	0.24	0.12
General health	39.73	16.05	45.85	17.62	76.27***	0.15	0.36	0.18
Vitality	31.31	17.44	38.52	18.58	112.55***	0.20	0.40	0.19
Social functioning	41.22	26.41	45.48	24.87	13.21***	0.03	0.17	0.08
Role limitations due to emotional problems	29.77	37.78	31.82	39.26	1.19n.s.	0	0.05	0.03
Mental health	37.63	18.38	43.3	18.29	59.72***	0.12	0.31	0.15
Reported health transition	4.1	1.03	3.42	1.24	122.31***	0.22	0.60	0.29

According to Cohen (1992) where d=0.2 is indicative of a small effect, 0.5 a medium and 0.8 a large effect size
*p<.05; ***p<.001

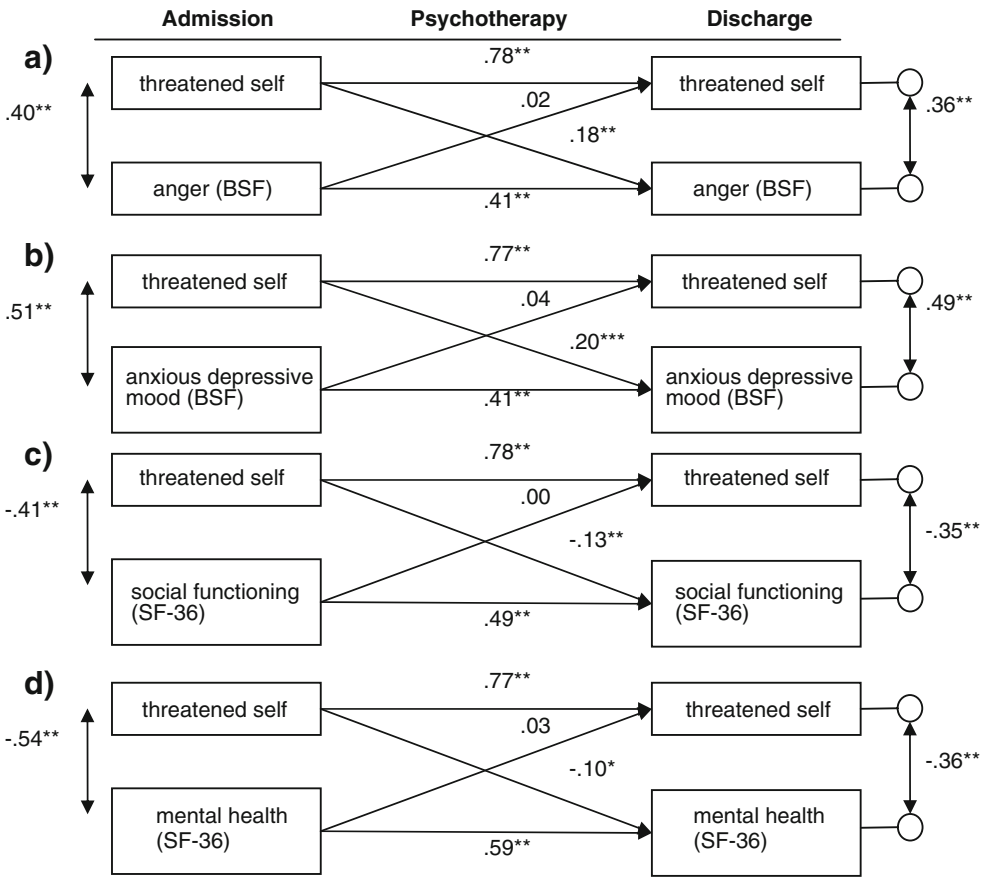

Fig. 2 Cross-lagged path diagrams testing cross-sectional and predictive associations between threatened self and the mood dimensions anger (**a**), anxiety/depression (**b**), quality of life aspects social functioning (**c**) and mental health (**d**). N= 1442. *p<.01, **p<.001

an increase in elated mood (β=.24, $p<.001$, $f^2=.50$). The higher the decreases in poorly-defended narcissism, the greater are the mood improvements (see Table 3). All results reached large effect sizes.

Discussion

The present study shows that psychosomatic in-patients, most of them with somatoform, anxiety, depressive or adjustment disorders, differed significantly in narcissistic aspects such as threatened self and hypochondriac self. Patients with anxiety disorder had the highest scores, both at admission and discharge. Results showed improvements in these narcissistic aspects under therapy. Importantly, the change in threatened self during the treatment was associated with an improvement in mood and quality of life.

Evidence shows that persons with poorly-defended narcissism have difficulties in regulating their behavior and emotions, especially in the context of negative emotions (Stucke and Sporer 2002; Watson et al. 1987) and social functioning (Fraley and Shaver 2000). The present data confirm these findings regarding threatened self aspects. Persons with stronger narcissistic traits display greater day-to-day self-esteem instability (Rhodewalt et al. 1998), and their emotional insecurity is focused on threats to the self (Rhodewalt and Morf 1998). Therefore, persons with poorly-defended narcissistic traits show a lower threshold for threat. This is evidenced in the present data in the anxiety group which had the highest scores for threatened self. A threatened self is in turn prognostic for emotional disturbances like anxiety or depression. But the fact that narcissism is associated with depression and anger (Papps and O'Carroll 1998; Stucke and Sporer 2002) does not necessarily imply that negative mood has an impact on therapy outcome (Mataix-Cols et al. 2002). Threats to self-esteem could play an instigating role, e.g., a negative affect may produce aggressive tendencies and becoming angry may serve inadequate as well as adequate functions (Papps and O'Carroll 1998) such as restoring the damaged self-esteem (Feshbach 1979). Narcissism and self-concept clarity are therefore considered to be important moderators for the relation between ego-threat and negative emotions (Stucke and Sporer 2002).

Maladaptive or poorly-defended narcissism (Hickman et al. 1996; Watson and Biderman 1993) can therefore be understood as a pathological defense against negative emotions (Rathvon and Holmstrom 1996) and may reflect a poorer profile of adjustment. Persons with poorly-defended narcissistic traits seem to have a lack of appropriate strategies for dealing with intense emotions, and they rely on defense mechanisms to regulate their emotions and self-concept (Pistole 1995) as well-defended narcissists do. However, poorly-defended narcissists may have less effective defenses than well-defended narcissists. Avoidance of social interactions, as shown in the present results, or preventing social conflicts, may be a coping strategy that results from hypersensitivity in poorly-defended narcissism. It may lead to lower social function-

Table 3 Relation of threatened self on mood improvement under therapy (regression analysis)

	B	SE B	β	T	Adjusted R^2	Effect Size f^2
Anxious depressive mood (t2)						
Anxious depressive mood (t1)	0.55	0.03	0.54	21.57***		
Change in "threatened self"	−0.08	0.01	−0.36	−14.25***	0.38	0.62
Elated Mood (t2)						
Elevated Mood (t1)	0.7	0.03	0.54	20.86***		
Change in "threatened self"	0.05	0.01	0.24	9.13***	0.33	0.50
Anger (t2)						
Anger (t1)	0.48	0.03	0.49	18.18***		
Change in "threatened self"	−0.05	0.01	−0.27	−9.89***	0.28	0.40
Fatigue (t2)						
Fatigue (t1)	0.57	0.02	0.59	23.39***		
Change in "threatened self"	−0.06	0.01	−0.27	−10.89***	0.39	0.64
Lethargy (t2)						
Lethargy (t1)	0.46	0.02	0.53	20.03***		
Change in "threatened self"	−0.04	0.01	−0.24	−9.25***	0.32	0.46
Engagement (t2)						
Engagement (t1)	0.62	0.05	0.57	22.06***		
Change in "threatened self"	−0.03	0.01	−0.15	−5.63***	0.34	0.51

Change in Threatened self is calculated using the difference between hospital admission to discharge. The change in threatened self had a positive impact on all mood dimensions, reaching large effect sizes. *** p<.001; Small effect is *quoted with* $f^{2\,2\,2}=.35$

ing, conceal attachment-related distress and protect the fragile self-concept (Smolewska and Dion 2005). Furthermore, the fear of poorly-defended narcissistic persons of being separated from others and their desire of being recognized may lead to conformity which can result in somatoform symptoms, and somatoform symptoms can be associated with a feeling of meaninglessness that refers to psychological insecurity (Hendin and Cheek 1997) or negative emotionality (Waller et al. 1996). Psychotherapy may help narcissistic patients to regulate their threatened self, shown in the present data by the change of threatened self under treatment, which in turn positively affected mood and quality of life.

The absence of gender differences is in line with studies which do not find gender differences in the rates of narcissistic personality disorder (e.g. Black et al. 1993; Grilo et al. 1996; Plakun 1989; Torgersen et al. 2001; Zimmerman and Coryell 1989). However, these findings are inconsistent with other studies indicating greater prevalence rates for narcissistic personality disorder for men (Golomb et al. 1995; Grilo et al. 1996; Ronningstam and Gunderson 1991). The analysis of gender differences in narcissism is complicated by the fact that the DSM's definition of narcissistic personality disorder is based on case studies on male patients (Kernberg 1975; Kohut 1971, 1977). In this context, it has been questioned whether narcissism as defined by the DSM can be generalized to women (e.g., Akhtar and Thompson 1982; Philipson 1985). Some authors (Harder and Lewis 1987; O'Leary and Wright 1986; Richman and Flaherty, 1988, 1990) suggest that persons with well-defended narcissism tend to be male and persons with poorly-defended narcissism tend to be female. However, it is still unclear if and how gender moderates the relationship between narcissism and behavior (Levy and Clarkin 2005).

One general limitation of the study is related to the study design. Regarding the observed improvements, the psychotherapeutic interventions may have an effect on narcissism, but it may be attributed to the hospital stay itself. Furthermore, the length of hospital stay was variable. Patients were included with at least 10 days of treatment. However, the different treatment duration should be considered in terms of potential confounding variables. Because of a large and heterogeneous study sample, with a base rate of only 1% personality disorders, it was possible to compare and analyze narcissistic aspects in patients with depressive, somatoform, anxiety, and adjustment disorders. The small number of personality disorders may reflect the fact that all patients were recruited from an exclusively psychosomatic ward. Patients with more distinct symptoms of a personality disorder were more likely to be treated on the psychiatric wards. One further methodological limitation is that interdiagnostician reliability data with respect to the ICD-10 diagnoses are lacking. The other measures were collected computer-assisted, using personal digital assistants.

Further studies should analyze if and how different narcissistic dimensions are specific to mental disorders like anxiety or somatoform disorders, and if these narcissistic aspects are associated with compliance and therefore with therapy outcome. As clinicians have noted (Masterson 1993), a comprehensive assessment of narcissism is important when planning and providing psychotherapeutic intervention especially with patients who have somatoform complaints.

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